



**Oregon Administrative Rules
1998 Compilation**

**DEPARTMENT OF CONSUMER AND BUSINESS SERVICES, OREGON
OCCUPATIONAL SAFETY AND HEALTH DIVISION**

DIVISION 1

RULES FOR THE ADMINISTRATION OF THE OREGON

SAFE EMPLOYMENT ACT

437-001-0001 Model Rules of Procedure

437-001-0002 Notice to Interested Persons of Rulemaking

General Information

437-001-0005 Authority and Applicability of Rules

437-001-0010 Purpose and Scope of Rules

437-001-0015 Definitions

437-001-0020 Authority to Administer

437-001-0025 Liberal Construction

437-001-0030 Use of Gender and Number

437-001-0035 Occupational Safety and Health Rules

437-001-0045 Adoption, Amendment or Repeal of Rules

437-001-0047 Voluntary Compliance Program, General

437-001-0050 Enforcement Program, General

437-001-0052 Reporting an Occupational Fatality, Catastrophe, or Accident

437-001-0053 Preserving the Fatality or Catastrophe Scene

Inspections

437-001-0055 Priority of Inspections

437-001-0057 Scheduling Inspections

437-001-0060 Advance Notice

437-001-0065 Right of Entry

437-001-0070 Inspection Warrants

437-001-0075 Opening Conference

437-001-0080 Inspection Without Employer or Employer Representative

437-001-0085 Employee Representation on Inspection Team

437-001-0090 Inspection Procedures

437-001-0096 Red Warning Notice

437-001-0099 Closing Conference

Violations and Penalties

437-001-0135 Evaluation of Probability to Establish Penalties

437-001-0140 Evaluation of Severity to Establish Penalties

437-001-0145 Penalty for Other than Serious or Serious Violation

437-001-0155 Determination of Penalty -- Failure to Correct

437-001-0160 Penalty Criteria -- Repeat Violation

437-001-0165 Determination of Penalty -- Repeat Violation

437-001-0170 Determination of Penalty -- Failure to Report an Occupational Fatality, Catastrophe, or Accident

437-001-0171 Determination of Penalty - Failure to Register a Farm Labor Camp/Facility

437-001-0175 Determination of Penalty -- Willful or Egregious Violation

437-001-0176 Determination of Penalty -- Failure to Notify Employees of Advance Notice

437-001-0180 Determination of Penalty -- Relating to Red Warning Notice

437-001-0201Determination of Penalty -- Relating to Field Sanitation

437-001-0203 Determination of Penalty - Relating to Violations Which Have No Probability and Severity

Citations and Correction

437-001-0205 Citation and Notice of Penalty

437-001-0215Employer Response to Citation and Notice of Penalty

437-001-0220 Payment of Penalties

437-001-0225Penalty for Falsification

437-001-0230Correction of Violation

437-001-0235Failure to Correct Violation

437-001-0240Extension of Correction Date -- Application

437-001-0245Extension of Correction Date -- Decision

437-001-0250Extension of Correction Date -- Revocation

437-001-0251Extension of Correction Date -- Hearing on the Application

Informal Conferences

437-001-0255 Informal Conference

437-001-0260Request for Informal Conference

437-001-0265Amendment or Withdrawal of Citation

437-001-0270Discretion if There is no Timely Appeal

Posting

437-001-0275 Posting Requirements

437-001-0280Posting on Selected Multi-Employer Jobsites

Complaints

437-001-0285 Form and Content of a Complaint

437-001-0290 Division Action on Complaints

437-001-0295 Discrimination Complaint

Variances

437-001-0400 Application for a Variance

437-001-0405 Interim Order Relating to a Variance

437-001-0410 Administrative Action on Variance Application

437-001-0411 Hearings for Variance Applications

437-001-0415 Criteria for Variance Approval.

437-001-0420 Decision on Variance Request

437-001-0425 Employer's Duty to Meet Variance Terms

437-001-0430 Modification or Revocation of a Variance

437-001-0435 Effect of a Variance Granted by the U.S. Secretary of Labor

Consultative Services for Public and Private Sector Employers

437-001-0450 Voluntary Compliance Consultative Services

437-001-0455 Application for Consultative Services

437-001-0460 Consultation

Recordkeeping and Reporting

437-001-0700 Recording and Reporting Requirements

437-001-0701 Employers Exempt from Recordkeeping

437-001-0702 Location of Recordkeeping

- 437-001-0703**Employee Exposure and Medical Records
- 437-001-0705**Log and Summary of Occupational Injuries and Illnesses
- 437-001-0710**Period Covered
- 437-001-0715**Supplementary Record
- 437-001-0720**Annual Summary
- 437-001-0725**Retention of Records
- 437-001-0730**Access to Records
- 437-001-0735**Participation in the Occupational Injuries and Illnesses Survey
- 437-001-0740**Falsification or Failure to Keep and Post Records or Make Reports
- 437-001-0742**Recordkeeping Variances and Exceptions
- 437-001-0745**Change of Ownership
- 437-001-0750**Employers not in Fixed Establishments
- 437-001-0760** Rules for All Workplaces
- 437-001-0765** Rules for Workplace Safety Committees

Occupational Safety and Health Grant Program

- 437-001-0800** Application Procedures
- 437-001-0805** Application Review
- 437-001-0810** Grant Awards

Farmworker Housing Tax Credits

- 437-001-0905** Purpose and Objectives
- 437-001-0910** Definitions
- 437-001-0915** Program Description and Application Requirements
- 437-001-0920** Application Review
- 437-001-0925** Set-Aside
- 437-001-0930** Standby Applications
- 437-001-0935** Certification of Eligible Projects
- 437-001-0940** Monitoring

Rules for the Administration of Loss Prevention Activities by Insurers/Self-Insured Employers

General

437-001-1005 Authority and Applicability of Rules

437-001-1010 Purpose and Scope

437-001-1015 Definitions

437-001-1020 General Requirements

Insurers' Programs

437-001-1025 Notification of Services

437-001-1030 Requests for Services

437-001-1035 Loss Prevention Services

437-001-1040 Required Loss Prevention Services

437-001-1045 Loss Prevention Service Log

Self-Insured and Group Self-Insured Employers' Programs

437-001-1050 Self-Insured and Group Self-Insured Employer Loss Prevention Assistance

437-001-1055 Self-Insured and Group Self-Insured Employer Loss Prevention Programs

437-001-1060 Self-Insured and Group Self-Insured Employer Loss Prevention Effort

Assessment of Civil Penalties

437-001-1065 Penalty Provisions for Insurers

DIVISION 2

GENERAL OCCUPATIONAL SAFETY AND HEALTH

RULES

General

437-002-0005 Adoption by Reference

Oregon Amendments

437-002-0006 General Oregon Definitions

437-002-0007 Testing and Certification

Adoption and Extension of Established Federal Standards

437-002-0010 Adoption by Reference

Access to Employee Exposure and Medical Records

437-002-0015 Adoption by Reference

Walking-Working Surfaces

437-002-0020 Adoption by Reference

437-002-0022 Additional Oregon General Requirements

437-002-0025 Extension Ladders

437-002-0028 Guardrails and Toeboards

437-002-0030 Floors

437-002-0031 Provisions for Window Cleaners

437-002-0032Ramps and Runways

437-002-0033Piers and Wharves

Means of Egress

437-002-0040 Adoption by Reference

General

437-002-0044 Access and Egress

437-002-0048Cold Storage Rooms

Bins, Bunkers, Hoppers, Tanks and Vats

437-002-0050 General Requirements

437-002-0051Fuel Bins

437-002-0052Tanks and Vats

437-002-0053Entering Tanks, Vats and Similar Confined Spaces

**Powered Platforms, Manlifts, and Vehicle Mounted Work
Platforms**

437-002-0060 Adoption by Reference

Vehicle-Mounted Elevating and Rotating Work Platforms

437-002-0067 Extensible and Articulating Boom Platforms

Proximity to Overhead High Voltage Lines and Equipment

- 437-002-0069**General
- 437-002-0071**Clearance or Safeguards Required
- 437-002-0073**Warning Signs Required
- 437-002-0075**Notification to Power Company and Responsibility for Safeguards

Occupational Health and Environmental Control

- 437-002-0080** Adoption by Reference

Ventilation

- 437-002-0081** Oregon Ventilation Regulations
- 437-002-0095** Audiometric Testing in Oregon
- 437-002-0098** Additional Applicability

Hazardous Materials

- 437-002-0100** Adoption by Reference

**Spray Finishing Using Flammable or Combustible
Materials**

Oregon Initiated Rules

- 437-002-0101** Oregon Start-Up Dates
- 437-002-0107** Spray Finishing
- 437-002-0109** Explosives and Blasting Agents

437-002-0118 Reinforced Plastics Manufacturing

437-002-0119 Oregon Effective Dates

Personal Protective Equipment

437-002-0120 Adoption by Reference

Oregon Initiated Rules for Personal Protective Equipment

437-002-0123 Additional Oregon General Requirements for Protective Equipment

437-002-0125 Oregon Rules for Fall Protection

437-002-0127 Oregon Rules for Work Clothing

437-002-0130 Additional Oregon Rules for Eye and Face Protection

437-002-0133 Oregon Rule for Air Quality in Respirators

437-002-0135 Oregon Rules for Head Protection

437-002-0136 Additional Oregon Rules for Hand Protection

437-002-0137 Oregon Rules for Foot Protection

437-002-0138 Additional Oregon Rule for Electrical Protective Equipment

437-002-0139 Oregon Rules for Life Jackets and Buoyant Protective Equipment

General Environmental Controls

437-002-0140 Adoption by Reference

437-002-0141 Additional Oregon Sanitation Requirements

437-002-0142 Labor Camps

437-002-0144 Additional Oregon Rules for General Environmental Controls

437-002-0145 Additional Oregon Rules for Accident Prevention and Tags.

The Control of Hazardous Energy (Lockout/Tagout)

437-002-0154Unique Locks

Medical and First Aid

437-002-0161 Medical Services and First Aid

Fire Protection

437-002-0180 Adoption by Reference

437-002-0182Oregon Rules for Firefighters

Compressed Gas and Compressed Air Equipment

437-002-0200 Adoption by Reference

Oregon-Initiated Rules

437-002-0210 Additional Oregon Rules for Compressed Air and Compressed Gas Equipment

Materials Handling and Storage

437-002-0220 Adoption by Reference

Oregon Initiated Rules

437-002-0221 Additional Oregon Rules for Handling Materials

437-002-0223 Oregon Rules for Commercial and Industrial Vehicles

437-002-0227 Additional Oregon Rules for Powered Industrial Trucks

Oregon Initiated Rules for Cranes

437-002-0228 Oregon General Requirements for Cranes

437-002-0229 Additional Oregon Rules for Overhead and Gantry Cranes

437-002-0230 Additional Oregon Rule for Crawler, Locomotive and Truck Cranes

437-002-0232 Additional Oregon Rule for Derricks

437-002-0233 Oregon Rules for Hammerhead Cranes

437-002-0235 Additional Oregon Rule for Slings

Machinery and Machine Guarding

437-002-0240 Adoption by Reference

437-002-0242 Oregon Rules for Machinery and Machine Guarding

437-002-0256 Oregon Rules for Refuse Collection and Compaction Equipment

Hand and Portable Powered Tools and Other Hand-Held Equipment

437-002-0260 Adoption by Reference

Additional Oregon Rules for Powered Hand Tools and Hand- Held Equipment

437-002-0262 Additional Definitions in Oregon

437-002-0264 Additional General Requirements for Hand Tools

437-002-0266 Additional Oregon Rules for Guarding Portable Powered Tool

437-002-0268 Oregon Rules for Hand-Powered Equipment

Welding, Cutting and Brazing

437-002-0280 Adoption by Reference

Oregon-Initiated Rules

437-002-0282 Job Planning and Layout

437-002-0283 Eye Protection and Protective Clothing

437-002-0284 Specifications for Protectors

437-002-0285 Special Precautions

437-002-0286 Preservative Coatings

437-002-0287 Toxic Preservative Coatings

437-002-0288 Health Protection and Ventilation -- General

437-002-0289 Precautionary Labels

437-002-0290 Blowpipes/Torches

437-002-0291 Oxygen-Fuel Gas -- General

437-002-0292 Oxygen-Fuel Gas -- Operating Procedures

437-002-0293 Cylinder Storage

437-002-0294 Pressure-Reducing Regulators

437-002-0295 Hoses

437-002-0296 Hose Connections

437-002-0297 Welding or Cutting Containers

437-002-0298 Self-Contained Units

Special Processes

437-002-0300 Adoption by Reference

Oregon Rules for Tree and Shrub Services

437-002-0301 Scope and Application

437-002-0302 Definitions

437-002-0303 Training and Work Planning

437-002-0304 First Aid Requirements

437-002-0305 Traffic Control

437-002-0306 Electrical Hazards

437-002-0307 Personal Protective Equipment

437-002-0308 Portable Power Tools

437-002-0309 Hand Tools

437-002-0310 Work Procedures

437-002-0311 Mobile Equipment

437-002-0312 Oregon Rules for Pulp, Paper and Paperboard Mills

437-002-0313 Additional Oregon Rules for Sawmills

437-002-0314 Veneer and Plywood Machinery

437-002-0315 Shake and Shingle Machinery

437-002-0316 Oregon Rules for Telecommunications

437-002-0317 Additional Oregon Rules for Electric Power Generation, Transmission and Distribution

Electrical

437-002-0320 Adoption by Reference

437-002-0321 General

437-002-0322 Clearance or Safeguards Required

437-002-0323 Warning Signs Required

437-002-0324 Notification to Power Company and Responsibility for Safeguards

437-002-0325 Underground Installations

Commercial Diving Operations

437-002-0340 Adoption by Reference

Additional Oregon Rules for Commercial Diving

437-002-0342 Additional Oregon Definition

437-002-0345Inland Emergency Aid

437-002-0355Air Supply Systems (Compressed Gases and Air)

Division 2/Z

Toxic and Hazardous Substances

337-002-0360 Adoption by Reference

437-002-0361Oregon-Initiated Rules

437-002-0363 Oregon Amendment

437-002-0364 Oregon Rules for MOCA (4,4'-Methylene Bis (2-chloroaniline))

437-002-0368Deterioration

Oregon Initiated Rules

437-002-0371 Scope and Application

437-002-0373Oregon Rules for Thiram

437-002-0375Oregon Effective Dates

437-002-0377 Additional Oregon Rules for Hazard Communication

437-002-0378Oregon Rules for Pipe Labelling

437-002-0382 Oregon Rules for Air Contaminants

437-002-0390 Oregon Effective Dates

437-002-0391 Additional Oregon Rules for Carcinogens in Laboratories

DIVISION 3

CONSTRUCTION

437-003-0001 Adoption by Reference

437-003-0003 Purpose

437-003-0005 Additional Applicability

437-003-0006 General Oregon Definitions

437-003-0007 Additional Rules of Practice for Administrative Adjudications

437-003-0011 Additional Definitions

Sanitation

437-003-0015 Drinking Water

437-003-0020 Toilets

437-003-0027 Applicable Rules

Asbestos, Tremolite, Anthophyllite and Actinolite

Hazard Communication

437-003-0035 Additional Rules

Respiratory Protection

437-003-0037 Acceptable Equipment

Personal Protective Equipment

437-003-0040 Fall Protection

437-003-0045 Additional Definitions

Electrical -- Safety-Related Work Practices

437-003-0047 Proximity to Overhead High Voltage Lines and Equipment

Ladders

437-003-0065 Extension Ladders

Scaffolds

437-003-0071 Manually Propelled Elevating Aerial Platforms

437-003-0073 Boom Supported Elevating Work Platforms

437-003-0074 Scissor Lifts - Self-Propelled Elevating Work Platforms

Cranes and Derricks

437-003-0080 Wind Velocity Device

Cranes, Derricks, Hoists, Elevators, and Conveyors

437-003-0081 Crane Operator Training Requirements

Equipment

437-003-0085 General Requirement

437-003-0090Pinchpoints

437-003-0093Exemption

437-003-0096Underground Installations

Specific Trenching Requirements

Additional Trenching Requirements Steel Erection

437-003-0105 Additional Flooring Requirements

Power Transmission and Distribution

437-003-0110 Personnel

Two-Worker Rules

437-003-0115 High Voltage

437-003-0120More than 750 Volts

437-003-0125Proximity

437-003-0130Training-Experience

437-003-0135Additional Personnel

437-003-0140Working Foreman

Safety Watcher

437-003-0145 General

437-003-0150Foreman as Safety Watcher

437-003-0155 Selection

437-003-0160 Request for Safety Worker

437-003-0165 Safety Watcher for Nonelectrical Workers

Identification of Lines, Cables and Equipment

437-003-0170 No Defacement

437-003-0175 Proper Identification

437-003-0180 Both Ends Identified

Cutting and Splicing

437-003-0185 Energized Cables

437-003-0190 Cable Tests

437-003-0195 Protective Equipment

437-003-0200 Guards-Barriers

437-003-0205 Markers

437-003-0210 No Attachments

437-003-0215 Emergency Procedures and First Aid

437-003-0220 Working Clearance

437-003-0225 Required Precautions

437-003-0227 Clearing-Tagging Before Work and Removal After Work

437-003-0230 Verification Before Contact

Tools and Protective Equipment

Tools

437-003-0235 Additional Requirements

437-003-0240Other Materials and Tools

437-003-0245Tools in Belt

437-003-0250 Housekeeping

Protective Equipment

437-003-0255 Designated Voltage Barriers

437-003-0260NEC Compliance

437-003-0265Tests and Records

437-003-0270Rubber Gloves

437-003-0275Tests of Gloves and Sleeves

437-003-0280Glove Assignment

437-003-0285Required Protection

437-003-0290Hot Sticks or Other Protective Devices

437-003-0295Adequate Protection

437-003-0300Removal of Foreign Objects

437-003-0305High Voltage Vicinity

437-003-0310Two-Worker Rules

437-003-0315Leather Protectors

437-003-0320Glove Containers

437-003-0325Correct Use

4370-03-0330Defective Gloves

437-003-0335Providing and Maintaining Protective Equipment

437-003-0340Design and Use

437-003-0345Suspected Defect

437-003-0350Housekeeping

Climbers

- 437-003-0355** Climber Gaffs
- 437-003-0360**Gaffs Guarded
- 437-003-0365**Restrictions on Use of Climbers

Hot Line (or Live Line) Tools

- 437-003-0370** Inspection and Condition
- 437-003-0375**Handling and Transporting
- 437-003-0380**Margin of Safety
- 437-003-0385**Required Use
- 437-003-0390**Weather and Other Factors
- 437-003-0395**Tested and Warranted
- 437-003-0400**Rope Use
- 437-003-0405**Removal of Foreign Objects

Ladders

- 437-003-0410** Damaged-Defective Ladders

Mechanical Equipment

- 437-003-0415** General
- 437-003-0420**Traffic Control
- 437-003-0425**Rigging
- 437-003-0430**Suitable Equipment

Outriggers

437-003-0435 Position for Hoisting

437-003-0440 Stability

Aerial Manlift Equipment

437-003-0445 High Voltage Contact

437-003-0450 Two-Worker Rules

Controls of Aerial Equipment

437-003-0455 Proximity to High Voltage

437-003-0460 Inadvertent Contact Protection

Operation of Aerial Equipment

437-003-0465 Operation-Maintenance Manual

437-003-0470 Posted Capacity

Inspection, Testing and Repair

437-003-0475 Operational Check

Grounding for Protection of Employees

Grounding and De-Energizing

437-003-0480 Worker's Presence

437-003-0485 Three Phase Line

437-003-0490 Overheat Static Wires

437-003-0495No Contact with Conducting Objects

Working Clearance

437-003-0500 Clearance Request

437-003-0505Identity of Dispatcher

437-003-0510Identity of Requestor

437-003-0515Request Content

437-003-0520Request Verification

437-003-0525Notification Necessary

437-003-0530Verification of Clearance

437-003-0535Multiple Workers

437-003-0540Release of Clearance

437-003-0545Tags Prohibited Use

437-003-0550Tag Removal

437-003-0555Responsibility of Requestor

437-003-0560Attaching and Removing Grounds

Overheat Lines

General

437-003-0565 Dead End Towers

437-003-0570Wire Rope

437-003-0575Ladders

437-003-0580Strength Check

437-003-0585Route Check

437-003-0590Equipment Check

437-003-0595Platform Use

437-003-0600Bare-Hand Work

Raising Poles, Towers, Fixtures

437-003-0605 Qualified Supervision

437-003-0610Proximity to High Voltage

Stringing or Removing De-Energized Conductors

437-003-0615 Positive Control

437-003-0620Removing Conductors

437-003-0625Pulling

437-003-0630Bare Conductors

437-003-0635Stringing Conductors

437-003-0640Sleeves

437-003-0645Reel Tender

437-003-0650Reel Tending Equipment

437-003-0655Equipment Secured

437-003-0660Tree Trimming

First Aid Requirements

437-003-0720 CPR Training

437-003-0725Rescue Training

Chipper Equipment

437-003-0730 Equipment Housing

437-003-0735 Chipper Tables

437-003-0740 Equipment Repair

437-003-0745 Replacing Blades

437-003-0750 Chipper Operation Crew

437-003-0755 Shut-Off Switch

437-003-0760 Eye Protection

437-003-0765 No Foreign Objects

Underground Lines and Confined Spaces

Street Openings

437-003-0770 Barriers, Guards, Warning Signs

437-003-0775 Guarding Required Before Entering

437-003-0780 Test for Flammability

437-003-0785 Illumination

Battery Rooms, General Requirements

437-003-0790 Designation and Posting

437-003-0795 Use of Sources of Ignition

437-003-0800 Personal Protection

437-003-0805 Static Electricity

437-003-0810 Ventilation

Construction in Energized Substances

Safety Watcher

437-003-0815 Use of Equipment

437-003-0820 Use of Barrier

437-003-0825 Nonelectrical Workers

External Load Helicopters

437-003-0830 Additional Rules

437-003-0835 Hooking and Unhooking Loads

Lineman's Body Belts, Safety Strap and Lanyards

Use and Care of Body Belts, Safety Straps and Lanyards

437-003-0840 Use of Body Belts and Safety Lines

437-003-0845 Use of Safety Straps

437-003-0850 Storing Equipment

Personal Climbing Equipment

437-003-0855 Use of Straps and Lanyards

437-003-0860 Equipment Criteria

437-003-0865 Equipment Inspection Before Use

437-003-0870 Monthly Supervisory Inspection

437-003-0875 Additional Rules

437-003-0860 Safety Lines

437-003-0885 Replacement

437-003-0890 Additional Definitions

Other Structural Requirements

437-003-0905 Flooring

437-003-0910 Temporary Floors

437-003-0915 Shoring, Bracing or Guying of Structures

437-003-0920 Project Plans

437-003-0925 Powder-Actuated Tools

437-003-1000 Oregon Rules for Air Contaminants

DIVISION 5

MARITIME ACTIVITIES

Standards for Shipyard Employment

437-005-0001 Adoption by Reference

Marine Terminals

437-005-0002 Adoption by Reference

Safety and Health Regulations for Longshoring

437-005-0003 Adoption by Reference

437-005-0005 General Oregon Definitions

437-005-0010 Applicable Oregon Rules

437-005-0025 Ladders to Dock

437-005-0030 Oregon Rules for Air Contaminants

437-005-0035 Additional Oregon Rule for Asbestos

437-005-0040 Oregon Rules for MOCA (4,4'Methylene bis (2-chloroaniline))

437-005-0045 Oregon Amendment for Benzene

437-005-0050 Oregon Rules for Pipe Labeling

437-005-0100 Fall Protection

437-005-0105 Hiring

437-005-0200 Actual Gross Weight

437-005-0205 Percentage of Oxygen

DIVISION 6

FOREST ACTIVITIES

General Requirements

437-006-0001 Authority of Rules

437-006-0003 Applicability of Rules

437-006-0004 Scope of Rules

437-006-0005 Definitions

437-006-0007 Purpose

437-006-0008 Site Planning

Safety and Health Program

437-006-0015 Safety and Health Program

Work Conditions, Personal Protective Equipment, First Aid

437-006-0020 Checking System

437-006-0023 Working Alone

437-006-0025 Hazard Identification

437-006-0028Power Line Safeguards

437-006-0030Weather Conditions

437-006-0035Working Below Unstable Objects

437-006-0040Night Logging

437-006-0045Personal Protective Equipment

437-006-0050Medical Services and First Aid

Tools, Explosives and Extinguishers

437-006-0055 Hand and Portable Power-Driven Tools

437-006-0060Explosives and Blasting Agents

437-006-0065Power Saws

437-006-0068Fire Extinguishers

Fire Protection/Suppression and Prescribed Burning

437-006-0080 Fire Suppression by Employees Other Than Fire Fighters

437-006-0082Wildlands Fire Suppression and Prescribed Burning by Fire Fighters

437-006-0084 General Requirements

437-006-0086 Fire Fighting Training and Education

437-006-0088 Protective Clothing

437-006-0090 Head, Eye and Ear Protection

437-006-0091 Fire Fighting Equipment

Roads and Vehicles

437-006-0095 Roads

437-006-0100Fuels - Storage, Handling and Marking

437-006-0105 Transportation of Employees

437-006-0110 Seat Belts

Rigging and Climbing Equipment

437-006-0120 General Requirements for Rigging

437-006-0125 Inspection of Rigging

437-006-0130 Molles and Shackles

437-006-0135 Straps

437-006-0140 Blocks

437-006-0145 Hanging Blocks

437-006-0150 Pass Lines, Chains and Blocks

437-006-0155 Selection of Tail and Intermediate Support Trees

437-006-0160 Preparation of Tail and Intermediate Trees

437-006-0162 Climbing Equipment

437-006-0165 Erecting and Lowering Spars

437-006-0170 Metal Spars

437-006-0175 Metal Spar Guyline Safety Straps

437-006-0205 Wire Rope

437-006-0210 Cutting, Splicing and End Fastenings

437-006-0215 Chokers and Butt Rigging

Guylines, Skylines, Spars and Anchors

437-006-0220 Guylines -- General

437-006-0225 Tail/Lift Tree Guying

437-006-0230 Intermediate Support Trees

437-006-0235 Skylines

437-006-0240 Anchoring

437-006-0245 Released Spiked Guylines and Spiked Skylines from Anchors

Logging Machines

437-006-0260 General Requirements

437-006-0265 Exhaust Pipes

437-006-0270 Glass

437-006-0275 Brakes

437-006-0280 Outriggers

437-006-0285 Hydraulics

437-006-0290 A-Frames

437-006-0295 Moving of Logging Machines

437-006-0300 Tractors and Skidders

437-006-0310 Protective Structures for Operators

Timber Cutting

437-006-0350 General Requirements

437-006-0355 Falling

437-006-0360 Wedges

437-006-0365 Bucking

437-006-0370 Tree-Jacking

437-006-0375 Tree-Pulling

437-006-0380 Danger Trees

Yarding, Swinging and Loading

437-006-0400 Landing Areas

- 437-006-0405**Yarding, Skidding, Landing of Logs
- 437-006-0410**Log Decks
- 437-006-0415**V-Leads
- 437-006-0420**Tongs -- Hooks -- Grapples
- 437-006-0425**Helicopter Logging
- 437-006-0427**Fueling Area
- 437-006-0430**Loading Machines
- 437-006-0435**Loading Logs
- 437-006-0440**Cross-Haul Systems

Transportation of Logs

- 437-006-0460** General Requirements
- 437-006-0465**Self-Loading Log Trucks
- 437-006-0470**Vehicle Inspection, Repair and Maintenance
- 437-006-0475**Safety Chain or Cable
- 437-006-0480**Couplings (Hitches)
- 437-006-0485**Brakes
- 437-006-0490**Reaches -- General
- 437-006-0495**Trailers
- 437-006-0500**Bunks and Stakes
- 437-006-0505**Bunk Chains and Cables
- 437-006-0510**Binders and Wrappers
- 437-006-0515** Securing Loads

Log Dumps and Ponds

- 437-006-0530** General Requirements for Log Dumps and Ponds
- 437-006-0535**Removal of Wrappers/Barriers

437-006-0540Hoists

437-006-0545Log Ponds and Boom

437-006-0550Pond Boats and Rafts

437-006-0555Dry Land Log Dumps

Signaling and Signal Systems

437-006-0565 General Requirements for Signaling and Signal Systems

437-006-0570Hand Signals

437-006-0575Voice Communication on Combined Signal/ Voice Transmitters

437-006-0580Electrical Signal Systems

437-006-0585Radio Signal Systems

437-006-0590Citizens' Band Radios

DIVISION 81

AGRICULTURAL OPERATIONS AND FARMING

General Provisions

Purpose, Scope, Application and Definition

437-081-0001 Purpose

437-081-0002Scope

437-081-0003 Application

437-081-0004 Definitions

Miscellaneous Provisions: Responsibilities of Employer and Employees

437-081-0006 Miscellaneous Provisions

437-081-0009 Miscellaneous Provisions - Safeguard or Device Maintenance

437-081-0013 Miscellaneous Provisions (Opening or Excavation Protection)

437-081-0016 Miscellaneous Provisions (Intoxicants)

437-081-0019 Miscellaneous Provisions (Prohibited Activities)

437-081-0023 Employers' Responsibilities

437-081-0026 Employers' Responsibilities (Employee Qualifications)

437-081-0029 Employers' Responsibilities (Employee Competence)

437-081-0036 Employers' Responsibilities (Employee Supervision)

437-081-0039 Employers' Responsibilities (Employee Training)

437-081-0043 Employment of Minors

437-081-0046 Inspections

437-081-0049 Extraordinary Hazards

437-081-0053 Investigation of Injuries

437-081-0056 Employees' Responsibilities

437-081-0059 Employees' Responsibilities (Work Safety)

437-081-0063 Employees' Responsibilities (Reporting Injuries)

437-081-0066 Employees' Responsibilities (Preserving Safety Measures)

437-081-0069 Employees' Responsibilities (Work Area Safety)

437-081-0073 Employees' Responsibilities (Machine Guards)

437-081-0076 Employees' Responsibilities (Reporting Machine Guards)

437-081-0079 Employees' Responsibilities (Machine Maintenance)

437-081-0083 Employees' Responsibilities (Machine Repair Safety)

437-081-0086 Employees' Responsibilities (Proper Tool Use)

437-081-0089 Employees' Responsibilities (Suspended Loads)

437-081-0093 Employees' Responsibilities (Safeguarding Suspended Loads)

437-081-0096 Employees' Responsibilities (Transporting Long Articles)

437-081-0099 Employees' Responsibilities (Warning Co-workers)

437-081-0103 Employees' Responsibilities (Notifying Co-workers)

437-081-0106 Employees' Responsibilities (Reporting Hazard)

Signals and Signal Systems, General

437-081-0109 Signals and Signal Systems

437-081-0113 Signals and Signal Systems (Control Signals)

437-081-0116 Signals and Signal Systems (Emergency Signals)

437-081-0119 Signals and Signal Systems (Prohibited Signals)

437-081-0123 Signals and Signal Systems (Safety Considerations)

Requirements for Work Places and Structures

General

437-081-0126 General

437-081-0129 Definitions

437-081-0133 Structures

437-081-0136 Structures (Maintenance)

437-081-0139 Arrangement and Layout

437-081-0143 Arrangement and Layout (Work Platforms)

437-081-0146 Arrangement and Layout (Vertical Clearance)

437-081-0149 Access and Egress

437-081-0153 Access and Egress (Varied Work Levels)

437-081-0156 Access and Egress (Varied Floor Levels)

437-081-0159 Access and Egress (Multiple Exits)

437-081-0163 Access and Egress (Exit Doors)

437-081-0166 Access and Egress (Exit Door Functions)

437-081-0169 Access and Egress (Exit Signs)

437-081-0173 Access and Egress (Exit Requirements)

Floors, Floor Openings, Passageways and Stairways

437-081-0176 Floors

437-081-0179 Floors (Drainage)

437-081-0183 Floors (Hazardous Material Areas)

437-081-0186 Open Floor Sides, Floor Openings, Floor Holes, and Platforms

437-081-0189 Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Guardrails)

437-081-0193 Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Protective Covers)

437-081-0196 Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Toeboards)

437-081-0199 Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Near Dangerous Equipment or Substances)

437-081-0203 Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Piled Materials)

437-081-0206 Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Ladderways)

437-081-0209 Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Covers and Railing)

437-081-0213 Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Securing Openings)

437-081-0216 Wall Openings

437-081-0219 Areas Under Floor and Wall Openings

437-081-0223 Passageways and Ramps

437-081-0226 Passageways and Ramps (Vehicular Use)

437-081-0229 Passageways and Ramps (Proper Maintenance)

437-081-0233 Passageways and Ramps (Varied Levels)

437-081-0236 Passageways and Ramps (Proper Slope)

437-081-0239 Passageways and Ramps (Reducing Slippage)

437-081-0243 Passageways and Ramps (Wheelbarrow Use)

437-081-0246 Passageways and Ramps (Railings)

437-081-0249 Passageways and Ramps (Handrails)

- 437-081-0253** Stairways
- 437-081-0256** Stairways (Clear Access and Egress)
- 437-081-0259** Stairways (Loads)
- 437-081-0263** Stairways (Dimensions)
- 437-081-0266** Stairways (Slope)
- 437-081-0269** Stairways (Rise and Run)
- 437-081-0273** Stairways (Treads)
- 437-081-0276** Stairways (Treads Maintenance)
- 437-081-0279** Stairways (Landing Dimensions)
- 437-081-0283** Stairways (Vertical Clearance)
- 437-081-0286** Stairways (Railings)
- 437-081-0289** Stairways (Handrails)

Railings

- 437-081-0293** Handrails
- 437-081-0296** Handrails (Construction)
- 437-081-0299** Handrails (Mounting)
- 437-081-0303** Stair Railings
- 437-081-0306** Stair Railings (Construction)
- 437-081-0309** Standard Guardrails and Toeboards
- 437-081-0313** Standard Guardrails and Toeboards (Height)
- 437-081-0316** Standard Guardrails and Toeboards (Finish)
- 437-081-0319** Standard Guardrails and Toeboards (Construction)
- 437-081-0323** Standard Guardrails and Toeboards (Strength)
- 437-081-0326** Standard Guardrails and Toeboards (Requirements)

Enclosures, Bins, Hoppers, Tanks and Vats

437-081-0329 Enclosures, Bins, Hoppers, Tanks and Vats

437-081-0333 Enclosures, Bins, Hoppers, Tanks and Vats (Safety)

437-081-0336 Enclosures, Bins, Hoppers, Tanks and Vats (Operation)

437-081-0339 Enclosures, Bins, Hoppers, Tanks and Vats (Railings)

437-081-0343 Enclosures, Bins, Hoppers, Tanks and Vats (Coverings)

437-081-0346 Enclosures, Bins, Hoppers, Tanks and Vats (Safety Belts)

Miscellaneous Structures and Surfaces

437-081-0349 Bridgeplates (Dockboards)

437-081-0353 Bridgeplates (Dockboards) (Loads)

437-081-0356 Bridgeplates (Dockboards) (Vehicle Use)

437-081-0359 Bridgeplates (Dockboards) (Construction)

437-081-0363 Bridgeplates (Dockboards) (Stabilizing)

437-081-0366 Bridgeplates (Dockboards) (Maintenance)

437-081-0369 Roadways

437-081-0373 Roadways (Maintenance)

437-081-0376 Roadways (Visual Obstructions)

437-081-0379 Bridges and Culverts

437-081-0383 Bridges and Culverts (Construction)

437-081-0386 Bridges and Culverts (Maintenance)

Housekeeping

437-081-0389 Housekeeping

437-081-0393 Housekeeping (Passageways and Stairways)

437-081-0396 Housekeeping (Hazardous Projections)

437-081-0399 Housekeeping (Slippery Surfaces)

437-081-0403 Housekeeping (Spill Prevention)

437-081-0406 Disposal of Waste Materials

Fire Prevention and Protection

General

437-081-0409 General

437-081-0413 Definitions

437-081-0416 Ignition

437-081-0419 Ignition (Electrical Standards)

437-081-0423 Ignition (Internal Combustion Engines)

437-081-0426 Ignition (Prohibited Areas)

437-081-0429 Ignition (Safety Signs)

Storage Transporting, and Handling of Flammable Liquids

437-081-0433 Storage and Transporting

437-081-0436 Storage and Transporting (Storage Requirements)

437-081-0439 Storage and Transporting (Storage Area Egress)

437-081-0443 Storage and Transporting (Trucking Flammables)

437-081-0446 Storage and Transporting (Passenger-Type Vehicles)

437-081-0449 Tanks and Containers

437-081-0453 Tanks and Containers (Collision Protection)

437-081-0456 Tanks and Containers (Mounting)

437-081-0459 Tanks Elevated for Gravity Discharge

437-081-0463 Tanks Elevated for Gravity Discharge (Shut Off Valves)

437-081-0466 Tanks with Top Openings Only

437-081-0469 Tanks with Top Openings Only (Nonpressurized)

- 437-081-0473** Tanks with Top Openings Only (Anti-Siphoning Devices)
- 437-081-0476** Dispensing and Fueling
- 437-081-0479** Dispensing and Fueling (Hose Requirements)
- 437-081-0483** Dispensing and Fueling (Dispensing Safety)
- 437-081-0486** Dispensing and Fueling (To Internal Combustion Engines)
- 437-081-0489** Handling and Use of Flammable and Combustible Liquids
- 437-081-0493** Handling and Use of Flammable and Combustible Liquids (Use)
- 437-081-0496** Handling and Use of Flammable and Combustible Liquids (Indoor Use)
- 437-081-0499** Handling and Use of Flammable and Combustible Liquids (Storage)

Heating Devices

- 437-081-0503** Heating Devices
- 437-081-0506** Heating Devices (Footings)
- 437-081-0509** Heating Devices (Near Tarpaulins)
- 437-081-0513** Heating Devices (Primary Safety Controls)
- 437-081-0516** Heating Devices (Restrictions)
- 437-081-0519** Heating Devices (Venting)
- 437-081-0523** Heating Devices (Ignition Sources)

Extinguishers

- 437-081-0526** Extinguishers
- 437-081-0529** Extinguishers (Labeling)
- 437-081-0533** Extinguishers (Mounting)
- 437-081-0536** Extinguishers (Location)
- 437-081-0539** Extinguishers (Identified Location)
- 437-081-0543** Extinguishers (Clear Access)

- 437-081-0546** Extinguishers (Maintenance)
- 437-081-0549** Extinguishers (Portable Extinguishers)
- 437-081-0553** Extinguishers (Inspections)
- 437-081-0556** Extinguishers (Restrictions)

Electrical

General

- 437-081-0559** Purpose, Scope and Application
- 437-081-0563** Purpose, Scope, Application and Installation
- 437-081-0566** Definitions

Temporary Lighting and Wiring

- 437-081-0569** Temporary Lighting and Portable Extension Lamps
- 437-081-0573** Temporary Lighting and Portable Extension Lamps (Cords)
- 437-081-0576** Temporary Lighting and Portable Extension Lamps (Mounts)
- 437-081-0579** Temporary Lighting and Portable Extension Lamps (Design)
- 437-081-0583** Temporary Lighting and Portable Extension Lamps (Hazards)
- 437-081-0586** Temporary Wiring
- 437-081-0589** Temporary Wiring (Grounding)
- 437-081-0593** Temporary Wiring (Approved Equipment)
- 437-081-0596** Temporary Wiring (Maintenance)
- 437-081-0599** Temporary Wiring (Open Wiring Safety)

Protective Arrangements

- 437-081-0603** Protection of Employees

- 437-081-0606** Protection of Employees (Repairs)
- 437-081-0609** Protection of Employees (Safety Tools)
- 437-081-0613** Protection of Employees (Shock Hazards)
- 437-081-0616** Protection of Employees (Underground Power Lines)
- 437-081-0619** Protection of Employees (Employer Inspections of Work Site)
- 437-081-0623** Workspace
- 437-081-0626** Workspace (Safety Barriers)
- 437-081-0629** Lockout and Tagging of Circuits
- 437-081-0633** Lockout and Tagging of Circuits (Controls)
- 437-081-0636** Lockout and Tagging of Circuits (Identification Tags)

Equipment Installation and Maintenance

- 437-081-0639** Flexible Cable and Extension Cords
- 437-081-0643** Flexible Cable and Extension Cords (Restrictions)
- 437-081-0646** Flexible Cable and Extension Cords (Damage Protection)
- 437-081-0649** Flexible Cable and Extension Cords (In Work Areas)
- 437-081-0653** Flexible Cable and Extension Cords (Installation)
- 437-081-0656** Flexible Cable and Extension Cords (Splices)
- 437-081-0659** Attachment Plugs and Receptacles
- 437-081-0663** Attachment Plugs and Receptacles (Grounded)
- 437-081-0666** Attachment Plugs and Receptacles (Construction)
- 437-081-0669** Attachment Plugs and Receptacles (Proper Wiring)
- 437-081-0673** Attachment Plugs and Receptacles (Identification)
- 437-081-0676** Attachment Plugs and Receptacles (Terminal Identification)
- 437-081-0679** Attachment Plugs and Receptacles (Varied Voltages)
- 437-081-0683** Attachment Plugs and Receptacles (300 Volts or Greater)
- 437-081-0686** Cord and Plug Connected Equipment

- 437-081-0689** Cord and Plug Connected Equipment (Insulated Systems)
- 437-081-0693** Cord and Plug Connected Equipment (Exposed Metal Parts)
- 437-081-0696** Cord and Plug Connected Equipment (Reporting Shock)
- 437-081-0699** Grounding and Bonding
- 437-081-0703** Grounding and Bonding (Ground Resistance)
- 437-081-0706** Grounding and Bonding (Testing of Grounds)
- 437-081-0709** Grounding and Bonding (Conductors)
- 437-081-0713** Switches and Circuit Breakers
- 437-081-0716** Grounding and Bonding (Switchboards and Panelboards)
- 437-081-0719** Grounding and Bonding (Marking Disconnectors)
- 437-081-0723** Grounding and Bonding (Disconnectors)
- 437-081-0726** Grounding and Bonding (Disconnecter Construction)
- 437-081-0729** Grounding and Bonding (Waterproofed Disconnectors)
- 437-081-0733** Identification and Load Ratings
- 437-081-0736** Identification and Load Ratings (Circuit Protection)
- 437-081-0739** Identification and Load Ratings (Fuse Restrictions)
- 437-081-0743** Identification and Load Ratings (Electric Motor Safety)

Proximity to Overhead Lines

- 437-081-0746** Clearance or Safeguards Required
- 437-081-0749** Clearance or Safeguards Required (Irrigation Pipe Storage)
- 437-081-0753** Clearance or Safeguards Required (Lifting Irrigation Pipe)
- 437-081-0756** Clearance or Safeguards Required (Irrigation Restrictions)
- 437-081-0759** Clearance or Safeguards Required (Employee Safety)
- 437-081-0763** Clearance or Safeguards Required (Safety Zone)
- 437-081-0766** Clearance or Safeguards Required (Clearance)
- 437-081-0769** Warning Sign Required
- 437-081-0773** Notification to Power Company and Responsibility for Safeguards

Steam-Air Compressors; Piping Systems Carrying Hazardous Materials

General

437-081-0776 General

437-081-0779 General (Standards)

437-081-0783 General (Repairs)

437-081-0786 General (Control Valves)

437-081-0789 General (Relief Valves)

Heated Pressure Vessels

437-081-0793 Heated Pressure Vessels

437-081-0796 Heated Pressure Vessels (Safety)

437-081-0799 Heated Pressure Vessels (Covers)

437-081-0803 Heated Pressure Vessels (Pressure Gauges)

437-081-0806 Heated Pressure Vessels (Cover Safety)

437-081-0809 Heated Pressure Vessels (Water Gauges)

437-081-0813 Heated Pressure Vessels (Piping Insulation)

437-081-0816 Heated Pressure Vessels (Operator Safety)

Air Compressors and Air Receivers

437-081-0819 Air Compressors

437-081-0823 Air Compressors (Intake Locations)

437-081-0826 Air Compressors (Shut-Off Valves)

- 437-081-0829** Air Compressors (Lubrication)
- 437-081-0833** Air Compressors (Hose Connections)
- 437-081-0836**Use of Compressed Air
- 437-081-0839** Use of Compressed Air (Cleaning Restrictions)

Air Receivers

- 437-081-0843** Air Receivers
- 437-081-0846** Air Receivers (Installation)
- 437-081-0849** Air Receivers (Location)
- 437-081-0853** Air Receivers (Receiver Location)
- 437-081-0856** Air Receivers (Valves)
- 437-081-0859** Air Receivers (Drain Valves)

Piping Systems

- 437-081-0863**Piping Systems
- 437-081-0866** Piping Systems (Labeling)
- 437-081-0869** Piping Systems (Insulation)

Hand Tools and Hand-Held Power Driven Tools

General

- 437-081-0873** Scope and Application
- 437-081-0876**Definitions
- 437-081-0879** General
- 437-081-0883** General (Standards)
- 437-081-0886** General (Handle Construction)

437-081-0889 General (Handle Connection)

437-081-0893 General (Condition)

437-081-0896 General (Maintenance)

437-081-0899 General (Protective Attire)

437-081-0903 General (Transport)

437-081-0906 General (Storage)

437-081-0909 General (Power Line and Hose Storage)

437-081-0913 General (Power Line and Hose Disconnection)

437-081-0916 General (Fire Prevention)

Hand-Held Power Driven Tools

437-081-0919 Controls

437-081-0923 Controls (Switches)

437-081-0926 Controls (Safety)

437-081-0929 Controls (Pressure Switches)

437-081-0933 Controls (Modified Pressure Switches)

437-081-0936Electrical Power Supply Cables

437-081-0939Grounding of Power Tools

437-081-0943Guarding

437-081-0946 Guarding (Circular Saws)

437-081-0949 Guarding (Grinders)

437-081-0953 Guarding (Nailers and Staplers)

437-081-0956 Guarding (Impact Tools)

437-081-0959Internal Combustion Engine - Driven Tools

437-081-0963 Internal Combustion Engine - Driven Tools (Fueling)

437-081-0966 Internal Combustion Engine - Driven Tools (Maintenance)

437-081-0969 Internal Combustion Engine - Driven Tools (Starting)

437-081-0973 Internal Combustion Engine - Driven Tools (Exhaust Ports)

437-081-0976 Internal Combustion Engine - Driven Tools (Carrying Slings)

437-081-0979 Pneumatic Powered Tools

437-081-0983 Pneumatic Powered Tools (Shut-Off Valves)

437-081-0985 Pneumatic Powered Tools (Safety Line)

437-081-0989 Pneumatic Powered Tools (Gas Restrictions)

437-081-0993 Pneumatic Powered Tools (Exhaust)

Jacks

437-081-0996 Definitions

437-081-0999 General

437-081-1003 General (Maintenance)

437-081-1006 General (Rated Load Markings)

437-081-1009 General (Load Limits)

437-081-1013 General (Positioning)

437-081-1016 General (Safety)

Personal Protective Equipment

437-081-1019 Definitions

437-081-1023 General Requirements

437-081-1026 General Requirements (Hazard Control)

437-081-1029 General Requirements (Use)

437-081-1033 General Requirements (Standards)

437-081-1036 General Requirements (Proper Use)

437-081-1039 General Requirements (Cleanliness)

437-081-1043 General Requirements (Storage)

437-081-1046 General Requirements (Employee Furnished Equipment)

- 437-081-1049** General Requirements (Maintenance)
- 437-081-1053** General Requirements (Skin Hazards)
- 437-081-1056** General Requirements (Availability of Clean Water)
- 437-081-1059** General Requirements (Jewelry Restrictions)
- 437-081-1063** Work Clothing
- 437-081-1066** Work Clothing (Safety)
- 437-081-1069** Work Clothing (Maintenance)
- 437-081-1073** Head Protection
- 437-081-1076** Head Protection (Hair Safety)
- 437-081-1079** Eye and Face Protection
- 437-081-1083** Eye and Face Protection (Corrective Lenses)
- 437-081-1086** Eye and Face Protection (Maintenance)
- 437-081-1089** Hearing Protection
- 437-081-1093** Hearing Protection (Instruction)
- 437-081-1096** Hearing Protection (Hearing Conservation Program)
- 437-081-1099** Respiratory Protection
- 437-081-1103** Foot Protection
- 437-081-1106** Foot Protection (Safety-Toe Requirements)
- 437-081-1109** Foot Protection (Special Use)
- 437-081-1113** Foot Protection (Maintenance)
- 437-081-1116** Foot Protection (Leg Protection)
- 437-081-1119** Hand Protection
- 437-081-1123** Hand Protection (Gloves)
- 437-081-1126** Lifelines and Safety Belts
- 437-081-1129** Lifelines and Safety Belts (Restricted Use)
- 437-081-1133** Lifelines and Safety Belts (Attachment)
- 437-081-1136** Lifelines and Safety Belts (Hardware)
- 437-081-1139** Lifelines and Safety Belts (Breaking Strength)

437-081-1143 Lifelines and Safety Belts (Construction)

437-081-1146 Lifelines and Safety Belts (Standards)

437-081-1149 Lifelines and Safety Belts (Inspection)

437-081-1153 Life Jackets and Buoyant Protective Equipment

437-081-1156 Life Jackets and Buoyant Protective Equipment (Inspection)

437-081-1159 Life Jackets and Buoyant Protective Equipment (Ring Buoys)

437-081-1163 Life Jackets and Buoyant Protective Equipment (Skiff)

437-081-1166 Life Jackets and Buoyant Protective Equipment (Skiff Safety)

437-081-1169 Life Jackets and Buoyant Protective Equipment (Loading)

Vehicles

437-081-1173 Scope and Application

437-081-1176 Purpose

437-081-1179 Definitions

Vehicle Operating Requirements

437-081-1183 Operation of Vehicles

437-081-1186 Operation of Vehicles (Maintenance)

437-081-1189 Operation of Vehicles (Authorized Operator)

437-081-1193 Operation of Vehicles (Operator Review)

437-081-1196 Operation of Vehicles (Operator Safety)

437-081-1199 Operation of Vehicles (Restrictions)

437-081-1203 Operation of Vehicles (Speed Limits)

437-081-1206 Operation of Vehicles (Proximity To Other Vehicles)

437-081-1209 Operation of Vehicles (Visual Obstructions)

437-081-1213 Operation of Vehicles (Towing)

437-081-1216 Operation of Vehicles (Vehicle Awareness)

- 437-081-1219** Operation of Vehicles (Restrictions)
- 437-081-1223** Riding on Vehicles
- 437-081-1226** Riding on Vehicles (Entering and Exiting Restrictions)
- 437-081-1229** Riding on Vehicles (Proper Seating)
- 437-081-1233** Riding on Vehicles (Rider Safety)
- 437-081-1236** Riding on Vehicles (Rider Restrictions)
- 437-081-1239** Riding on Vehicles (Unstable Loads)
- 437-081-1243** Riding on Vehicles (Remaining Seated)
- 437-081-1246** Riding on Vehicles (Riding in Cargo Spaces)
- 437-081-1249** Loading of Vehicles
- 437-081-1253** Loading of Vehicles (Movement Prevention)
- 437-081-1256** Loading of Vehicles (Trailer Supports)
- 437-081-1259** Loading of Vehicles (Securing Loads)
- 437-081-1263** Loading of Vehicles (Vehicle Movement)
- 437-081-1266** Loading of Vehicles (Adjusting Operating Methods)
- 437-081-1269** Loading of Vehicles (Employee Access)
- 437-081-1273** Parking

Equipment and Maintenance Requirements

- 437-081-1276** Operator's Station, Work Platforms, and Cabs
- 437-081-1279** Operator's Station, Work Platforms, and Cabs (Doors)
- 437-081-1283** Operator's Station, Work Platforms, and Cabs (Surfaces)
- 437-081-1286** Operator's Station, Work Platforms, and Cabs (Steps)
- 437-081-1289** Operator's Station, Work Platforms, and Cabs (Flooring)
- 437-081-1293** Operator's Station, Work Platforms, and Cabs (Bulkheads)
- 437-081-1296** Operator's Station, Work Platforms, and Cabs (Load Safety)
- 437-081-1299** Operator's Station, Work Platforms, and Cabs (Workers)

437-081-1303 Windshields - Windows

437-081-1306 Windshields - Windows (Repair)

437-081-1309 Windshields - Windows (Maintenance)

437-081-1313 Vehicle Controls

437-081-1316 Vehicle Controls (Handle Location)

437-081-1319 Vehicle Controls (Pedal Surfaces)

437-081-1323 Brakes

437-081-1326 Brakes (Power Brakes)

437-081-1329 Brakes (Parking Brakes)

437-081-1333 Brakes (Inspection)

437-081-1336 Brakes (Repair)

437-081-1339 Brakes (Brake Lines)

437-081-1343 Brakes (Hoses)

437-081-1346 Steering

437-081-1349 Lights

437-081-1353 Inspection

437-081-1356 Vehicle Maintenance

437-081-1359 Vehicle Maintenance (Tires)

437-081-1363 Vehicle Maintenance (Batteries)

437-081-1366 Vehicle Maintenance (Illumination)

437-081-1369 Guards

437-081-1373 Guards (Vehicles)

437-081-1376 Guards (Heated Surfaces)

437-081-1379 Guards (Shear Points)

Fueling

437-081-1383 Signaling and Warning Devices

437-081-1386 Signaling and Warning Devices (Nonobstructed Vision)

- 437-081-1389**Exhausts
- 437-081-1393** Exhausts - (Pipe Location)
- 437-081-1396**Vehicles with Elevating Components
- 437-081-1403** Vehicles with Elevating Components (Locking Devices)
- 437-081-1406**Vehicles Operated on Public Roads
- 437-081-1409** Vehicles Operated on Public Roads (Standards)

Aerial Devices

- 437-081-1413**Definitions
- 437-081-1416** Design Requirements
- 437-081-1419** Design Requirements (Stability)
- 437-081-1423** Design Requirements (Rated Load Capacity)
- 437-081-1426** Design Requirements (Load Capacity)
- 437-081-1429** Design Requirements (Outriggers)
- 437-081-1433** Design Requirements (Platforms)
- 437-081-1436** Design Requirements (Platform Gates)
- 437-081-1439** Design Requirements (Parking Brake)
- 437-081-1443**Controls
- 437-081-1446** Controls (Placement)
- 437-081-1449** Controls (Tool Storage)
- 437-081-1453**Operation
- 437-081-1456** Operation (Manual Availability)
- 437-081-1459** Operation (Outrigger Placement)

**Storing and Handling Materials and Material Handling
Equipment**

General

437-081-1463 Scope and Application

437-081-1466 Scope and Application (Safety Requirements)

437-081-1469 Scope and Application (Rule Jurisdiction)

437-081-1473 General

437-081-1476 General (Access)

437-081-1479 General (Storage)

437-081-1483 General (Drainage)

437-081-1486 Storage - Location

437-081-1489 Storage - Location (Marking)

437-081-1493 Storage - Location (Segregating Hazardous Materials)

437-081-1496 Stacks and Piles

437-081-1499 Stacks and Piles (Binding Strips)

437-081-1503 Lumber

437-081-1506 Lumber (Stacking Restrictions)

437-081-1509 Bagged Materials

437-081-1513 Bagged Materials (Unit Removal)

437-081-1516 Corrugated and Flat Iron (Steel)

437-081-1519 Corrugated and Flat Iron - Steel (Steel Plate Storage)

437-081-1523 Pipe and Bar Stock

437-081-1526 Pipe and Bar Stock (Passageway Safety)

437-081-1529 Drums, Rolls, Cylindrical Objects

437-081-1533 Drums, Rolls, Cylindrical Objects (Spacing Strips)

437-081-1536 Drums, Rolls, Cylindrical Objects (Safety Requirements)

Handling Materials

437-081-1539 Handling Materials

437-081-1543 Handling Materials (Marking Access)

437-081-1546 Handling Materials (Equipment Maintenance)

437-081-1549 Handling Materials (Load Capacities)

437-081-1553 Handling Materials (Worker Safety)

437-081-1556 Handling Materials (Suspended Loads)

Conveyors

437-081-1559 Backstops - Brakes

437-081-1563 Loading, Transfer and Discharge Points

437-081-1566 Conveyor Guards

437-081-1569 Conveyor Guards (Return Sections)

437-081-1573 Conveyor Guards (Powered Belt Conveyers)

437-081-1576 Conveyor Guards (Input Conveyor Safety)

437-081-1579 Conveyor Guards (Crossing Conveyers)

437-081-1583 Portable Conveyors

437-081-1586 Portable Conveyors (Grounding)

437-081-1589 Riding Conveyors Prohibited

437-081-1593 Chutes, Rollways

437-081-1596 Chutes, Rollways (Warning Devices)

437-081-1599 Chutes, Rollways (Guards)

437-081-1603 Chutes, Rollways (Underside Safety)

Wheelbarrows, Hand Trucks, Pallet Jacks and Dollies

437-081-1606 Wheelbarrows, Hand Trucks, Pallet Jacks and Dollies

437-081-1609 Wheelbarrows, Hand Trucks, Pallet Jacks and Dollies (Repair)

437-081-1613 Wheelbarrows, Hand Trucks, Pallet Jacks and Dollies (Use)

Powered Industrial Trucks

- 437-081-1616** Powered Industrial Trucks (Markings)
- 437-081-1619** Powered Industrial Trucks (Modification Approval)
- 437-081-1623** Powered Industrial Trucks (Attachments)
- 437-081-1626** Overhead Guards
- 437-081-1629** Overhead Guards (Requirements)
- 437-081-1633** Load Back Rest
- 437-081-1634** Control of Noxious Gases and Fumes
- 437-081-1636** Dockboards (Bridge Plates)
- 437-081-1639** Operation of Powered Industrial Trucks
- 437-081-1643** Overhead Guards (Headroom)
- 437-081-1646** Overhead Guards (Riders)
- 437-081-1649** Overhead Guards (Safety)
- 437-081-1653** Elevating Personnel
- 437-081-1656** Elevating Personnel (Loads)
- 437-081-1659** Elevating Personnel (Load Limits)
- 437-081-1663** Elevating Personnel (Adjusting Loads)
- 437-081-1666** Elevating Personnel (Load Placement)
- 437-081-1669** Elevating Personnel (Fork Placement)
- 437-081-1673** Elevating Personnel (Tilting Loads)
- 437-081-1676** Traveling
- 437-081-1679** Traveling (Grades)
- 437-081-1683** Traveling (Motorized Hand Trucks)
- 437-081-1686** Traveling (Avoiding Loose Objects)
- 437-081-1689** Traveling (Turns)
- 437-081-1693** Trucks and Railroad Cars
- 437-081-1696** Trucks and Railroad Cars (Brakes)

- 437-081-1699** Trucks and Railroad Cars (Semi-Trailers)
- 437-081-1703** Trucks and Railroad Cars (Flooring Inspection)

Agriculture Equipment Guarding

General

- 437-081-1706** Purpose
- 437-081-1707** Application
- 437-081-1708** Application
- 437-081-1709** Definitions
- 437-081-1713** Operating Instructions
- 437-081-1716** Methods of Guarding
- 437-081-1719** Strength and Design of Guards
- 437-081-1723** Strength and Design of Guards (Requirements)
- 437-081-1726** Strength and Design of Guards (Attachment)
- 437-081-1729** Guarding by Location
- 437-081-1733** Guarding by Railings
- 437-081-1736** Servicing and Maintenance
- 437-081-1739** Miscellaneous General Requirements
- 437-081-1743** Miscellaneous General Requirements (Fan Blades)
- 437-081-1746** Machine Controls
- 437-081-1749** Machine Controls (Marking)
- 437-081-1753** Machine Controls (Color Coding)
- 437-081-1756** Machine Controls (Location)

Farm Field Equipment

437-081-1759 Power Take-Off Guarding

437-081-1763 Power Take-Off Guarding (Guard Requirements)

437-081-1766 Power Take-Off Guarding (Employee Contact)

437-081-1769 Power Take-Off Guarding (Signs)

437-081-1773 Other Power Transmission Components

437-081-1776 Other Power Transmission Components (Revolving Shafts)

437-081-1779 Other Power Transmission Components (Ground Driven)

437-081-1783 Functional Components

437-081-1786 Access to Moving Parts

437-081-1789 Access to Moving Parts (Requirements)

437-081-1793 Additional Requirements

437-081-1796 Additional Requirements (Clutch Clearance)

Farmstead Equipment

437-081-1799 Power Take-Off Guarding

437-081-1803 Power Take-Off Guarding (Employee Contact)

437-081-1806 Power Take-Off Guarding (Signs)

437-081-1809 Other Power Transmission Components

437-081-1813 Other Power Transmission Components (Requirements)

437-081-1816 Functional Components

437-081-1819 Functional Components (Requirements)

437-081-1823 Functional Components (Limitations)

437-081-1825 Functional Components (Guards)

437-081-1826 Functional Components (Guard Requirements)

437-081-1829 Access to Moving Parts

437-081-1833 Access to Moving Parts (Guard Requirements)

437-081-1836 Electrical Disconnect Means

437-081-1839 Electrical Disconnect Means (Circuit Protection Devices)

437-081-1843 Additional Guarding Requirements

437-081-1846 Additional Guarding Requirements (Point of Operation)

Rope, Chain Rigging and Hoists

General

437-081-1849 Scope and Application

437-081-1853 Scope and Application (Rule Application)

437-081-1856 Definitions

437-081-1859 Loading and Capacity

437-081-1863 Inspection

437-081-1866 Operators (Handling Loads)

437-081-1869 Operators - Handling Loads (Manskip Requirements)

437-081-1873 Operators - Handling Loads (Signaling)

437-081-1876 Operators - Handling Loads (Work Area Requirements)

Tackle and Hoisting Equipment

437-081-1879 Blocks, Sheaves, Shackles and Drums

437-081-1883 Blocks, Sheaves, Shackles and Drums (Securing Pins)

437-081-1886 Blocks, Sheaves, Shackles and Drums (Block Requirements)

437-081-1889 Blocks, Sheaves, Shackles and Drums (Rope Guards)

437-081-1893 Blocks, Sheaves, Shackles and Drums (Securing Pins)

437-081-1896 Blocks, Sheaves, Shackles and Drums (Shackle Strength)

437-081-1899 Blocks, Sheaves, Shackles and Drums (Shackle Limits)

437-081-1903 Blocks, Sheaves, Shackles and Drums (Drum Lines)

437-081-1906 Blocks, Sheaves, Shackles and Drums (Guiding Lines)

- 437-081-1909Chains
- 437-081-1913 Chains (Knots)
- 437-081-1916 Chains (Restrictions)
- 437-081-1919 Chains (End Fastenings)
- 437-081-1923Hooks and Attachment Devices
- 437-081-1926 Hooks and Attachment Devices (Restrictions)
- 437-081-1929 Hooks and Attachment Devices (Safety Hooks)
- 437-081-1933Wire Rope
- 437-081-1936 Wire Rope (Guards)
- 437-081-1939 Wire Rope (Friction Reduction)
- 437-081-1943 Wire Rope (Maintenance)
- 437-081-1946Cable Clips or Clamps
- 437-081-1949 Cable Clips or Clamps (U-Bolt Rope Clips)
- 437-081-1953 Cable Clips or Clamps (Use)
- 437-081-1956 Cable Clips or Clamps (Restrictions)
- 437-081-1959 Cable Clips or Clamps (Knots)
- 437-081-1963Fiber Rope
- 437-081-1966 Fiber Rope (Eye Splices)
- 437-081-1969 Fiber Rope (Eye Splices In Synthetic Fiber Rope)
- 437-081-1973 Fiber Rope (Trimming Splices)
- 437-081-1976 Fiber Rope (Eye Splice Dimensions)
- 437-081-1979 Fiber Rope (Knots)
- 437-081-1983 Fiber Rope (Storage)
- 437-081-1986 Fiber Rope (Frozen Rope)
- 437-081-1989 Fiber Rope (Restrictions)

Explosive Actuated Tools

- 437-081-1993Explosive Actuated Tools

Explosives and Blasting Agents

437-081-1996Explosives and Blasting Agents

Electric Power Transmission

437-081-1999Electric Power Transmission

Powered Saws

General

437-081-2003 Scope and Application

437-081-2006 Scope and Application (Wood Working Tools)

Saws

437-081-2009 Band Saws

437-081-2013 Band Saws (Blade Guards)

437-081-2016Radial Arm Saws

437-081-2019 Radial Arm Saws (Blade Restrictions)

437-081-2023 Radial Arm Saws (Requirements)

437-081-2026 Radial Arm Saws (Blade Rotation)

437-081-2029 Radial Arm Saws (Saw Return)

437-081-2033Table Saws

437-081-2036 Table Saws (Guards)

437-081-2039 Table Saws (Blade Guards)

437-081-2043 Table Saws (Push Sticks)

437-081-2046Wobble Saws

437-081-2049Circular Fuel Wood Saws

437-081-2053 Circular Fuel Wood Saws (Table Construction)

437-081-2056 Circular Fuel Wood Saws (Blade Restrictions)

437-081-2059 Circular Fuel Wood Saws (Backrests)

437-081-2063 Circular Fuel Wood Saws (Guards)

437-081-2066Cracks in Blades

Logging

437-081-2069 Logging

Gas and Electric Welding

General

437-081-2073 Scope and Application

437-081-2076 Scope and Application (Rules Jurisdiction)

437-081-2079Definitions

437-081-2089Planning and Job Layout

437-081-2093 Planning and Job Layout (Fire Safe Areas)

437-081-2096 Planning and Job Layout (Fire Extinguishers)

437-081-2099 Planning and Job Layout (Instruction)

437-081-2103 Planning and Job Layout (Welding Restrictions)

437-081-2106 Planning and Job Layout (Securing Welding Equipment)

437-081-2109 Planning and Job Layout (Hot Metal Warnings)

Health Protection

437-081-2113 Ventilation

437-081-2116Precautionary Labels

437-081-2119 Precautionary Labels (Requirements)

437-081-2123Cleaning Solvents - Degreasers

437-081-2126 Cleaning Solvents - Degreasers (Vapors)

437-081-2129 Cleaning Solvents - Degreasers (Welding Restrictions)

437-081-2133 Cleaning Solvents - Degreasers (Toxic Gas Warning)

437-081-2136Eye Protection

437-081-2139 Eye Protection (Arc Protection)

437-081-2143 Eye Protection (Protective Materials)

437-081-2146 Eye Protection (Tempered Glass)

437-081-2149 Eye Protection (Welder's Helmets)

437-081-2153 Eye Protection (Welder's Spectacles)

437-081-2156 Eye Protection (Adjacent Workers)

Protective Clothing

437-081-2159 Protective Clothing (Trousers)

437-081-2163 Protective Clothing (Accumulated Substances)

437-081-2166 Protective Clothing (Restrictions)

437-081-2169 Protective Clothing (Capes)

437-081-2173 Protective Clothing (Ear Protection)

437-081-2176Containers

437-081-2179 Containers (Contaminated Vessels)

437-081-2183Equipment and Vessels Used with Toxic Substance

437-081-2186Preservative Coatings

437-081-2189 Preservative Coatings (Flammable Coatings)

437-081-2193 Toxic Preservative Coatings

437-081-2196 Toxic Preservative Coatings (Respirators)

Arc Welding

437-081-2199 Equipment

437-081-2203 Equipment (Grounding)

437-081-2206 Protection From Electrical Shock

437-081-2209 Protection From Electrical Shock (Restrictions)

437-081-2213 Protection From Electrical Shock (Insulation)

437-081-2216 Protection From Electrical Shock (Protective Coverings)

437-081-2219 Protection From Electrical Shock (Welding Cable Placement)

437-081-2223 Protection From Electrical Shock (Welding Cable Layout)

437-081-2226 Protection From Electrical Shock (Electrode Cable)

437-081-2229 Machine Hook-Up

437-081-2233 Machine Hook-Up (Lead Attachment)

437-081-2236 Machine Hook-Up (Clamps)

437-081-2239 Machine Hook-Up (Power)

Oxygen - Fuel Gas

437-081-2243 General (Mixtures)

437-081-2246 General (Restrictions)

437-081-2249 General (Approved Equipment)

Storage, Handling and Use of Cylinders

437-081-2253 Storage, Handling, Use of Cylinders

437-081-2256 Storage, Handling, Use of Cylinders (Heat Sources)

437-081-2259 Storage, Handling, Use of Cylinders (Storage)

437-081-2263 Storage, Handling, Use of Cylinders (Fire Protection)

437-081-2266 Storage, Handling, Use of Cylinders (Restrictions)

437-081-2269 Storage, Handling, Use of Cylinders (Handling)

437-081-2273 Storage, Handling, Use of Cylinders (Use As Rollers)

437-081-2276 Storage, Handling, Use of Cylinders (Transporting)

437-081-2279 Storage, Handling, Use of Cylinders (Secured)

437-081-2283 Storage, Handling, Use of Cylinders (Use)

437-081-2286 Storage, Handling, Use of Cylinders (Set Up)

437-081-2289 Storage, Handling, Use of Cylinders (Opening Valves)

437-081-2293 Storage, Handling, Use of Cylinders (Without Hand Wheels)

437-081-2296 Storage, Handling, Use of Cylinders (Valve Repair)

437-081-2299 Storage, Handling, Use of Cylinders (Cracking)

437-081-2303 Storage, Handling, Use of Cylinders (Cracking Restrictions)

437-081-2305 Storage, Handling, Use of Cylinders (Valve Opening Location)

437-081-2309 Storage, Handling, Use of Cylinders (Valve Opening Speed)

437-081-2313 Storage, Handling, Use of Cylinders (In Use)

437-081-2316 Storage, Handling, Use of Cylinders (Valve Closing)

437-081-2319 Storage, Handling, Use of Cylinders (Empty Valves)

437-081-2323 Valve Protection Caps

437-081-2326 Valve Protection Caps (Lifting)

437-081-2329 Valve Protection Caps (Storage)

Fuel Gas

437-081-2333 Fuel Gas (Storage)

437-081-2336 Fuel Gas (Placement)

437-081-2339 Fuel Gas (Valve End Up)

- 437-081-2343** Fuel Gas (Pressure Restrictions)
- 437-081-2346** Fuel Gas (Use in Cylinders)
- 437-081-2349** Fuel Gas (Use Restrictions)
- 437-081-2353** Fuel Gas (Acetylene Gas Restrictions)
- 437-081-2356** Oxygen
- 437-081-2359** Oxygen (Use)
- 437-081-2363** Oxygen (Contact With Oil or Grease)
- 437-081-2366** Oxygen (Oxygen Regulators)
- 437-081-2369** Oxygen (Oxygen Regulator Use)
- 437-081-2370** Oxygen (Valves)
- 437-081-2373** Regulators
- 437-081-2376** Regulators (Inspection)
- 437-081-2379** Regulators (Tightening Connections)
- 437-081-2383** Regulators (Attached to Cylinders)
- 437-081-2386** Regulators (Removing from a Cylinder Valve)
- 437-081-2389** Hoses
- 437-081-2393** Hoses (Taping)
- 437-081-2396** Hoses (Protection)
- 437-081-2399** Hoses (Repairing)
- 437-081-2403** Hoses (Restricted Repairs)
- 437-081-2406** Hoses (Testing)
- 437-081-2409** Hoses (Connections)
- 437-081-2413** Hoses (Purging)
- 437-081-2416** Blowpipes or Torches
- 437-081-2419** Blowpipes or Torches (Connections)
- 437-081-2423** Blowpipes or Torches (Oxygen Regulator)
- 437-081-2426** Blowpipes or Torches (Welding Head)
- 437-081-2429** Blowpipes or Torches (Sequence of Operations)
- 437-081-2433** Blowpipes or Torches (Lighting)

437-081-2436 Blowpipes or Torches (Setting Down Torch)

437-081-2439 Blowpipes or Torches (Restricted Shut-off)

437-081-2443 Blowpipes or Torches (Extended Shut Down)

Demolition of Buildings

437-081-2446 Definitions

437-081-2449 Definitions (Rule Jurisdiction)

Ladders and Scaffolds

General

437-081-2453 Scope and Application

437-081-2456 Scope and Application (Ladders)

437-081-2459 Definitions

437-081-2463 When Ladders Required

437-081-2466 Use of Ladders

437-081-2469 Use of Ladders (Restrictions)

437-081-2473 Use of Ladders (Use Restrictions)

437-081-2476 Erection, Setting Up, and Placement of Ladders

437-081-2479 Erection, Setting Up, and Placement of Ladders (Footings)

437-081-2483 Erection, Setting Up, and Placement of Ladders (Securing)

437-081-2486 Erection, Setting Up, and Placement of Ladders (Use)

437-081-2489 Erection, Setting Up, and Placement of Ladders (Access)

437-081-2493 Erection, Setting Up, and Placement of Ladders (Rails)

437-081-2496 Erection, Setting Up, and Placement of Ladders (Placement)

437-081-2499 Erection, Setting Up, and Placement of Ladders (Metal Parts)

437-081-2503 Erection, Setting Up, and Placement of Ladders (Reinforced)

437-081-2506 Erecting and Adjusting Extension Ladders

437-081-2509 Erecting and Adjusting Extension Ladders (Raising)

437-081-2513 Erecting and Adjusting Extension Ladders (Adjusting)

437-081-2516 Erecting and Adjusting Extension Ladders (During Use)

437-081-2519 Climbing

437-081-2523 Climbing (Restrictions)

437-081-2526 Climbing (Balance)

437-081-2529 Climbing (Ladder Tops)

437-081-2533 Climbing (Mounting)

437-081-2536 Climbing (Use of Hands)

437-081-2539 Care and Maintenance of Ladders

437-081-2543 Care and Maintenance of Ladders (Lubrication)

437-081-2546 Care and Maintenance of Ladders (Worn Rope)

437-081-2549 Care and Maintenance of Ladders (Minimize Hazards)

437-081-2553 Care and Maintenance of Ladders (Slippage Hazards)

437-081-2556 Care and Maintenance of Ladders (Safety Feet)

437-081-2559 Care and Maintenance of Ladders (Transporting)

437-081-2563 Care and Maintenance of Ladders (Storage)

437-081-2566 Care and Maintenance of Ladders (Protective Coatings)

437-081-2569 Care and Maintenance of Ladders (Identifying)

Design and Construction of Ladders

437-081-2573 General Requirements

437-081-2576 General Requirements (Construction)

437-081-2579 General Requirements (Spacing)

437-081-2583 General Requirements (Quality)

437-081-2586 General Requirements (Slip Resistant)

437-081-2589 General Requirements (Securing Wood Cleats)

437-081-2593 General Requirements (Attaching Wood Cleats)

437-081-2596 General Requirements (Portable Ladders)

437-081-2599 General Requirements (Metal Parts)

437-081-2603 General Requirements (Insulation)

437-081-2606 Orchard Ladders

437-081-2609 Orchard Ladder (Dimensions)

437-081-2613 Orchard Ladders (Construction)
437-081-2616 Orchard Ladders (Width and Spread)
437-081-2619 Orchard Ladders (Top)
437-081-2623 Orchard Ladders (Use)

437-081-2626 Single Ladders
437-081-2629 Single Ladders (Restrictions)
437-081-2633 Single Ladders (Side Rails)
437-081-2636 Single Ladders (Section Restrictions)
437-081-2639 Single Ladders (Size Restrictions)

437-081-2643 Single Ladders (Wood Side Rails)

437-081-2646 Single Ladders (Wood Cleats)

437-081-2649 Single Ladders (Wood Rungs)

437-081-2653 Single Ladders (Cleat Materials)

Fixed Ladders: Design, Construction and Installation

437-081-2656 General

437-081-2659 General (Rung Design)
437-081-2663 General (Rung Spacing)
437-081-2666 General (Rung Requirements)

437-081-2669 General (Rung Width)

437-081-2673 General (Obstructions)
437-081-2676 General (Fixed Ladders)
437-081-2679 General (Securing)

437-081-2683 General (Side Rails)

437-081-2686 General (Landing Requirements)

437-081-2689 Requirements for Cages and Landing Platforms

437-081-2693 Requirements for Cages and Landing Platforms (Placement)

437-081-2696 Requirements for Cages and Landing Platforms (Dimensions)

437-081-2699 Requirements for Cages and Landing Platforms (Guards)

437-081-2703 Requirements for Cages and Landing Platforms (Attachment)

437-081-2706 Requirements for Cages and Landing Platforms (Extensions)

437-081-2709Scaffolds

Abrasive Wheels

General

437-081-2713 Scope and Application

437-081-2716 Scope and Application (Rule Jurisdiction)

437-081-2719Definitions

Use, Mounting and Guarding

437-081-2723 Use

437-081-2726 Use (Balanced)

437-081-2729 Use (Restrictions)

437-081-2733 Use (Work Rests)

437-081-2736 Use (Side Grinding)

437-081-2739Mounting

437-081-2743 Mounting (Flange Requirements)

437-081-2746 Mounting (Flange Pressure)

437-081-2749 Mounting (Inspection)

437-081-2753 Mounting (Wheel Restrictions)

437-081-2756 Mounting (Safety Guards)

437-081-2759 Safety Guards

437-081-2763 Safety Guards (Requirements)

437-081-2766 Safety Guards (Wheel Wear Adjustment)

Communication Work

437-081-2769Communications Work

Occupational Health and First Aid

437-081-2773Occupational Health and First Aid

Pile Driving

437-081-2776Pile Driving

Commercial Diving

437-081-2783Commercial Diving

Motor Vehicle Transportation of Workers

437-081-2786Motor Vehicle Transportation of Workers

Compressed Gas Cylinders and Tanks

437-081-2789 Purpose

437-081-2793Definitions

437-081-2796Inspection of Compressed Gas Cylinders and Tanks

437-081-2799 Inspection of Compressed Gas Cylinders and Tanks (Damage)

Excavation

437-081-2803 Definitions

437-081-2806 Definitions (Rule Jurisdiction)

**Roll-over Protective Structures (ROPS) for Tractors Used in
Agricultural Operations**

437-081-2809 Definitions

437-081-2813 General Requirements

437-081-2816 General Requirements (Seatbelts)

437-081-2819 General Requirements (Seatbelt Strength)

437-081-2823 General Requirements (Protection from Spillage)

437-081-2826 General Requirements (Protection from Sharp Surfaces)

437-081-2829 General Requirements (Exempted Uses)

437-081-2833 General Requirements (Remounting)

437-081-2836 General Requirements (Labeling)

437-081-2839 Employee Operating Instructions

437-081-2843 Test Procedures and Performance Requirements

437-081-2846 Test Procedures and Performance Requirements (Types of Tests)

437-081-2849 Test Procedures and Performance Requirements (Description - Protective Frame)

437-081-2853 Test Procedures and Performance Requirements (Overhead Weather Shield)

437-081-2856 Test Procedures and Performance Requirements (Overhead)

437-081-2859 Test Procedures and Performance Requirements (Description - Protective Enclosure)

437-081-2863 General Test Procedures

437-081-2866 General Test Procedures (New ROPS)

437-081-2869 General Test Procedures (Deflection)

437-081-2873 General Test Procedures (Seat Reference Point)

437-081-2876 General Test Procedures (Frame Loading Tests)

437-081-2879 General Test Procedures (Low Temperatures Tests)

437-081-2883 General Test Procedures (Rear Input Tests)

437-081-2886 General Test Procedures (Accuracy Table)

437-081-2889 General Test Procedures (Movable or Removable Portions)

437-081-2893 Static Test Procedure

437-081-2896 Static Test Procedure (Static Rear Load Test)

437-081-2903 Static Test Procedure (Static Side Load Test)

437-081-2906 Dynamic Test Procedure

437-081-2909 Dynamic Test Procedure (4410 lbs.)

437-081-2913 Dynamic Test Procedure (Loading and Impact Tests)

437-081-2916 Field Upset Test Procedure

437-081-2919 Field Upset Test Procedure (Rear and Side Tests)

437-081-2923 General Performance Requirements

437-081-2926 General Performance Requirements (Temperature)

437-081-2929 General Performance Requirements (Glazing Requirements)

437-081-2933 General Performance Requirements (Exits)

437-081-2936 General Performance Requirements (Static Tests)

437-081-2939 General Performance Requirements (Dynamic Tests)

437-081-2943 General Performance Requirements (Field Upset Tests)

Field Sanitation

437-081-2950 Scope

437-081-2955 Definitions

437-081-2960 General Requirements

437-081-2965 Potable Drinking Water

437-081-2970 Toilet and Handwashing Facilities

437-081-2975 Maintenance

437-081-2985 Field Sanitation Notice

437-081-2990 Reasonable Use

437-081-3000 Adoption by Reference

437-081-3010 Adoption by Reference of Federal Standard

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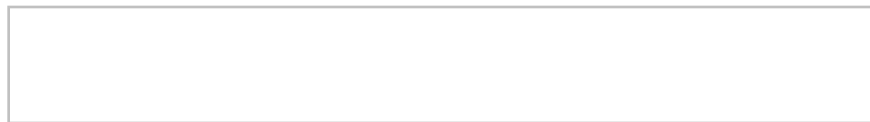
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**Oregon Administrative Rules
1998 Compilation**

**DEPARTMENT OF CONSUMER AND BUSINESS SERVICES, OREGON
OCCUPATIONAL SAFETY AND HEALTH DIVISION**

DIVISION 1

**RULES FOR THE ADMINISTRATION OF THE OREGON
SAFE EMPLOYMENT ACT**

[**ED NOTE:** OAR 436, Division 046, Rules for the Administration of the Oregon Safe Employment Act, was redesignated as OAR 437, Division 001, by APD Admin. Order 7-1988, filed 6/17/88. Its effective date remains 7/1/74.]

437-001-0001

Model Rules of Procedure

Pursuant to rulemaking in ORS 656.726(3), and in accordance with ORS 183.341, the Director adopts by reference the **Attorney General's Model Rules of Procedure** under the Administrative Procedures Act which became effective on September 9, 1995.

[ED. NOTE: The full text of the Attorney General's Model Rules of Procedure is available from the office of the Attorney General or Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 3-1991, f. & cert. ef. 2-25-91; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92; OSHA 2-1994, f. & cert. ef. 5-19-94; OSHA 2-1996, f. & cert. ef. 6-13-96

437-001-0002

Notice to Interested Persons of Rulemaking

Except when acting in an emergency to adopt a temporary rule, in accordance with ORS 183.335(5), the Director will give prior notice of the proposed adoption, amendment or repeal of an administrative rule:

(1) By causing notice of the proposed action to be published once, in the Secretary of State's bulletin referred to in ORS 183.360, prior to the effective date of the adoption, amendment or repeal of the rule as provided in ORS 183.335.

(2) By mailing a copy of Notice to persons on the Oregon Occupational Safety and Health Division's mailing list established pursuant to ORS 183.335(7);

(3) By mailing or delivering a copy of the Notice to any person upon request; and

(4) By mailing copies of the Notice to persons that may have an interest in the subject matter of the proposal, and to organizations and publications that may provide notice to persons who may have an interest, such as the following, depending on the subject matter of the proposal:

(a) Workers' Compensation Insurers;

(b) Self-Insured Employers;

(c) News Organizations;

(d) Labor Unions;

(e) Employer Groups and Associations;

(f) Interested Parties;

(g) State Advisory Council on Occupational Safety and Health;

(h) Employers and Employees;

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 9-1991, f. & cert. ef. 4-25-91; OSHA 6-1994, f. & cert. ef. 9-30-94

General Information

437-001-0005

Authority and Applicability of Rules

(1) These rules are promulgated under the Director's authority contained in ORS 654.025(2) and 656.726(3).

(2) Adoption Procedures: These rules for the Administration of the Oregon Safe Employment Act (OAR 437, Division 1) are adopted in accordance with ORS Chapter 183 and the Director's Rules of Practice and Procedure Applicable to Rule Making Functions.

(3) History: Prior "**Rules for the Administration of the Oregon Safe Employment Act**" (OAR Chapter 436, Division 46, OAR 436-046-0005 through 436-046-0750) were first adopted by WCB Admin. Order 19-1974; filed 6-5-74; **effective 7-1-74**. Amendments were made by:

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 33-1974, f. 9-5-74, ef. 9-26-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 7-1979, f. 8-20-79, ef.

9-1-79; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; WCD 12-1982, f. 6-28-82, ef. 8-1-82; WCD 3-1983, f. 1-31-83, ef. 2-1-83; WCD 9-1983, f. 11-15-83, ef. 11-15-83; WCD 2-1984, f. 3-2-84, ef. 3-15-84; WCD 12-1984, f. 9-20-84, ef. 11-1-84; WCD 9-1986, f. 10-7-86, ef. 12-1-86; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 5-1988, f. 5-16-88, ef. 5-16-88; APD 7-1988, f. 6-17-88, cert. ef. 7-1-74; OSHA 10-1990(Temp), f. & cert. ef. 5-31-90; OSHA 24-1990, f. & cert. ef. 10-10-90; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

437-001-0010

Purpose and Scope of Rules

- (1) These rules provide procedures by which the Division shall implement and enforce the Director's authority and responsibilities under the Act.
- (2) The Director adopts OAR Chapter 437, Division 1, to assure, as far as possible, safe and healthful working conditions for every employee in Oregon, to preserve our human resources and to reduce the substantial burden which is created by occupational injury and disease.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 10-1990(Temp), f. & cert. ef. 5-31-90; OSHA 24-1990, f. & cert. ef. 10-10-90; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

437-001-0015

Definitions

The following definitions shall apply to OAR 437, unless the context requires otherwise:

- (1) "Accepted Disabling Claims" - Claims accepted for disabling occupational injuries or illnesses only. A disabling injury or illness entitles the worker to compensation for disability or fatality. This type of claim excludes temporary total disability suffered during the first three calendar days after the employee leaves work as a result of the injury unless the worker is an inpatient in a hospital.
- (2) "Accepted Disabling Claims Rate" - The ratio of accepted disabling claims to annual average employment, times 100. Claims and employment figures are based upon the best knowledge of the Department at the time the rate is calculated ($ADCR = \text{Number of claims times } 100 \text{ divided by the number of employees}$).
- (3) "Act" - The Oregon Safe Employment Act (ORS 654.001 to 654.295, 654.750 to 654.780, and 654.991).
- (4) "Administrator" - The Administrator of the Oregon Occupational Safety and Health Division (OR-OSHA).
- (5) "Affected employee" - An employee who, in the course and scope of employment, may be or may have been exposed to a condition or practice described in a citation, order, application for an extension date or variance.
- (6) "Agent of the employer" - The manager, superintendent, foreperson or other person in charge or control of all or part of the place of employment.
- (7) "Appeal" - A written request for a hearing in which to contest a citation, notice or order issued by the Division. Unless the context otherwise requires, any writing which clearly contests, objects to or seeks relief from a Division citation, notice or order shall be construed as an appeal.
- (8) "Board" - The Workers' Compensation Board created by ORS 656.712.

- (9) "Catastrophe" - An accident in which two or more employees are fatally injured, or three or more employees are admitted to a hospital or an equivalent medical facility
- (10) "Citation" - A document issued by the Division pursuant to ORS 654.071 to cite a violation. A citation may include a notice of penalty and a correction order.
- (11) "Complaint" - A written or oral report from an employee, employee representative or other person that an occupational safety or health violation may exist at a place of employment. A complaint may be classified as one of the following:
 - (a) "Imminent danger" - Complaints alleging imminent danger; or
 - (b) "Formal" - Those complaints from employees or their representatives; or
 - (c) "Nonformal" - Those complaints from other than employees or their representatives.
- (12) "Compliance Officer" - A designated Division employee whose responsibility is to conduct inspections or investigations to identify possible violations and hazards and to propose citations, penalties and correction dates, and to assist employers and employees with information to correct violations and hazards.
- (13) "Comprehensive Consultation" - Is a consultation to cover the entire establishment and entails a physical hazard assessment evaluation, reviews of records, written programs and the employer's illness and injury prevention plan. Comprehensive consultations include a written report by the provider including findings, recommendations, and the guidance necessary to resolve the problems noted in the report.
- (14) "Consultant" - A designated Division employee whose responsibility is to provide a full range of occupational safety and health assistance including, but not limited to, providing employers, employees and other agency staff with information, advice and recommendations on maintaining safe employment or a place of employment; on correcting violations or hazards; and on applicable occupational safety and health rules, techniques, devices, methods, practices and development of safety and health programs.
- (15) "Correction order" - A written Division order which directs a person to stop a violation within a given period of time. The term also includes a Red Warning Notice issued pursuant to OAR 437-001-0096.
- (16) "Department" - The Department of Consumer and Business Services.
- (17) "Director" - The Director of the Department of Consumer and Business Services, or the Director's designee.
- (18) "Division" - The Oregon Occupational Safety and Health (OR-OSHA) Division of the Department of Consumer and Business Services.
- (19) "Emphasis Program" - A special program that targets Division activity to industries that, according to national or state data, have a high potential for serious injuries or illnesses.
- (20) "Employee" - Any individual who is currently employed or formerly employed, including a minor whether lawfully or unlawfully employed, who engages to furnish services for a remuneration, financial or otherwise, subject to the direction and control of an employer, and includes salaried, elected and appointed officials of the state, state agencies, counties, cities, school districts and other public corporations, or any individual who is provided with workers compensation coverage as a subject worker pursuant to ORS Chapter 656, whether by operation of law or by election.
- (21) "Employee exposure record" - A record of monitoring or measuring which contains a qualitative or quantitative information indicative of employee exposures to toxic materials or harmful physical agents. This includes both individual exposure records and general research or statistical studies based on information collected from exposure records.

(22) "Employee medical record" - A record which contains information concerning the health status of an employee or employees exposed or potentially exposed to toxic materials or harmful physical agents. These records may include, but are not limited to:

(a) The results of medical examinations and tests;

(b) Any opinions or recommendations of a physician or other health professional concerning the health of an employee or employees; and

(c) Any employee medical complaints relating to workplace exposure. Employee medical records include both individual medical records and general research or statistical studies based on information collected from medical records.

(23) "Employee representative" - A bargaining unit representative, or an individual selected by employees, who serves as their spokesperson.

(24) "Employer" - Any person who has one or more employees, or any sole proprietor or member of a partnership who elects workers compensation coverage as a subject worker pursuant to ORS 656.128.

(25) "Employer representative" - An individual selected by the employer, to serve as spokesperson or, in the absence of a selected spokesperson, the person in charge of the place of employment at the time of the inspection.

(26) "Environmental Exposure Sampling" - Sampling of the work place environment, performed for a variety of reasons including, identification of contaminants present and their sources, determination of worker exposures and checking the effectiveness of controls.

(27) "Establishment" - For the purpose of recordkeeping, a single physical location where business is conducted or where services or industrial operations are performed. Where distinctly separate activities are performed at a single physical location, each activity shall be treated as a separate establishment.

(28) "Farm operation" - Any operation involved in the growing or harvesting of crops or the raising of livestock or poultry.

(29) "Filed" - The receipt of a document by the Oregon Occupational Safety and Health Division or Hearings Division, except that an appeal will be considered filed upon receipt at any office of the Department.

(30) "First aid" - Any one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters or similar injuries which do not ordinarily require medical care. Such one-time treatment and subsequent observation is considered first aid even though provided by a physician or registered professional personnel. (formerly 46-700(5))

(31) "Fixed place of employment" - The entire facility maintained by an employer at one general location, regardless of the size or number of departments or buildings in the facility. For the purpose of determining repeat violations fixed place of employment includes employers or owners engaged in construction activity who will be at a single worksite continuously for more than 24 months.

(32) "Hazard" - A condition, practice or act which could result in an injury or illness to an employee.

(33) "High hazard, Safety" - For the purpose of a safety inspection:

(a) Any fixed place of employment which has one or more accepted disabling claims; or

(b) Any fixed place of employment which has no accepted disabling claims but is in an industry group with a lost workday cases incidence rate above the current national average;

(c) Any non-fixed place of employment in an industry group with a lost workday cases incidence rate above the national

average.

(34) "High hazard, Health" - For the purpose of a health inspection, a place of employment in which health hazards are reasonably thought to exist as determined by recognized hazards associated with certain processes. Health hazards mean carcinogens, lead, silica, toxic metals and fumes, vapors or gases, toxic or highly corrosive liquids or chemicals, chemical sensitizers, pesticides, fungicides, solvents, biological agents and harmful physical stress agents.

(35) "Imminent danger" - A condition, practice or act which exists in any place of employment and could reasonably be expected to cause death or serious physical harm immediately or before the imminence of such danger can be eliminated through the enforcement procedures otherwise provided by the Act.

(36) "Inspection" - An official examination of a place of employment by Compliance Officer to determine if an employer is in compliance with the Act. An inspection may be classified as:

(a) "Routine inspection" - An inspection of a place of employment which is made based principally on that place of employment's record of workers' compensation claims or Standard Industrial Classification and number of employees.

(b) "Periodic inspection" - An inspection made because of a time-related factor, including, but not limited to, intermittent or seasonal employment activity;

(c) "Area inspection" - An inspection made because of a geographic factor;

(d) "Follow-up inspection" - An inspection made to determine if a previously cited violation has been corrected or after a request for an extension, a stay of correction time or a variance has been denied;

(e) "Complaint inspection" - An inspection made in response to a complaint; and

(f) "Accident investigation" - An inspection made to determine the cause of an accident;

(g) "Emphasis inspection" - An inspection made in response to a national or state Emphasis Program.

(37) "Labor camp" - Any place, area or piece of land where sleeping places or housing sites are provided by an employer for employees or by another person, including a camp operator, who is providing such accommodations for employees.

(38) "Lost workdays" - The actual number of days after, but not including, the day of injury or illness during which the employee would have worked, but could not perform all or any part of his/her normal assignment during all or any part of the employee's next regular workday or shift because of the occupational injury or illness.

(39) "Lost Workday Cases Incidence Rate (LWDCIR)" - The number of lost workday injury and illness cases experienced by 100 full-time workers ($LWDCIR = \text{Number of lost workday cases times } 200,000 \text{ divided by the number of employee hours worked}$). Refer to **Appendix B** for instructions on computing Lost Workday Case Incidence Rate.

(40) "Medical treatment" - Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even though provided by a physician or registered professional personnel, nor does it include treatment ordinarily considered diagnostic or preventative in nature.

(41) "Owner" - Every person having ownership, control or custody of any place of employment or of the construction, repair or maintenance of any place of employment.

(42) "Person" - One or more individuals, legal representatives, partnerships, joint ventures, associations, corporations (whether or not organized for profit), business trusts, or any organized group of persons, and includes the state, state agencies, counties, municipal corporations, school districts, and other public corporations or subdivisions.

(43) "Personal exposure samples" - Measurement of contaminants or physical agents to characterize the environment in the breathing or hearing zone of individual workers in order to evaluate their specific work exposures. Personal samplers are placed on the worker to obtain either one continuous sample covering a portion of the workday or consecutive samples covering a stated time period.

(44) "Place of employment" - Includes every place, whether fixed or movable, whether indoors or out or underground, and the premises and structures appurtenant thereto, where either temporarily or permanently an employee works or is intended to work and every place where there is carried on any process, operation or activity related, either directly or indirectly, to an employer's industry, trade, business or occupation, including a labor camp provided by an employer for his/her employees or by another person engaged in providing living quarters or shelters for employees, but place of employment does not include any place where the only employment involves nonsubject workers employed in or about a private home.

(45) "Record" - Any recorded information regardless of its physical form or character.

(46) "Recordable occupational injuries or illnesses" - Any occupational injuries or illnesses which result in:

(a) Fatalities, regardless of the time between the injury and death, or the length of the illness;

(b) Lost workday cases, other than fatalities, that prevent the employee from performing his/her normal assignment during any part of the employee's next regular, or any subsequent workday or shift; or

(c) Non-fatal cases, without lost workdays which result in transfer to another job or termination of employment, or require medical treatment (other than first aid), or involve loss of consciousness or restriction of work or motion. This category also includes any diagnosed occupational illnesses which are reported to the employer but are not classified as fatalities or lost workday cases.

(47) "Referral" - A notification made to the responsible agency of safety or health violations observed by a Division employee, other federal, state or local government representatives, or the media.

(48) "Rule" - Any agency directive, standard, regulation or statement of general applicability that implements, interprets or prescribes law or policy, or describes the procedures or practice requirements of the agency and is adopted according to the Administrative Procedure Act. The term includes the amendment or repeal of a prior rule, but does not include, unless a hearing is required by statute, internal management directives, regulations or statements which do not substantially affect the interests of the public.

(49) "Serious physical harm":

(a) Injuries that could shorten life or significantly reduce physical or mental efficiency by inhibiting, either temporarily or permanently, the normal function of a part of the body. Examples of such injuries are amputations, fractures (both simple and compound) of bones, cuts involving significant bleeding or extensive suturing, disabling burns, concussions, internal injuries, and other cases of comparable severity.

(b) Illnesses that could shorten life or significantly reduce physical or mental efficiency by inhibiting, either temporarily or permanently, the normal function of a part of the body, even though the effects may be cured by halting exposure to the cause or by medical treatment. Examples of such illnesses are cancer, pneumoconiosis, narcosis, or occupational infections (caused by biological agents), and other cases of comparable severity.

(50) "Standard Industrial Classification (SIC)" - A classification system developed by the Office of Statistical Standards, Executive Office of the President/Office of Management and Budget, for use in classifying establishments by the type of activity in which they are engaged. Each establishment is assigned an industry code for its major activity, which is determined by the value of receipts or revenue for services rendered or products produced, or in some cases by the employment or payroll. The 1987 edition of the SIC manual is used for coding.

(51) "Substantial failure to comply" - When an employer engaged in the production of crops intended for human

consumption fails to provide acceptable and accessible toilet facilities, handwashing facilities or drinking water, and that failure exposes affected workers to a serious hazard likely to result in an injury or illness.

(52) "Suspended penalty" - A penalty which is determined but not assessed.

(53) "Variance" - The written authority given by the Division to an employer permitting the use of a specific alternative means or method to comply with the intent of a rule. Specific types of variances are:

(a) "Permanent" - A variance that remains in effect until modified or revoked in accordance with OAR 437-001-0430;

(b) "Temporary" - A variance granted for a stated period of time to permit the employer to achieve compliance with a new rule;

(c) "Research" - A variance granted for a stated period of time to allow industrial or governmental research designed to demonstrate or validate new and improved safety or health techniques or products; and

(d) "Interim order." The temporary authority for an employer to use an alternative means or method by which the employer effectively safeguards the safety and health of employees until final action can be taken on the variance request.

(54) "Violation" - The breach of a person's duty to comply with an Oregon occupational safety or health statute, regulation, rule, standard or order.

(a) Specific classifications of violations are:

(A) "Serious violation" - A violation in which there is a substantial probability that death or serious physical harm could result from a condition which exists, or from one or more practices, means, methods, operations or processes which have been adopted or are in use in a place of employment unless the employer did not, and could not with the exercise of reasonable diligence, know of the presence of the violation;

(B) "Other than serious violation" - A violation which is other than a serious or minimal violation; and

(C) "Minimal violation" - A violation which does not have a direct or immediate relationship to the safety or health of employees.

(b) Specific types of the above classifications are:

(A) "Willful violation" - A violation that is committed knowingly by an employer or supervisory employee who, having a free will or choice, intentionally or knowingly disobeys or recklessly disregards the requirements of a statute, regulation, rule, standard or order.

(B) "Unabated violation" - A violation that has not been fully corrected by the date ordered.

(C) "Repeat violation":

(i) An employer's second or subsequent violation of the requirements of the same statute, regulation, rule, standard or order.

(ii) Subsequent violations shall not be considered to be a repeat when more than 36 months have elapsed and the violation has not reoccurred.

(iii) In these rules, Repeat, Repeated and Repeatedly are used as synonyms.

(D) "First-instance violation" - An employer's first violation of a particular statute, regulation, rule, standard or order.

(E) "Egregious" - Those conditions which normally constitute a flagrant violation of the OSEAct or OR-OSHA

standards or regulations such that each instance of the violation is cited separately.

(c) "Combined violation" - Multiple violations of the same statute, regulation, rule, standard or order within an establishment which have been combined as one violation to indicate an overall lack of compliance with a safety or health statute, regulation, rule, standard or order.

(d) "Grouped violation" - Multiple violations of different statutes, regulations, rules, standards or orders, within an establishment which have been combined as one violation to indicate an increase in the severity of the violation.

[ED NOTE: The Appendix referenced in this rule is not printed in the OAR Compilation. Copies are available from the Agency.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD , 7-1979, f. 8-20-79, ef. 9-1-79; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; WCD 9-1983, f. & ef. 11-15-83; WCD 2-1984, f. 3-2-84, ef. 3-15-84; WCD 12-1984, f. 9-20-84, ef. 11-1-84; WCD 9-1986, f. 10-7-86, ef. 12-1-86; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 10-1990(Temp), f. & cert. ef. 5-31-90; OSHA 24-1990, F. & cert. ef. 10-10-90; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92; OSHA 6-1994, f. & cert. ef. 9-30-94; OSHA 2-1996, f. & cert. ef. 6-13-96

437-001-0020

Authority to Administer

(1) The Administrator is hereby granted authority to do whatever is reasonably necessary or incidental to accomplish the purposes of the act and these rules.

(2) The Administrator shall administer the Voluntary Compliance Program separately from the enforcement activities. The Voluntary Compliance Program includes but is not limited to, education, consultations, demonstration programs and research.

(3) The Administrator shall name employees or classifications of employees who shall have authority to carry out the voluntary compliance and enforcement provisions of the Oregon Safe Employment Act.

(4) The official acts of the Administrator in administering and enforcing the Oregon Safe Employment Act, and the acts of those designated by the Administrator, shall be considered the official acts of the Director.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

His.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0025

Liberal Construction

The Act, other rules adopted thereunder, and these rules shall be liberally construed to accomplish the preventative purposes expressed in the Act.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0030

Use of Gender and Number

For the purpose of these rules, each gender includes both genders, the singular includes the plural and the plural includes the singular.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0035

Occupational Safety and Health Rules

(1) The Division shall propose occupational safety and health rules for adoption by the Director. Proposed rules shall be:

(a) Reasonable;

(b) Mandatory;

(c) Designed to protect the life, safety and health of employees; and

(d) At least as effective as occupational safety and health rules adopted by the U.S. Department of Labor.

(2) In proposing rules for adoption, the Division may consider recommendations from national standards-setting organizations, the U.S. Department of Labor, U.S. Department of Health, Education and Welfare, employers, employees, employee representatives and the Division's occupational safety and health experience.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0045

Adoption, Amendment or Repeal of Rules

(1) Rules will be adopted, amended or repealed in accordance with ORS Chapter 183 and the Director's rules of practice and procedure applicable to rule-making functions.

(2) Any person may request the adoption, amendment or repeal of a rule.

(3) A request for adoption, amendment or repeal of a rule shall:

- (a) Be in writing, addressed to the Administrator, OR-OSHA Division, Labor and Industries Building, Salem, Oregon 97310;
- (b) Identify the rule proposed for adoption, amendment or repeal and include reasons for the change.
- (4) Upon receipt of the request the Division shall within 30 days, either deny the request or initiate rule-making proceedings.
- (5) If the request to adopt, amend or repeal a rule is denied, the Division shall state its reasons for the denial in writing. A copy shall be mailed to the person making the request and all other persons upon whom a copy of the request was served.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0047

Voluntary Compliance Program, General

- (1) The Division shall provide a coordinated program to encourage voluntary compliance with occupational health and safety laws, rules and codes and to promote more effective workplace health and safety programs.
- (2) The program shall be designed to assist employers achieve voluntary compliance and shall be administered to preclude issuance of citations and penalties except when an employer fails to correct serious violations identified.
- (3) The program shall include but is not limited to:
 - (a) Health and safety consultative services;
 - (b) Worker and employer training and education;
 - (c) Research projects including: Causes and prevention of industrial accidents and diseases; trends demonstrating the need for licensing, certification, or need or revised rules;
 - (d) Demonstration projects utilizing new or innovative processes or procedures to assist workers and employers in preventing occupational injury or disease, whatever the cause;
 - (e) Publication and general distribution of training and accident prevention materials.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0050

Enforcement Program, General

The Division shall provide an effective program to enforce statutes, regulations, rules, standards or orders for the

protection of life, safety and health of employees. This program shall include, but is not limited to:

- (1) The inspection of places of employment;
- (2) The investigation of industrial accidents, fatalities or catastrophes;
- (3) Issuing citations for violations;
- (4) Identifying safety and health hazards which may or may not be violations and bringing them to the attention of employers and employees;
- (5) Issuing reasonable correction orders;
- (6) Assisting employers and employees in safety and health matters;
- (7) Assessing and collecting civil monetary penalties for violations;
- (8) Holding informal conferences with employers or employees to discuss citations, penalties or correction orders and other safety and health matters without limiting or extending the employer's appeal rights; and
- (9) Granting or denying extensions of the times set by correction orders.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0052

Reporting an Occupational Fatality, Catastrophe, or Accident

Employers shall inform the Administrator (or designee) of all fatalities or catastrophes within eight (8) hours, and accidents or injuries resulting in a hospital admission with medical treatment other than first aid within 24 hours after the employer receives notification.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

437-001-0053

Preserving the Fatality or Catastrophe Scene

Employers, their representatives, or others shall not disturb the scene of a fatality or catastrophe other than to conduct the rescue of injured persons until authorized by the Administrator (or designee), or directed by a recognized law enforcement agency.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

Inspections

437-001-0055

Priority of Inspections

Inspections shall be made according to the following priorities:

- (1) Imminent danger -- An inspection shall be made as soon as possible after the Division is notified.
- (2) Fatality, catastrophe or accident -- An investigation may be made as soon as possible after the Division is notified of a fatality, catastrophe or accident.
- (3) Complaint -- An inspection may be initiated when the Division receives a complaint and the nature of the information indicates the complaints probable validity.
- (4) Referral -- An inspection may be made if safety or health violations were observed by a Division employee or other federal, state or local governmental representative and the nature of the information indicates the referral's probable validity.
- (5) Follow-up -- An inspection:
 - (a) Shall be initiated when the employer requests removal of a Red Warning Notice; or
 - (b) Shall be initiated when a stay of correction or a variance has been denied; or
 - (c) May be initiated when an extension of time has been denied or the Division believes the employer is not in compliance or to monitor progress towards correction of a violation; or
 - (d) May be initiated when the employer is issued a citation with a correction order for one or more serious violations.
- (6) Routine, Periodic, Area Inspections -- An inspection may be made by following the schedule provided in OAR 437-001-0057.
- (7) Emphasis Inspection -- An inspection may be made if the place of employment is included in a national or state safety and health emphasis program.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

437-001-0057

Scheduling Inspections

(1) Scheduling and Selection of Routine, Periodic, and Area Safety Inspections:

(a) The Division shall schedule routine, periodic, and area safety inspections according to a priority system;

(b) The Division shall identify the most hazardous industries and places of employment through information obtained from the Department of Consumer and Business Services claim and employer files, the **Bureau of Labor Statistics Occupational Injury and Illness Survey**, and knowledge of recognized hazards associated with certain processes. This information shall be provided by the Division to its field offices, at least on an annual basis;

(c) Agricultural employers with 10 or fewer permanent, year-round employees, both full time and part-time, shall be subject to scheduled safety inspections as defined in 437-001-0057 only if any of the following has occurred:

(A) A valid complaint has been filed pursuant to ORS 654.062; or

(B) Within a 2 year period preceding the proposed inspection date, an accident at the agricultural employer's establishment has resulted in death or an injury or illness resulting in an overnight hospital admission for medical treatment or more than 3 days of lost work; or

(C) The employer and principal supervisors of the agricultural establishment have not completed annually at least 4 hours of instruction on agricultural safety or health rules and procedures. This instruction must be documented as noted in 437-001-0057(1)(c)(C)(i):

(i) The instruction required pursuant to 437-001-0057(1) (c)(C) of this section, will include any conducted or accepted by OR-OSHA. Instruction related to agricultural safety and health that is offered or approved by any public or private college or university or governmental agency will be deemed to be automatically accepted. Documentation of instruction must be maintained by the employer. Such documentation must include the date, provider and duration of the instruction, the subject covered and the signature of the person completing the instruction;

NOTE: Certified Applicator Training Core A and B offered by the **Oregon Department of Agriculture**, will satisfy a portion of the required training in 437-001-0057 (1)(c)(C) above. One hour credit will be allowed annually for this training.

(ii) For purposes of these sections, the time period begins to run when the instruction is received; or

(D) Within the preceding 4 year period the agricultural establishment has not had a comprehensive consultation by an individual acting in a public or private consultant capacity.

(i) For purposes of these sections, the time period begins to run when the consultation is received, or

(E) If the consultation in 437-001-0057(1)(c)(D) was done, the agricultural employer has failed to correct violations noted in the consultation report within 90 days of receipt of the report.

NOTE: For purposes of determining the number of employees, members of the agricultural employer's immediate family are excluded. This includes grandparents, parents, children, step-children, foster children and any blood relative living as a dependant of the core family.

(d) The following criteria shall be used to establish safety scheduled inspection lists:

(A) Routine Inspections - High Hazard:

(i) Fixed places of employment shall be placed on three lists as described below and shall be placed in the following descending order:

(I) The place of employment employs 11 or more employees and had one or more accepted disabling claims filed at that place of employment;

(II) The place of employment employs 10 or fewer employees and had one or more accepted disabling claims filed at that place of employment;

(III) The place of employment is in an industry group which has a lost workday cases incidence rate above the current national average lost workday cases incidence rate (LWDCIR) for all employers. Industry group means the employer's three-digit **Standard Industrial Classification** except for the manufacturing industries which are recorded by the four-digit **Standard Industrial Classification**.

(ii) Non-fixed Places of Employment - an inspection may be scheduled when the place of employment is within an industry group which has a lost workday cases incidence rate above the national average rate for all employers, according to the current **U.S. Bureau of Labor Statistics Survey**. Industry group means the employer's three-digit **Standard Industrial Classification** except for manufacturing industries which are recorded by the four-digit **Standard Industrial Classification**. Those places of employment scheduled according to OAR 437-001-0057(1)(c) (A)(ii) above, shall be selected when the Division determines the location of a worksite. After the first inspection has been made, additional routine in-spections may be made when operations or processes at the site have changed or the location is different.

(B) Periodic Inspections:

(i) Fixed places of employment shall be placed on the scheduling list when the high hazard place of employment has had no routine, periodic or area safety inspection in the previous 36-month period;

(ii) Non-fixed places of employment may be scheduled when the place of employment is within an industry group which has a lost workday cases incidence rate below the national average rate for all employers, according to the current **U.S. Bureau of Labor Statistics Survey** and no inspection has been made at the site. Industry group means the employer's three-digit **Standard Industrial Classification** except for manufacturing industries which are recorded by the four-digit **Standard Industrial Classification**. Those places of employment scheduled according to OAR 437-001-0057(1)(c)(B)(ii) above, shall be selected when the Division determines the location of a worksite at which no inspection has yet been made.

(e) The inspection lists received at the field office shall be combined by the Field Office Supervisor prior to distribution to the Compliance Officers to make efficient use of resources. Employers may be added to the high hazard scheduling list based on knowledge of recognized hazards associated with certain processes;

(f) The Field Office Supervisors shall provide each Compliance Officer with a list of inspections on a periodic basis and the Compliance Officer shall make a reasonable effort to inspect each employer on that list prior to receiving another list. The list shall generally be followed in descending order but may be inspected in any order to utilize the Compliance Officer's time efficiently. Consideration for change of order will be for geographic location and size of firm.

(2) Scheduling and Selection of Routine, Periodic, and Area Health Inspections:

(a) The Division shall schedule routine, periodic, and area health inspections according to a priority system;

(b) The Division shall identify the most hazardous industries and places of employment through information obtained from the Department of Consumer and Business Services claims and employer files, the **Bureau of Labor Statistics Occupational Injury and Illness Survey**, and knowledge of recognized health hazards associated with certain processes. Health hazards mean carcinogens, lead, silica, toxic metals and fumes, vapors or gases, toxic or highly corrosive liquids or chemicals, chemical sensitizers, pesticides, fungicides, solvents, harmful physical stress agents and biological agents. This information shall be provided by the Division to its field offices, at least on an annual basis;

(c) Agricultural employers with 10 or fewer permanent, year-round employees, both full time and part-time, shall be subject to scheduled health inspections as defined in 437-001-0057 only if any of the following has occurred:

(A) A valid complaint has been filed pursuant to ORS 654.062; or

(B) Within a 2 year period preceding the proposed inspection date, an accident at the agricultural employer's establishment has resulted in death or an injury or illness resulting in an overnight hospital admission for medical treatment or more than 3 days of lost work; or

(C) The employer and principal supervisors of the agricultural establishment have not completed annually at least 4 hours of instruction on agricultural safety or health rules and procedures. This instruction must be documented as noted in 437-001-0057(2)(c)(C)(i):

(i) The instruction required pursuant to 437-001-0057 (2)(c)(C) of this section, will include any conducted or accepted by OR-OSHA. Instruction related to agricultural safety and health that is offered or approved by any public or private college or university or governmental agency will be deemed to be automatically accepted. Documentation of instruction must be maintained by the employer. Such documentation must include the date, provider and duration of the instruction, the subject covered and the signature of the person completing the instruction;

NOTE: Certified Applicator Training Core A and B offered by the **Oregon Department of Agriculture**, will satisfy a portion of the required training in 437-001- 0057(2)(c)(C) above. One hour credit will be allowed annually for this training.

(ii) For purposes of these sections, the time period begins to run when the instruction is received, or

(D) Within the preceding 4 year period the agricultural establishment has not had a comprehensive consultation by an individual acting in a public or private consultant capacity. For purposes of these sections, the time period begins to run when the consultation is received, or

(E) If the consultation in 437-001-0057(2)(c)(D) was done, the agricultural employer has failed to correct violations noted in the consultation report within 90 days of receipt of the report.

NOTE: For purposes of determining the number of employees, members of the agricultural employer's immediate family are excluded. This includes grandparents, parents, children, step-children, foster children and any blood relative living as a dependant of the core family.

(d) The following criteria shall be used to establish health scheduled inspection lists:

(A) Routine Inspections - High Hazard:

(i) Fixed places of employment shall be placed on two lists as described below and shall be placed in the following descending order:

(I) The place of employment employs 11 or more employees and from information available to the Division, recognized health hazards known to be associated with certain processes are reasonably thought to exist at the place of employment;

(II) The place of employment employs 10 or fewer employees and from information available to the Division, recognized health hazards known to be associated with certain processes are reasonably thought to exist at the place of employment.

(ii) Non-fixed Places of Employment - An inspection may be scheduled when from information available to the Division, recognized health hazards known to be associated with certain processes, are reasonably thought to exist at the place of employment, and the Division determines the location of a worksite.

(B) Periodic Inspections:

(i) Fixed places of employment shall be placed on the scheduling list when the high hazard place of employment has had no routine, periodic or area health inspection in the previous 36-month period;

(ii) Non-fixed places of employment may be scheduled when no inspection has been made at that worksite.

(d) The inspection lists received at the field office shall be combined by the Field Office Supervisor prior to distribution to the Compliance Officers to make efficient use of resources. Employers may be added to the high hazard scheduling list based on knowledge of recognized hazards associated with certain processes;

(e) The Field Office Supervisors shall provide each Compliance Officer a list of inspections on a periodic basis and the Compliance Officer shall make a reasonable effort to inspect each employer on that list prior to receiving another list. The list shall generally be followed in descending order but may be inspected in any order to utilize the Compliance Officer's time efficiently. Consideration for change of order will be for geographic location and size of firm.

(3) Area - A safety or health inspection may be made to coincide with other inspections being made in a given area.

(4) No more than one complete safety and one complete health routine inspection shall be made at any particular high hazard fixed place of employment in any 12-month period unless the place of employment has five or more accepted disabling claims or has processes or operations which vary within the 12-month period.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92; OSHA 10-1995, f. & cert. ef. 11-29-95; OSHA 2-1996, f. & cert. ef. 6-13-96

437-001-0060

Advance Notice

(1) No person shall give advance notice of an inspection without authority of the Director, subject to penalties as prescribed in ORS 654.991(2).

(2) If the Director approves a request for advance notice of an inspection:

(a) The notice shall not be given more than 24 hours in advance; and

(b) When advance notice is given to the employer, the employer shall, without delay, notify the employee representative of the proposed inspection, or in the absence of an employee representative, immediately post a notice in a sufficient number of locations in the place of employment to reasonably inform employees of the planned inspection. Any employer who fails to notify the employees, through posting, of the proposed inspection shall be assessed a penalty not to exceed \$1,000 as prescribed in ORS 654.086(1)(f).

(3) It will not be considered advance notice to advise a federal or state agency of a proposed inspection in order to avoid duplicate inspections or to facilitate enforcement.

(4) Any person who gives advance notice of any safety or health inspection without authority from the director or his designee shall be punished, upon conviction, by being assessed a penalty not to exceed \$1,000 or be imprisoned for not more than six months, or both, as prescribed in ORS 654. 991(2).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-7-4, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0065

Right of Entry

- (1) An OSS/OHS has the right to enter and inspect any place of employment during working hours or at other reasonable times, within reasonable limits, and in a reasonable manner.
- (2) An OSS/OHS, if possible, shall present his/her credentials to an employer or employer's representative to establish the OSS/OHS right of entry.
- (3) The OSS/OHS shall not sign any form of liability release or agree to waiver any rights of the Department.
- (4) The OSS/OHS shall have the right to enter and inspect any place of employment accompanied or assisted by outside engineers or specialists.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0070

Inspection Warrants

If an OSS/OHS is denied entry, the APD may institute action to obtain an inspection warrant, as provided for in ORS 654.202 to 654.216.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0075

Opening Conference

- (1) The Compliance Officer shall, if possible, conduct a joint opening conference with the employer or a representative, and a representative of the employees, if any, and shall:
 - (a) Present credentials as a means of identification;
 - (b) Explain the purpose, nature and intended scope of the inspection;
 - (c) Request the records which need to be examined;
 - (d) Obtain the name of the employer representative, if any, and give that person the opportunity to accompany the Compliance Officer on the inspection;
 - (e) Explain that employee participation may be accomplished through random interviews;
 - (f) Determine if there are trade secrets to be protected;
 - (g) Inform the employer that sampling may be done and photographs may be taken;

- (h) Explain that all violations which would normally be assessed a penalty and which are corrected prior to the end of the inspection will result in penalty reductions;
 - (i) Determine what personal protective equipment is required to have and use such equipment; and
 - (j) Explain that a closing conference will be held with both the employer or a representative, and a representative of the employees, if any.
- (2) Where the Compliance Officer decides it is not practical to hold a joint conference, separate conferences shall be held for the employer or a representative, and a representative of the employees, if any. Notes shall be taken by the Compliance Officer during the separate conferences; these will be available upon request.
- (3) Where separate conferences are necessary, the Compliance Officer shall determine if their conduct will delay observation or evaluation of workplace safety or health hazards. In such cases, the conferences shall be brief and, if appropriate, reconvened after the Compliance Officer's inspection of the place of employment.
- (4) Where the holding of an opening conference will prevent timely evaluation of the workplace, it may be abbreviated to a simple introduction and identification of the Compliance Officer. The remainder of the opening conference will be covered as soon as possible.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0080

Inspection Without Employer or Employer Representative

- (1) An Compliance Officer may make an inspection without an opening or closing conference if the employer or employer representative is absent or declines to participate.
- (2) If the employer, employer representative or employee representative is absent from the place of employment, following the inspection the Compliance Officer shall make at least one attempt on each of two different days to advise the employer, employer representative or employee representative concerning the inspection.
- (3) No inspection will be made if neither the employer, employer representative, nor employees are present at the place of employment, except when executing an inspection warrant as provided in ORS 654.216(2) or when posting a Red Warning Notice as provided for in ORS 654.082.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1974, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0085

Employee Representation on Inspection Team

(1) An employee representative has the right to accompany an Compliance Officer during an inspection of the place of employment.

(2) If there is no employee representative during an inspection, the Compliance Officer shall interview, if practicable, a reasonable number of employees about safety and health in the place of employment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0090

Inspection Procedures

During an inspection an Compliance Officer is authorized to:

(1) Inspect without unreasonably disrupting operations in a place of employment all required records, conditions, structures, materials and methods for compliance with statutes, regulations, rules, standards and orders, and identify and document hazards;

(2) Photograph or video tape unsafe acts, practices, procedures or physical hazards;

(3) Take environmental and personal exposure samples;

(4) Allow a different employer representative or employee representative to accompany the Compliance Officer during separate phases of the inspection if this will facilitate the inspection;

(5) Resolve all disputes as to who is the representative authorized by the employees to accompany the Compliance Officer on the inspection.

(6) Deny the right to participate to any person whose conduct interferes with a fair and orderly inspection;

(7) Inform the employer representative and employee representative of any apparent violations, and hazards;

(8) Collect, including but not limited to, information for the purpose of classifying any apparent violations as minimal, other than serious, or serious and collect data for the purpose of calculating penalty assessment;

(9) Interview privately a reasonable number of employees about safety and health in the place of employment;

(10) Receive information in confidence from an employee or employee representative; and

(11) Stop the inspection if a situation involving imminent danger is observed, request the employer or the employer representative to advise affected employee and correct the imminent danger, and post a Red Warning Notice according to OAR 436-046-0096, if the employer or the employer representative refuses to protect the employees from the imminent danger.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92,

cert. ef. 10-1-92

437-001-0096

Red Warning Notice

(1) The Red Warning Notice shall be authorized by either the Director, Administrator, Manager of Enforcement, Chiefs of Safety and Health, or Field Office Supervisors.

(2) When action is necessary to preclude or eliminate exposure of employees to a condition which, if such exposure occurred or continued, would constitute a violation of any statute or of any lawful regulation, rule, standard or order, affecting employee safety or health at a place of employment, a Compliance Officer shall obtain permission to post a Red Warning Notice. The notice shall be posted in plain view of any person likely to use the place of employment, machine, device, apparatus or equipment that constitutes the hazard.

(3) Any place of employment, machine, device, apparatus or equipment on which a Red Warning Notice has been posted shall not be operated or used by any person until:

(a) The condition has been made safe and healthful; and

(b) The Red Warning Notice has been removed by the Division; however,

(c) Nothing in this section prohibits an employer from using any place of employment, or operating any machine, device, apparatus or equipment, exclusively for the purpose of remedying the violation, pursuant to the instructions on the Red Warning Notice.

(4) No person shall deface or destroy a Red Warning Notice, or remove it without authorization from the Division.

(5) The Red Warning Notice will be removed after:

(a) Notification from the employer that the condition has been corrected; and

(b) A follow-up inspection or other information confirms that the condition has been corrected.

(6) Any person who violates or directs another to violate sections (3) or (4) of this rule shall be assessed a civil penalty of not less than \$100 and not more than \$5,000 for each such violation.

(7) Any employer who violates or directs an employee to violate section (3) of this rule, and the violation is determined to be a willful violation, may be assessed a civil penalty of not less than \$5,000 and not more than \$70,000.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

437-001-0099

Closing Conference

(1) The OSS/OHS shall, if practicable, conduct a joint closing conference with the employer or a representative, and a representative of the employees, if any, and shall advise these representatives:

- (a) Of any violation(s) as a result of the inspection and of any hazards which at this time may not be a violation;
 - (b) Of the right to present any pertinent information regarding the violation(s);
 - (c) That a citation shall be issued for all other than serious or serious violations even if the violations were corrected at the time of the inspection;
 - (d) That penalties may be imposed for other than serious violations and shall be imposed for serious violations;
 - (e) That a reasonable time for correction of each alleged violation shall be proposed;
 - (f) That further correspondence separate from the citation regarding the inspection will be received detailing the nonviolation hazards observed during the inspection;
 - (g) Of all posting requirements contained in OAR 437-001-0275 and 437-001-0280;
 - (h) That if the employer fails to correct any violation by the date indicated on the citation, additional penalties may be imposed for each day the violation(s) remains uncorrected (see OAR 437-001-0235);
 - (i) Of employee protection against discrimination (see OAR 437-001-0295);
 - (j) Of appeal rights contained in ORS 654.078 and OAR 438-085-0006 to 438-085-0870;
 - (k) Of rights to an informal conference (see OAR 437-001-0255);
 - (l) Of extension procedures (see OAR 437-001-0240);
 - (m) Of consultative services available through the Department and workers' compensation insurance carriers (see OAR 437-001-0450 through 437-001-0465);
 - (n) Of variance procedures (see OAR 437-001-0400 through 437-001-0435);
 - (o) Of the possibility of follow-up inspections;
 - (p) That if any safety or health condition was encountered which was beyond the expertise of the Compliance Officer, that condition will be considered a referral and may be addressed by another representative of the OR-OSHA Division;
 - (q) Of the availability of return visits by the Compliance Officer to assist the employer in obtaining compliance.
- (2) Where the Compliance Officer decides it is not practical to hold a joint conference, separate conferences shall be held for the employer or a representative, and a representative of the employees, if any. Notes shall be taken by the Compliance Officer during the separate conferences; these will be available upon request.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

Violations and Penalties

437-001-0135

Evaluation of Probability to Establish Penalties

- (1) The probability of an accident which could result in an injury or illness from a violation shall be determined by the Compliance Officer and shall be expressed as a probability rating.
- (2) The factors to be considered in determining a probability rating may include, as applicable:
 - (a) The number of employees exposed;
 - (b) The frequency and duration of exposure;
 - (c) The proximity of employees to the point of danger;
 - (d) Factors, which require work under stress;
 - (e) Lack of proper training and supervision or improper workplace design; or
 - (f) Other factors which may significantly affect the degree of probability of an accident occurring.
- (3) The probability rating is:
 - (a) Low -- If the factors considered indicate it would be unlikely that an accident could occur;
 - (b) Medium -- If the factors considered indicate it would be likely that an accident could occur; or
 - (c) High -- If the factors considered indicate it would be very likely that an accident could occur.
- (4) The probability rating may be adjusted on the basis of any other relevant facts which would affect the likelihood of injury or illness.

Stat. Auth: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 16-1990(Temp), f. & cert. ef. 7-26-90; OSHA 25-1990(Temp), f. & cert. ef. 10-31-90

437-001-0140

Evaluation of Severity to Establish Penalties

- (1) A severity rating for each violation shall be determined by the Compliance Officer on the basis of the degree of injury or illness which is reasonably predictable. If more than one injury or illness is reasonably predictable, the Compliance Officer will determine the severity based upon the most severe injury or illness. Severity ratings will be selected from the following schedule:
 - (a) Other than Serious -- Conditions that could cause injury or illness to employees but would not include serious physical harm;
 - (b) Serious Physical Harm; or
 - (c) Death.

(2) The severity rating may be adjusted on the basis of any other relevant facts which would affect the severity of the possible injury or illness.

Stat. Auth: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 16-1990(Temp), f. & cert. ef. 7-26-90; OSHA 18-1990(Temp), f. & cert. ef. 8-15-90; OSHA 25-1990(Temp), f. & cert. ef. 10-31-90; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

437-001-0145

Penalty for Other than Serious or Serious Violation

- (1) A penalty shall be assessed for any serious violation and may be assessed for any other than serious violation by considering the penalty established by the intersection of the probability rating and severity rating on the penalty schedule (**Table 1**). In a case where probability and severity are not appropriate considerations, a penalty may be assessed by considering the facts of the violation.
- (2) Penalty adjustments may be made based upon the employer's previous calendar years lost workday cases incidence rate, if available, and efforts made during the inspection to correct violations. Penalty adjustments shall not be applied to repeat, willful or failure to correct violations or to any violation which contributed to an injury, illness or death of an employee. Adjustments shall not reduce the penalty to less than the mandatory minimum penalty which has been established by rule or statute. Adjustments are:
- (a) A penalty reduction of 35% for each violation for an employer's lost workday cases incidence rate for the previous calendar year, if below the current published statewide average rate for that employer's Standard Industrial Classification. For fixed places of employment the lost workday cases incidence rate is based upon the rate for that place of employment. For non-fixed places the lost workday cases incidence rate is based upon the employer's rate statewide;
- (b) A penalty reduction of 30% for each violation, when the employer corrects the violation before the end of the inspection;
- (c) A penalty reduction of 10% may be given when the employer employed no more than 50 employees at any time in the previous 12 months, including the day of the inspection.
- (3) The adjusted penalty for a serious violation will not be less than \$100.
- (4) The penalty for combined violations of the same rule shall be calculated by computing the penalty and possible adjustment for each subpart making up the combination and adding these to establish a total penalty for the combination.
- (5) The penalty for grouped violations of different rules shall be calculated by determining the probability and severity for the entire group.

Table 1

Penalty Schedule

Severity

Serious Violation

Other

Probability Than Serious

Serious Physical Harm Death

Low 0 \$300 \$1,500

Medium \$500 \$2,500

High \$300 \$1,250 \$5,000

(6) The Administrator may assess a penalty of up to \$7,000 for any serious or other than serious violation after considering the facts.

Stat. Auth: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; WCD 12-1982, f. 9-20-84, ef. 11-1-84; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 5-1988, f. 5-16-88, ef. 5-16-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92; OSHA 7-1995, f. & cert. ef. 7-5-95

437-001-0155

Determination of Penalty -- Failure to Correct

- (1) A citation shall be issued for an employer's nonabatement of a violation.
- (2) Penalties of not more than \$7,000 per day for failure to correct a violation:
 - (a) May be assessed for each work day, or part of a day, that the violation results in continued exposure after the ordered correction date;
 - (b) Shall be determined by considering the probability and severity of the original violation, the efforts of the employer to correct the violation, and factors which delayed the employer in correcting the violation; and

(c) If failure to correct the violation results from the employer's lack of diligence, the penalty shall not less than \$50 for other than serious violations, and not less than \$250 for serious violations, for each day or part of a day, during which the violation remains uncorrected.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

437-001-0160

Penalty Criteria -- Repeat Violation

Penalties may be assessed for repeat violations as follows:

- (1) A violation of any statute, regulation, rule, standard or order shall be cited as repeated when, upon reinspection, another violation of the previously cited statute, regulation, rule, standard or order is found.
- (2) Where a violation of a previously cited statute, regulation, rule, standard or order is present and that first violation has been appealed but not yet become final by operation of law:
 - (a) The second violation shall be cited as a repeated violation; and
 - (b) Such citation shall state that the prior violation has been appealed and the repeat classification of the current violation will be rescinded if the prior violation does not become final by order of law.
- (3) For purposes of considering whether a violation is a repeat violation at fixed places of employment, "high serious" and "death" rated violations will be issued as repeat violations at all of an employer's places of employment in the state. Repeat violations for all other violation types will be limited to the cited place of employment.
- (4) For employers at non-fixed places of employment, repeat violations shall be based on prior violations occurring anywhere within the state.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 7-1988, f. 6-17-88, ef. 7-1-74; APD 7-1989(Temp), f. & ef. 5-1-89; APD 10-1989, f. & cert. ef. 7-7-89; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92; OSHA 6-1994, f. & cert. ef. 9-30-94

437-001-0165

Determination of Penalty -- Repeat Violation

- (1) The penalty for a repeat violation shall be computed by multiplying the penalty for the current violation by the following factors:
 - (a) 1st repeat -- X 2
 - (b) 2nd repeat -- X 5

(c) 3rd repeat -- X 10

(d) 4th repeat -- Discretion of Administrator

(2) The total penalty for a repeat violation shall be not less than \$200 nor more than \$70,000.

(3) For a repeated other than serious violation that otherwise would have no initial penalty, a penalty of \$200 shall be assessed for the first repeated violation, \$500 if the violation has been cited twice before, and \$1,000 for a third repeat.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 9-1-76; WCB 33-1974, f. 9-5-74, ef. 9-26-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 7-1988, f. 6-17-88, ef. 7-1-74; APD 7-1989(Temp), f. & cert. ef. 5-1-89; APD 10-1989, f. & cert. ef. 7-7-89; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

437-001-0170

Determination of Penalty -- Failure to Report an Occupational Fatality, Catastrophe, or Accident

If an employer fails to report an occupational fatality, catastrophe or accident as provided in OAR 437-001-0052 a penalty of not less than \$250 nor more than \$7,000 shall be assessed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

437-001-0171

Determination of Penalty - Failure to Register a Farm Labor Camp/Facility

If an operator, employer or contractor fails to register a Farm Labor Camp or facility with Oregon OSHA as required in Division 2/J, 437-002-0142(6), a penalty of not less than \$250 nor more than \$7,000, shall be assessed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 315.164, 658.750, 658.755, 658.780, 658.785, 658.805, 658.810 & 658.825

Hist.: OSHA 9-1995, f. & cert. ef. 11-29-95

437-001-0175

Determination of Penalty -- Willful or Egregious Violation

For a willful violation, the Administrator, after considering the facts of the violation, may assess a penalty of not less than \$5,000 nor more than \$70,000. For egregious violations, the Administrator may assess a separate penalty for each instance of a violation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 8-1985, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

437-001-0176

Determination of Penalty -- Failure to Notify Employees of Advance Notice

The Administrator, after considering the related facts, may assess a penalty not to exceed \$1,000 for each violation of the employer's failure to give notification by posting to employees of advanced notice.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0180

Determination of Penalty -- Relating to Red Warning Notice

The Administrator, after considering the related facts, shall assess a penalty of not less than \$100 and not more than \$5,000 for each violation of the restrictions imposed by a Red Warning Notice (see OAR 437-001-0096(3) or (4)).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0201

Determination of Penalty -- Relating to Field Sanitation

The Administrator shall assess a civil penalty of not less than \$250 and not more than \$2,500 to employers of workers who are engaged in field activities for the growing and harvesting of food crops intended for human consumption, who substantially fail to comply with OAR 437-081-2950 through 437-081-2990 in Division 81, Agricultural Operations and Farming.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 9-1986, f. 10-7-86, ef. 12-1-86; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0203

Determination of Penalty - Relating to Violations Which Have No Probability and Severity

- (1) **Safety and Health Protection on the Job Poster.** If the employer has not displayed the poster, a minimum penalty of \$100 may be assessed.
- (2) **Annual Summary** - If an employer fails to post the summary portion of the **OSHA 200 Form** during the month of February, a minimum penalty of \$200 may be assessed.
- (3) **Citation** - If an employer fails to post the citation after receipt, a minimum penalty of \$200 may be assessed.
- (4) **OSHA 200 and OSHA 101 Forms** - If the employer does not maintain the **Log and Summary of Occupational Injuries and Illnesses, OSHA 200 Form**, and the **Supplementary Record, OSHA 101 Form** (or equivalent), a minimum penalty of \$100 may be assessed for each OSHA form not maintained.
- (5) **Access to Records** - If the employer fails upon request to provide records for inspection and copying by any authorized representative of OR-OSHA or by any employee, former employee, or authorized representative of employees, a minimum penalty of \$100 may be assessed for each form not made available.
- (6) **Flush Toilets/Warm Water Hand Washing Facilities** - If an employer fails to provide flush toilets or warm water hand washing facilities on a construction site according to OAR 437-003-0020 in OAR 437, Division 3, Construction, a penalty of not less than \$200, nor more than \$2,500, shall be assessed.
- (7) **Safety Committees** - If an employer fails to establish a safety committee as required by OAR 437-001-0765 in OAR 437, Division 001, General Provisions, a minimum penalty of \$100 shall be assessed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.086

Hist.: APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92; OSHA 10-1995, f. & cert. ef. 11-29-95

Citations and Correction

437-001-0205

Citation and Notice of Penalty

- (1) If the Division concludes from the review of an inspection report that a rule or order was violated, a citation will be issued to the employer which shall:
 - (a) State the name of the employer, place of employment, and date of inspection. If the violation occurred on other than the inspection date, the date of the violation will be included;
 - (b) Describe factually the nature and location of the violation;
 - (c) State the type of violation, if other than general;
 - (d) Identify the rule or order violated;
 - (e) Fix a time for the correction of each violation not corrected at the time of inspection;
 - (f) State the penalty for each violation;

- (g) Identify which, if any, penalties are suspended;
- (h) State the total dollar amount of assessed penalties;
- (i) Inform the employer of the right to appeal the citation, the civil penalty or the period of time fixed for correction of the violation to the Board;
- (j) Inform affected employees of their right to appeal the time fixed for correction of the violation; and
- (k) Notify the employer that the citation becomes a final order if an appeal is not filed within 20 days of receipt of the citation by the employer.

(2) The citation shall be served on the employer by certified mail or in person.

(3) Each employee representative shall be sent a copy of all citations and notices of penalties issued.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0215

Employer Response to Citation and Notice of Penalty

(1) After receipt of a citation, the employer shall:

- (a) Promptly post the citation for employees' information for three days or until the violation is corrected, whichever occurs last;
- (b) Assure that any amendments or withdrawals to a citation are posted with the original citation for three days or until the violation is corrected, whichever occurs last;
- (c) Correct each violation by the date ordered; and
- (d) If no appeal is filed, remit any penalty by the 21st calendar day following receipt of the citation.

(2) The above requirements shall not limit an employer's appeal rights.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0220

Payment of Penalties

(1) All civil penalties become due and owing after the citation becomes a final order.

(2) If payment is not received within ten (10) days after the order becomes final, it may be docketed as a judgment as provided by ORS 654.086(3).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0225

Penalty for Falsification

(1) An employer who knowingly makes any false statement, representation or certification regarding the correction of a violation shall be assessed a civil penalty of not less than \$100 and not more than \$2,500.

(2) An employer who knowingly makes any false statement, representation or certification regarding the correction of a violation, and that violation is found to have caused or materially contributed to the death of any employee, shall be penalized according to the provisions of ORS 654.991(3). In such cases, the Administrator shall contact the appropriate local district attorney for assistance and possible prosecution.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0230

Correction of Violation

(1) The employer shall correct any violation the employer has been ordered to correct except when:

- (a) A general violation has been appealed;
- (b) A stay of the correction date has been ordered by the Hearings Division on an appealed serious violation;
- (c) An extension has been granted in accordance with OAR 437-001-0240.

(2) If the violation is corrected at the time of inspection, the correction shall be noted in the Compliance Officer's inspection report and used as the basis of possible penalty reduction. However, such correction shall not provide immunity from the issuance of a citation for the violation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0235

Failure to Correct Violation

If a subsequent inspection reveals that a violation was not corrected, or was only partially corrected, by its correction date, a notice shall be issued to the employer which:

- (1) Gives the date and number of the citation which first alleged the violation;
- (2) Identifies the uncorrected violation and the date by which it was ordered to be corrected;
- (3) Advises the employer of the nonabatement days accumulated to the date of notice;
- (4) Advises the employer that daily penalties shall continue to accumulate until the violation is corrected; and
- (5) Notifies the employer to advise the indicated region office immediately upon correction of the violation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0240

Extension of Correction Date -- Application

- (1) An employer may apply for an extension of the date for correction a violation.
- (2) An application for extension of the correction date shall be in writing to the OR-OSHA Division, 350 Winter St. NE, Salem, Oregon 97310, or received by any office of the Department.
- (3) The application for extension must include:
 - (a) The name and address of the employer;
 - (b) The location of the place of employment;
 - (c) The citation number;
 - (d) The item number of the violation for which the extension is sought;
 - (e) The reason for the request;
 - (f) Facts which show that the employer has made an effort to correct the violation by the date set for correction, but was unable to do so because of factors beyond the employer's control;
 - (g) All available interim steps being taken to safeguard employees against the cited hazard during the requested extended correction period;
 - (h) The date by which the employer proposes to complete the correction; and
 - (i) A statement that a copy of the request for extension has been posted as required by OAR 437-001-0275(2)(d) and (h) or for at least ten (10) days, whichever is longer, and, if appropriate, served on the authorized representative of affected

employees, and certification of the date upon which posting or service was made;

(j) Any employee who feels a posted request for an extension is unjust may contact the Administrator for a review of the matter.

(4) The application shall be postmarked or received by the Department no later than the correction date of the violation for which the extension is requested. For good cause, the Administrator may approve exceptions to this rule.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0245

Extension of Correction Date -- Decision

(1) A request for extension of the correction date shall be granted or denied on the basis of information in the application, information from employees and any other relevant information.

(2) If the request for extension is granted, a notice of extension of correction date shall be sent to the employer. The notice shall:

(a) Include notice of the right of affected employees or their representative to appeal the extension; and

(b) Be posted for employee's information until the violation is corrected.

(3) If the request for extension is denied, the Administrator shall, with reasonable promptness, inform the employer in writing of the reasons for such denial, and of the employees' and employer's rights to appeal the Administrator's decision.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0250

Extension of Correction Date -- Revocation

The Administrator may, for good cause, revoke an extension of correction date.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0251

Extension of Correction Date -- Hearing on the Application

Affected employees or the employee representative shall be given the opportunity to request a hearing on an application for an extension of the correction date:

(1) Requests for hearings shall be made in the following manner:

(a) The request shall be made within ten (10) days of posting the application;

(b) A request shall be made to the Administrator and shall contain:

(A) A concise statement of facts showing how the employee(s) would be affected by the extension of correction date;

(B) A statement opposing the extension of the correction date and a concise summary of the evidence supporting the opposition; and

(C) Any views or arguments on any issue of fact or law presented.

(2) Notice of hearing shall be given by the Administrator to affected persons and shall contain:

(a) Time, place and nature of hearing;

(b) Legal authority under which the hearing will be held; and

(c) The issues to be discussed.

(3) The hearing shall be conducted by the Administrator in a manner which will allow all affected persons to submit information on the application.

(4) At any hearing conducted to determine the merits of an extension request, the person requesting the extension of compliance time shall have the burden of proof regarding the request.

(5) The Administrator shall evaluate all information submitted at the hearing and make a determination on the merits of the application.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 6-1982, f. 6-28-82, ef. 8-1-82; WCD 3-1983, f. 1-31-83, ef. 2-1-83; APD 7-1988, f. 6-17-88, ef. 7-1-74

Informal Conferences

437-001-0255

Informal Conference

(1) The Administrator shall provide an opportunity for the employer and employees to discuss informally with the Division any matter affecting occupational safety and health in the place of employment.

(2) An informal conference may be used to:

- (a) Clarify statements of observed violations;
 - (b) Discuss safety and health requirements;
 - (c) Discuss abatement dates;
 - (d) Explain the penalty system;
 - (e) Improve employer/employee understanding of the Oregon Safe Employment Act;
 - (f) Correct errors;
 - (g) Narrow issues; or
 - (h) Negotiate a statewide settlement agreement.
- (3) An informal conference concerning a citation shall not extend the 20 days allowed for filing an appeal with the Board.
- (4) In those cases where an informal conference concerns a citation, the Division shall contact the employer and require them to notify the employees or their representatives of the opportunity to attend the informal conference.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

437-001-0260

Request for Informal Conference

A request for an informal conference:

- (1) May be requested by either the employer or employee;
- (2) Need not be in any particular form;
- (3) Shall be addressed to the Administrator; and
- (4) Shall clearly state the subject to be discussed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0265

Amendment or Withdrawal of Citation

(1) The Administrator may, for good cause, amend or withdraw a citation provided:

- (a) Such action will not reduce the occupational safety and health protection of affected employees;
- (b) No appeal has been filed with the Board to contest the citation;
- (c) The time for filing an appeal has not expired; and
- (d) The employee representative, if any, has been notified of the proposed amendment.

(2) The employer receiving an amendment or withdrawal shall post the document as required by OAR 437-001-0275(3).

(3) An amendment or withdrawal or an appealed citation or order shall be made in accordance with the Board's rules (OAR 438) for contested cases. The administrator shall notify the employee representative of any proposed settlement or withdrawal made according to OAR 438.

(4) Any withdrawal, or amendment of an appealed citation that reduces the penalty or extends the correction times of an alleged serious or willful violation shall not be made without written approval of the Director.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0270

Discretion if There is no Timely Appeal

(1) The Director may refer a matter arising under this rule to the Hearings Division of the Board for a hearing before a referee, who will provide the Director with proposed findings and recommendations. Persons whose rights may be affected, including affected employees, shall be given reasonable notice of such a hearing and an opportunity to participate as parties.

(2) To prevent a manifest injustice, the Director, at the Director's own discretion or upon request from the Division or an adversely affected person, may vacate or amend a Division citation notice or order.

(3) If the Director proposes to vacate or amend a Division citation, notice or order, an opportunity to be heard will be given to persons, including affected employees, whose rights may be affected.

(4) All requests for reconsideration based on a manifest injustice shall contain a statement indicating the following:

- (a) The request has been posted as required by OAR 437-001-0275(2);
- (b) The request has been served on the authorized representative of affected employees, if appropriate;
- (c) The date the request was posted or service was made; and
- (d) All affected employees have been advised of their right to comment.

(5) No decision shall be made on a manifest injustice request until ten days after the date of posting or service.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist. WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 6-1982, f. 6-28-82, ef. 8-1-82; WCD 3-1983, f. 1-31-83, ef. 2-1-82; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

Posting

437-001-0275

Posting Requirements.

(1) Where OAR 437, Division 1, requires an employer to inform affected employees by posting, copies of the unedited notice or other document shall be posted promptly upon receipt in one or more places where it will readily be observable by affected employees (for example, a location where employees report each day or at a location from which the employees operate to carry out their activities).

(2) The following documents shall be posted as specified:

(a) The **Safety and Health Protection on the Job** poster shall be posted permanently;

(b) A copy of any citation received by the employer shall be posted for three days or until the violation(s) is corrected, whichever occurs last;

(c) A copy of any amendment or withdrawal of a citation shall be posted with the original citation for three days or until the violation(s) is corrected, whichever occurs last;

(d) A copy of any notice of extension of correction date shall be posted until the violation(s) is corrected;

(e) A copy of any settlement shall be posted for ten days or until all violations have been corrected, whichever occurs last;

(f) A copy of any **Notice of Hearing** issued by the Hearings Division shall be posted until the hearing date;

(g) A copy of the variance application shall be posted until a final variance order is issued and posted;

(h) A copy of any variance order shall be posted for 20 days;

(i) A copy of any interim order relating to a variance shall be posted as long as it is in effect;

(j) A copy of any request for extension of correction date shall be posted until the Administrator informs the employer the extension has been granted or denied;

(k) A copy of a request for reconsideration of a citation, notice or order under the manifest injustice provision of OAR 437-001-0270 shall be posted along with the citation until the request has been granted or denied; and

(l) A copy of any feasibility determination relating to engineering controls shall be posted for 20 days for review by employees;

(m) A **Field Sanitation Notice** (available from the Department of Consumer and Business Services, OR-OSHA Division) shall be posted permanently by affected employers engaged in the production of food crops intended for human consumption. (See OAR Chapter 437, Division 81, Agricultural Operations and Farming, OAR 437-081-2985.)

(n) An informational notice of the farm worker camp registration provided by the Department.

(3) If the employer fails to comply with the requirements of OAR 437-001-0275(2), the Administrator may assess a civil penalty of not more than \$1,000 for each violation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 315.164, 654.086, 658.750, 658.755, 658.780, 658.785, 658.805, 658.810 & 658.825

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; WCD 3-1983, f. 1-31-83, ef. 2-1-82; WCD 9-19986, f. 10-7-86, ef. 12-1-86; APD 5-1988, f. & ef. 5-16-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 9-1995, f. & cert. ef. 11-29-95; OSHA 10-1995, f. & cert. ef. 11-29-95

437-001-0280

Posting on Selected Multi-Employer Jobsites

At a multi-employer jobsite, the owner or the owner's designated prime contractor may be directed to post a notice in a conspicuous manner in a sufficient number of locations throughout the jobsite to reasonably inform the Compliance Officer and the affected employees of the following:

(1) The name and usual jobsite location of each employer and employer representative, on each work shift, who is designated to accompany the Compliance Officer during a safety or health inspection of the jobsite; and

(2) The employee's right to report a hazard to the employer's designated representative.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

Complaints

437-001-0285

Form and Content of a Complaint

Any person may complain to the Administrator of possible violations of any statute or of any lawful regulation, rule, standard or order affecting employee safety or health at a place of employment. A complaint, whether oral or written, should specify:

(1) The name of the employer;

(2) The location of the place of employment;

(3) Where the condition or practice occurs in the place of employment;

(4) The nature and frequency of the hazard;

(5) The number of employees affected by the condition or practice;

- (6) The way in which the complaint is affected by the condition or practice; and
- (7) Whether the complainant desires the complainant's name and address to be kept confidential.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0290

Division Action on Complaints

- (1) At the complainant's request, in writing, their identity shall be kept in confidence. Any employee of the Department who fails to maintain that confidence is subject to disciplinary action.
- (2) Complaint inspections shall be scheduled as provided for in OAR 437-001-0055(3).
- (3) Any person making a complaint to the Division shall receive written notice of the Division's action if the complainant's address is provided.
- (4) Any complainant who feels that the complaint was not adequately investigated by the Division may contact the Administrator for a review of the matter.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0295

Discrimination Complaint

- (1) An employee or prospective employee may file a complaint as provided in ORS 654.062(5) if the employee believes discrimination has occurred because:
 - (a) The employee opposed a practice forbidden by, or engaged in a practice provided for, in the Oregon Safe Employment Act; or
 - (b) The employee refused in good faith to be subjected to imminent danger provided the employer refused to correct the hazard or it was not possible to notify the employer of the danger and the employee has notified the OR-OSHA Division or other appropriate agency, of the hazard, unless excused on the basis of insufficient time or opportunity as stated in OAR 839-006-0020, Bureau of Labor and Industries rules.
- (2) The complaint shall be filed with the Commissioner of the Bureau of Labor and Industries, 1400 SW 5th Avenue, Portland, Oregon 97201, within 30 days after the employee had reasonable cause to believe discrimination occurred.
- (3) The complaint may also be filed in any Circuit Court of the State of Oregon, or the U.S. Department of Labor, 3056 Federal Office Building, Seattle, Washington 98174.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

Variances

437-001-0400

Application for a Variance

(1) Any employer may apply for a variance from any rule which specifically affects working conditions. This application may be submitted:

(a) On a form provided by the Division; or

(b) In any written form that includes all information required by section (2) and (3) of this rule.

(2) An application for a variance must contain:

(a) The name and address of the employer;

(b) The address and location of the place of employment;

(c) The rule, identified by number, from which the variance is sought;

(d) The type of variance desired (see OAR 437-001-0015 (52));

(e) The means by which employees will be protected from the hazard until final action is taken on the variance request;

(f) A description of the means proposed to be used to provide employment which is as safe and healthful as that obtained by compliance with the rule;

(g) Certification that all affected employees have been informed of the application and of their right to comment on it by:

(A) Giving a copy of the variance application to the authorized employee representative;

(B) Posting a statement giving a summary of the application and specifying where a copy may be examined, at the place or places where notices to employees are normally posted (or in lieu of such summary, the posting of the application itself); and

(C) By other appropriate means:

(h) A description of how employees have been informed of the application and of their right to comment on it to the Administrator, OR-OSHA Division, 350 Winter St. NE, Salem, Oregon, before it becomes a final order;

(i) A statement of whether the employer has previously filed application for a similar variance with any state or federal agency.

(3) If the employer is applying for a research variance, the application shall contain the following additional information:

- (a) The purpose and contribution of the intended research;
- (b) A discussion of the research methods;
- (c) The research schedule, including the projected completion date;
- (d) A description of the hazards to which employees may be exposed and the steps to be taken to protect the employees' safety and health;
- (e) Biographical information to indicate the competence of the research staff;
- (f) Assurances that the project shall be funded adequately; and
- (g) Assurances that the Division shall be given a copy of the research report prepared under the variance. However, no trade secret, patented or patentable material or data need be submitted by the employer.

(4) If the employer is applying for a temporary variance, the application shall contain the following additional information:

(a) A statement of facts why the applicant is unable to comply with the rule by the effective date which is supported by representations from qualified persons having firsthand knowledge of the facts represented, and include data on:

- (A) Unavailability of professional or technical personnel; or
- (B) Unavailability of materials and equipment needed; or
- (C) Inability to complete the construction or alteration of facilities by the effective date.

(b) An effective program including a timetable for complying with the rule; and

(c) The specific steps taken to protect employees against the hazard.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0405

Interim Order Relating to a Variance

(1) An employer applying for a variance may request an interim order to be effective until final action is taken on the variance application. The request for an interim order:

- (a) May be included in the variance application;
- (b) Shall include all information required by OAR 437-001-0400(2); and
- (c) Must state the reasons why the interim order should be granted.

- (2) The Administrator shall decide whether to issue an interim order on the basis of information provided in the application.
- (3) If an interim order is granted, it shall be sent to the employer. The employer shall inform affected employees by posting a copy of the interim order for as long as the order is in effect.
- (4) If an interim order is granted, the action shall be published in the manner required by OAR 437-001-0410(1).
- (5) If the interim order is denied, the employer shall be given prompt written notice of, and the reasons for, the denial.
- (6) An interim order or a written denial shall include notice of the employer's and employees' appeal rights as contained in ORS 654.056 and OAR 438-085-0006 through 438-085-0870.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0410

Administrative Action on Variance Application

- (1) After a variance request is determined to be complete and procedurally adequate, as provided in OAR 437-001-0400, the Division shall publish the request for one day in at least one daily newspaper with general circulation throughout Oregon. The notice shall include:
 - (a) The name of the applicant;
 - (b) The rule, also identified by number, from which the variance is sought;
 - (c) A brief description of the variance request;
 - (d) Notice of opportunity for public comment and hearing;
 - (e) Information on how interested persons may learn of the Division's decision on the variance application; and
 - (f) The address of the Division office from which further information may be obtained.
- (2) The Division may conduct an on-site review of the equipment or processes involved in the requested variance.
- (3) A variance, if granted, shall have no retroactive effect. It shall not be the basis for amending or withdrawing a citation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 33-1974, f. 9-5-74, ef. 9-26-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0411

Hearings for Variance Applications

Affected employers or employees shall be given the opportunity to request a hearing on an application:

(1) Request for hearings must be made in the following manner:

(a) The request must be made within 20 days of publication of the application;

(b) A request must be made to the Administrator and must contain:

(A) A concise statement of facts showing how the employer or employee would be affected by the relief applied for;

(B) A statement opposing any or all portions of the application, and a concise summary of the evidence supporting each item opposed; and

(C) Any views or arguments on any issue of fact or law presented.

(2) Notice of hearing shall be given by the Administrator to affected persons and shall contain:

(a) Time, place and nature of hearing;

(b) Legal authority under which the hearing will be held; and

(c) The issues to be discussed.

(3) The hearing shall be conducted by the Administrator in a manner which will allow all affected persons to submit information on the application.

(4) The Administrator shall evaluate all information submitted at the hearing and make a determination in the merits of the application.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 67-1982, f. 6-28-82, ef. 8-1-82; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0415

Criteria for Variance Approval

(1) An application for a permanent variance shall be granted only if the applicant demonstrates, and the Division determines which includes the consideration of employee or the public comments, that the conditions, practices, operations or processes proposed to be used by the applicant shall provide employment which is as safe and healthful as that obtained by compliance with the rule.

(2) An application for a temporary variance shall be granted only if the applicant demonstrates, and the Division determines which includes the consideration of employee or the public comments, that the applicant is unable to comply with a new rule by its effective date, that the applicant has an effective program for complying with the rule by the agreed upon timetable and that all available steps are being taken in the interim to safeguard employees against the hazard covered by the rule.

(3) An application for a research variance shall be granted only if the applicant demonstrates, and the Division determines which includes the consideration of employee or public comments, that the conditions, practices, operations

or processes used shall adequately safeguard employees against the hazards covered by the rule, while demonstrating or validating new or improved safety or health techniques or products.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD (Safety) 5-1978, f. 6-22-78, cert. ef. 8-15-78; WCD (Safety) 4-1981, f. 5-22-81, cert. ef. 7-1-81; WCD (Safety) 6-1982, f. 6-28-82, cert. ef. 8-1-82; APD 7-1988, f. 6-17-88, cert. ef. 7-1-74

437-001-0420

Decision on Variance Request

(1) If a variance is granted, an order of variance shall be issued. The order shall:

- (a) State the name of the employer to whom the variance is granted;
- (b) Identify the place of employment at which the variance is applicable;
- (c) State the type of variance granted;
- (d) State the specific rule to which the variance applies;
- (e) Describe the alternative methods or safeguards to be used by the employer while the variance is in effect;
- (f) Advise that the employer may be cited for any violation of the conditions established by the variance;
- (g) Inform affected employees of their right to appeal the variance decision; and
- (h) Inform affected persons that if no appeal is filed within 20 days of receipt of the order, the variance approval becomes a final order of the Director and subject to review only as specified in OAR 437-001-0430.

(2) If a variance is denied, a notice of denial shall be issued. The notice shall:

- (a) Give the reasons for the denial;
- (b) Notify the employer and employees of their appeal rights;
- (c) Inform affected persons that if no appeal is filed within 20 days of receipt of the notice, the variance denial becomes a final decision without affecting the employer's right to submit another application; and
- (d) Advise the employer that a compliance inspection shall be made within 30 days.

(3) A copy of any variance order or denial must be posted for 20 days.

(4) A variance that has been denied, or that has expired, shall be followed by a compliance inspection within 30 days.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0425

Employer's Duty to Meet Variance Terms

(1) A variance is not effective until the employer has complied with its terms and requirements.

(2) An employer may be cited for violating the terms of a variance. (See ORS 654.022)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0430

Modification or Revocation of a Variance

(1) A variance may be modified or revoked after it has been in effect six months or longer upon:

(a) Request from the employer, an affected employee or an employee representative which may be in writing, the request shall contain:

(A) The name and address of the applicant;

(B) A description of the relief which is sought;

(C) A statement setting forth with particularity the grounds for relief;

(D) If the applicant is an employer, a certification that the applicant has informed affected employees of the application by:

(i) Giving a copy thereof to their authorized representative;

(ii) Posting at the place or places where notices to employees are normally posted, a statement giving a summary of the application and specifying where a copy of the full application may be examined (or, in lieu of the summary, posting the application itself); and

(iii) Other appropriate means.

(E) If the applicant is an affected employee, a certification that a copy of the application has been furnished to the employer; and

(F) Any request for a hearing, as provided for in these rules.

(b) Notification and confirmation that the alternative methods or safeguards required by the variance are not fully complied with; or

(c) A Division review.

(2) The Division shall publish the proposed modification or revocation for one day in at least one daily newspaper with general circulation throughout Oregon. The notice shall include:

- (a) The name of applicant;
 - (b) The rule, also identified by number, from which the variance had been granted;
 - (c) A brief description of the variance and why relief is sought;
 - (d) Notice of opportunity for public comment and hearing and that a request for hearing shall be made within 20 days of publication;
 - (e) Information on how interested persons may learn of the Division's decision on the variance; and
 - (f) The address of the Division office from which further information may be obtained.
- (3) The Division may conduct an on-site review of the equipment or processes involved in the proposed, revoked or modified variance.
- (4) The employer and affected employees shall be advised in writing of modification or revocation of the variance. The modification or revocation order shall state:
- (a) The name and address of the employer;
 - (b) The address and location of the place of employment involved;
 - (c) The rule, identified by number, from which the variance was granted;
 - (d) The type of variance issued;
 - (e) The reasons for modification or revocation of the variance; and
 - (f) The employer's and affected employees' appeal rights.
- (5) Any request for a hearing shall be made within 20 days of publication and shall include a short and plain statement of:
- (a) How the proposed modification would affect the requesting party; and
 - (b) What the requesting party would seek to show on the subjects or issued involved.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0435

Effect of a Variance Granted by the U.S. Secretary of Labor

- (1) If an employer requesting a variance from an Oregon rule submits proof that a variance from an equivalent federal rule has been granted by the U.S. Secretary of Labor, the federal variance shall be accepted in lieu of the information required by OAR 437-001-0400, Application for a Variance.
- (2) If an employer is cited for violating an Oregon rule equivalent to a federal rule for which a variance has been granted by the U.S. Secretary of Labor, and all conditions of that variance are being met, the Administrator shall consider the

federal variance as a possible defense against the citation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74

Consultative Services for Public and Private Sector Employers

437-001-0450

Voluntary Compliance Consultative Services

(1) The Administrator shall provide consultative services to assist employers in preventing occupational injury and disease, whatever the cause.

(2) Consultative services may include providing technical information, but shall not intrude into the business of engineering firms or professional consultants.

(3) When federal funds are utilized to conduct consultative services, the provisions contained in **29 CFR 1908, Consultation Agreement**, shall apply.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1974, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 1-1991(Temp), f. & cert. ef. 1-28-91; OSHA 5-1991, f. & cert. ef. 3-18-91

437-001-0455

Application for Consultative Services

Employers may make a verbal or written request for consultative services. A request must:

(1) Be made by an employer to a representative of the Division;

(2) Identify the employer and the location where the consultation is desired; and

(3) Define the specific problem or hazard, or other reason for the request.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0460

Consultation

When a consultant responds to a request for a consultative service, the employer shall be advised:

- (1) Of the purpose of the visit;
- (2) Of the Administrative Rules and Standard Operating Procedures pertaining to consultative services; and
- (3) That the consultation need not be limited to the specific problems or hazards contained in the request for consultative service, but may also include, at the request of the employer, assistance in developing a plan to correct hazardous conditions, and other services including but not limited to:
 - (a) Health and safety program assessments;
 - (b) Training on specific health and safety issues; and
 - (c) Other assistance designed to promote more effective workplace health and safety programs.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 1-1991(Temp), f. & cert. ef. 1-28-91; OSHA 5-1991, f. & cert. ef. 3-18-91

Recordkeeping and Reporting

437-001-0700

Recording and Reporting Requirements

OAR 437-001-0700 and 437-001-0750, hereafter called "this part", implement ORS 654.120(2) and (5). This part provides for recordkeeping and reporting by employers covered under the Act as necessary or appropriate for enforcement of the Act, for developing information regarding the causes and prevention of occupational injuries and illnesses, and for maintaining a program of collection, compilation and analysis of occupational safety and health statistics. (See OAR 437-001-0015 for definitions pertaining to this section.)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 7-1979, f. 8-20-79, ef. 9-1-79; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0701

Employers Exempt from Recordkeeping

- (1) An employer who had no more than ten employees at any one time during the calendar year preceding the current calendar year need not comply with OAR 437-001-0705, 437-001-0715, or 437-001-0720, except as provided for in

sections (3) and (5) of this rule.

(2) An employer whose establishment is classified in Standard Industrial Classifications 52-89 (excluding 52-54, 70, 75, 76, 79, and 80), need not comply for such establishment with OAR 437-001-0705, 437-001-0715, or 437-001-0720, except as provided for in sections (3), (4), and (5) of this rule.

(3) Sections (1) and (2) of this rule shall not apply when an employer has been advised by the Director that the employer has been selected to participate in a statistical survey of occupational injuries and illnesses. If so selected, the employer shall comply with OAR 437-001-0705 and 437-001-0710. The employer shall also make reports in accordance with OAR 437-001-0735 for the period of time specified in the notice.

(4) When an establishment has two or more accepted disabling claims during the preceding year and the employer is notified by the Director, the exemption of section (2) of this rule shall not apply.

(5) Employers exempt from recordkeeping under sections (1) and (2) of this rule shall have available at each establishment a copy of DEF Form 801 for any occupational injury or illness for that establishment which may result in a compensable claim. The DIF Form 801 shall be available within six working days after notice or knowledge of the occupational injury or illness.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCB 8-1975, f. 8-5-75, ef. 9-1-75; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 9-1983, f. and ef. 11-15-83; WCD 2-1984, f. 3-2-84, ef. 3-15-84; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0702

Location of Recordkeeping

Records required by OAR 437-001-0001 to 437-001-0750 shall be kept at each establishment, except as provided for in OAR 437-001-0750.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0703

Employee Exposure and Medical Records

Each employer shall keep and preserve any employee exposure records or employee medical records which they make or maintain or to which they have access.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCD 7-1979, f. 8-20-79, ef. 9-1-79; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0705

Log and Summary of Occupational Injuries and Illnesses

(1) Except as provided in section (2) of this rule, each employer shall maintain in each establishment a log and summary of all recordable occupational injuries and illnesses for that establishment, and enter each recordable injury or illness on the log and summary as early as practicable but no later than six working days after receiving information that a recordable case has occurred. For this purpose, OSHA Form No. 200, or an equivalent which is as readable and comprehensible to a person not familiar with it shall be used. The log and summary shall be completed in the detail provided in the form and instructions of OSHA Form No. 200.

(2) Any employer may maintain the log and summary of all recordable occupational injuries and illnesses at a place other than the establishment or by means of data processing equipment, or both, if there is available at the place where the log and summary are maintained sufficient information to complete the log and summary to a date within six working days after receiving information that a recordable case has occurred, and at each of the employer's establishments there is available a copy of the log and summary which reflects separately the injury and illness experience of that establishment complete and current to within 45 calendar days.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0710

Period Covered

Records shall be established on a calendar year basis.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0715

Supplementary Record

In addition to the log and summary of occupational injuries and illnesses provided for under OAR 437-001-0705, each employer shall have available at each establishment within six working days after receiving information that a recordable case has occurred, a supplementary record for each occupational injury or illness for that establishment. The record shall be completed in the detail prescribed in the instructions accompanying OSHA Form No. 101 or DCBS Form No. 801. Insurance or other reports are acceptable alternative records if they contain the information required by OSHA Form No. 101 or DCBS Form No. 801. If no acceptable alternative record is maintained for other purposes, OSHA Form No. 101 shall be used or the necessary information shall be otherwise maintained.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0720

Annual Summary

(1) Each employer shall post an annual summary of occupational injuries and illnesses for each establishment. This summary shall consist of a copy of the year's totals from the OSHA Form No. 200 and the following information from that form: calendar year covered, company name, establishment name, establishment address, certification signature, title and date. An OSHA Form No. 200 shall be used in presenting the summary. If no injuries or illnesses occurred in the year, zeros must be entered on the "Totals" line, and the form must be posted.

(2) The summary shall be completed no later than one month after the close of each calendar year.

(3) Each employer, or officer or employer of the employer who supervises the preparation of the log and summary of occupational injuries and illnesses, shall certify that the annual summary of occupational injuries and illnesses is true and complete by affixing his/her signature at the bottom of the last page of the log and summary or by appending a separate statement to the log and summary certifying that the summary is true and complete.

(4) Each employer shall post a copy of the establishment's summary in each establishment in a conspicuous place or places where notices to employees are customarily posted. The summary covering the previous calendar year shall be posted no later than February 1, and shall remain in place until March 1. For employees who do not primarily report for work at a single establishment or who do not report to any fixed establishment on a regular basis, employers shall satisfy this posting requirement by presenting or mailing a copy of the summary portion of the log and summary during the month of February of the following year to each such employee who receives pay during that month. For multi-establishment employers where operations have closed down in some establishments during the calendar year, it will not be necessary to post summaries for those establishments.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0725

Retention of Records

Records provided for in OAR 437-001-0701(5), 437-001-0705, 437-001-0715, and 437-001-0720 (including OSHA Form 200 and its predecessors, OSHA Form 100 and 102) shall be retained in each establishment for five years following the end of the year to which they relate.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 7-1979, f. 8-20-79, ef. 9-1-79; WCD 4-1981, f. 5-22-81, ef. 7-1-81; WCD 9-1983, f. & ef. 11-15-83, WCD 2-1984, f. 3-2-84, ef. 3-15-84; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0730

Access to Records

Records provided for in OAR 437-001-0703, 437-001-0705, 437-001-0715 and 437-001-0720 shall, upon request, be provided to an employee or employee representative pursuant to OAR Chapter 437, Division 2, Subdivision C, Employee Access to Exposure and Medical Records, an Compliance Officer during an inspection, a representative of the Director charged with responsibility for statistical compilation or records validation or any other person authorized by the Administrator of the Oregon Occupational Safety and Health Division to inspect or copy the records.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 7-1979, f. 8-20-79, ef. 9-1-79; WCD 4-1981, f. 5-22-81, ef. 7-1-81; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0735

Participation in the Occupational Injuries and Illnesses Survey

Upon receipt of an Occupation Injuries and Illnesses Survey form, the employer shall promptly complete and return the form in accordance with the instructions contained therein.

Stat. Auth: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0740

Falsification or Failure to Keep and Post Records or Make Reports

An employer who fails to maintain the records, post the summaries or make the reports required by OAR 437-001-0700 to 437-001-0735 shall be cited for having committed an other than serious violation and shall be assessed a penalty of not less than \$100 and not more than \$1,000 for each violation.

[NOTE: ORS 654.991(3) provides that "whoever knowingly makes a false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to ORS 654.001 to 654.295, shall, upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than six months, or both". In addition, a civil penalty is provided for falsification of a document by ORS 654.086(1)(e).]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 5-1978, f. 6-22-78, ef. 8-15-78; WCD 6-1982, f. 6-28-82, ef. 8-1-82; APD 6-1987, f. 12-23-87, ef. 1-1-88; APD 7-1988, f. 6-17-88, ef. 7-1-74; OSHA 6-1994, f. & cert. ef. 9-30-94

437-001-0742

Recordkeeping Variances and Exceptions

In order to achieve a uniform system for the recordkeeping and reporting of occupational injuries and illnesses, the State of Oregon and the U.S. Department of Labor have agreed that as applied to employers, as defined by subsections 3(5) of

the Occupational Safety and Health Act of 1970 (Public Law 91-596, 81 STAT 1950), the state shall not grant any variances or exceptions to the recordkeeping and reporting regulations of this part without prior approval of the U.S. Bureau of Labor Statistics.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0745

Change of Ownership

Where an establishment has changed ownership, the employer shall be responsible for maintaining records and filing reports only for that period of the year during which that employer owned such establishment. However, in the case of any change in ownership, the new employer shall preserve those records, if any, of the prior ownership which are required to be kept under this part. These records shall be retained at each establishment to which they relate, for the period, or remainder thereof, required under OAR 437-001-0725.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0750

Employers not in Fixed Establishments

Employers engaged in physically dispersed operations such as occur in logging, construction, installation, repair or service activities and whose employees do not report to any fixed establishment on a regular basis, but are subject to common supervision, may satisfy the provisions of OAR 437-001-0703, 437-001-0705, 437-001-0715 and 437-001-0720 by:

- (1) Maintaining the required records for each operation in an established central place;
- (2) Having the address and telephone number of the central place available at each worksite; and
- (3) Having personal available at the central place during normal business hours to provide information from the records maintained there by telephone and mail.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.120(2) & (5)

Hist.: WCB 19-1974, f. 6-5-74, ef. 7-1-74; WCD 7-1979, f. 8-20-79, ef. 9-1-79; APD 7-1988, f. 6-17-88, ef. 7-1-74

437-001-0760

Rules for All Workplaces

(1) Employer's Responsibilities:

(a) The employer shall see that workers are properly instructed and supervised in the safe operation of any machinery, tools, equipment, process, or practice which they are authorized to use or apply. This rule shall not be construed to require a supervisor on every part of an operation nor to prohibit workers from working alone;

(b) The employer shall take all reasonable means to require employees:

(A) To work and act in a safe and healthful manner;

(B) To conduct their work in compliance with all applicable safety and health rules;

(C) To use all means and methods, including but not limited to, ladders, scaffolds, guardrails, machine guards, safety belts and lifelines, that are necessary to safely accomplish all work where employees are exposed to a hazard; and

(D) Not to remove, displace, damage, destroy or carry off any safety device, guard, notice or warning provided for use in any employment or place of employment while such use is required by applicable safety and health rules.

(c) Every employer shall be responsible for providing the health hazard control measures necessary to protect the employees' health from harmful or hazardous conditions and for maintaining such control measures in good working order and in use;

(d) Every employer shall inform the employees regarding the known health hazards to which they are exposed, the measures which have been taken for the prevention and control of such hazards, and the proper methods for utilizing such control measures.

(2) Employee's Responsibilities:

(a) Employees shall conduct their work in compliance with the safety rules contained in this code;

(b) All injuries shall be reported immediately to the person in charge or other responsible representative of the employer;

(c) It is the duty of all workers to make full use of safeguards provided for their protection. It shall be a worker's responsibility to abide by and perform the following requirements:

(A) A worker shall not operate a machine unless guard or method of guarding is in good condition, working order, in place, and operative;

(B) A worker shall stop the machine or moving parts and properly tag-out or lock-out the starting control before oiling, adjusting, or repairing, except when such machine is provided with means of oiling or adjusting that will prevent possibility of hazardous contact with moving parts;

(C) A worker shall not remove guards or render methods of guarding inoperative except for the purpose of adjustment, oiling, repair, or the setting up of a new job;

(D) Workers shall report to their supervisor any guard or method of guarding that is not properly adjusted or not accomplishing its intended function;

(E) Workers shall not use their hands or any portion of their bodies to reach between moving parts or to remove jams, hangups, etc. (Use hook, stick, tong, jig or other accessory.);

(F) Worker shall not work under objects being supported that could accidentally fall (such as loads supported by jacks, the raised body of a dump truck, etc.) until such objects are properly blocked or shored;

(G) Workers shall not use defective tools or equipment. No tool or piece of equipment should be used for any purpose

for which it is not suited, and none should be abused by straining beyond its safe working load.

(d) Workers shall not remove, deface, or destroy any warning, danger sign, or barricade, or interfere with any other form of accident prevention device or practice provided which they are using, or which is being used by any other worker;

(e) Workers must not work underneath or over others exposed to a hazard thereby without first notifying them and seeing that proper safeguards or precautions have been taken;

(f) Workers shall not work in unprotected, exposed, hazardous areas under floor openings;

(g) Long or unwieldy articles shall not be carried or moved unless adequate means of guarding or guiding are provided to prevent injury;

(h) Hazardous conditions or practices observed at any time shall be reported as soon as practicable to the person in charge or some other responsible representative of the employer;

(i) Workers observed working in a manner which might cause immediate injury to either themselves or other workers shall be warned of the danger;

(j) Before leaving a job, workers shall correct, or arrange to give warning of, any condition which might result in injury to others unfamiliar with existing conditions.

(3) Investigations of Injuries:

(a) Each employer shall investigate or cause to be investigated every lost time injury that workers suffer in connection with their employment to determine the means that should be taken to prevent recurrence. The employer shall promptly install any safeguard or take any corrective measure indicated or found advisable;

(b) At the request of authorized Department representatives, it shall be the duty of employers, their superintendents, supervisors and employees to furnish all pertinent evidence and names of known witnesses to an accident and to give general assistance in producing complete information which might be used in preventing a recurrence of such accident. At the request of the Department, persons having direct authority shall preserve and mark for identification, materials, tools or equipment necessary to the proper investigation of an accident;

(c) Any supervisors or persons in charge of work are held to be the agents of the employer in the discharge of their authorized duties, and are at all times responsible for:

(A) The execution in a safe manner of the work under their supervision; and

(B) The safe conduct of their crew while under their supervision;

(C) The safety of all workers under their supervision.

(4) Intoxicating Liquor and Drugs. The use of intoxicating liquor on the job is strictly prohibited. Anyone whose ability to work safely is impaired by alcohol, drugs, or medication shall not be allowed on the job while in that condition.

(5) Horseplay. There must be no horseplay, scuffling, practical jokes, or any other activity of similar nature.

(6) Extraordinary Hazards. When conditions arise that cause unusual or extraordinary hazards to workers, additional means and precautions shall be taken to protect workers or to control hazardous exposure. If the operation cannot be made reasonably safe, regular work shall be discontinued while such abnormal conditions exist, or until adequate safety of workers is ensured.

(7) Inspections:

(a) All places of employment shall be inspected by a qualified person or persons as often as the type of operation or the

character of the equipment requires. Defective equipment or unsafe conditions found by these inspections shall be replaced or repaired or remedied promptly;

(b) Wherever required in this safety code, a written and dated report, signed by the person or persons making the inspection, shall be kept.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 1-1967, f. 1-12-67, ef. 1-15-67; WCB 3-1997, f. 10-6-75, cert. ef. 11-1-75; WCD 11-1976, f. & ef. 5-5-76; WCB 15-1976, f. 7-6-76, cert. ef. 8-1-76; WCD 10-1982, f. & ef. 7-30-82; OSHA 6-1994, f. & cert. ef. 9-30-94; Renumbered from 437-040-0020, 0025, 0030, 0035, 0040, 0050, 0055 & 437-137-0010(1) & (2)

437-001-0765

Rules for Workplace Safety Committees

(1) Purpose. The purpose of a safety committee is to bring workers and management together in a non-adversarial, cooperative effort to promote safety and health in each workplace. A safety committee assists the employer and makes recommendations for change.

(2) General:

(a) Every public or private employer of 11 or more employees shall establish and administer a safety committee;

(b) Every public or private employer of 10 or fewer employees shall establish and administer a safety committee if the employer:

(A) Has a **Lost Workday Case Incidence Rate (LWDCIR)** in the top 10 percent of all rates for the employers in the same industry; or

(B) The employer is not an agricultural employer and the workers' compensation premium classification assigned to the greatest portion of the payroll for the employer has a premium rate in the top 25 percent of premium rates for all classes as approved by the Director pursuant to ORS 737.320(3).

(c) In making the determination of employment levels under sections (a) and (b) of this rule, the employer shall count all permanent, contract, temporary, and/or seasonal workers under the employer's direction and control, and shall base the number on peak employment;

(d) Temporary services employers and labor contractors shall establish safety committees based upon the total number of workers over which the employer or contractor exercises direction and control;

(e) Employers who hire only seasonal workers shall meet the intent of these rules by holding crew safety meetings prior to the commencement of work at each job site. Such meetings shall promote discussions of safety and health issues. All workers shall be informed of their rights to report workplace hazards, and shall be encouraged to make such reports during the meetings;

(f) Employers in the logging industry may meet the intent of these rules by complying with OAR 437, Division 6, Forest Activities.

(3) Locations:

(a) Safety committees shall be established at each of the employer's primary places of employment. For the purpose of

these rules, a primary place of employment shall mean a major economic unit at a single geographic location, comprised of a building, group of buildings, and all surrounding facilities. (Examples of primary places of employment would include a pulp or lumber mill, a manufacturing plant, a hospital complex, bank, a farm/ranch, a school district, or a state agency.) As a primary place of employment the location would have both management and workers present, would have control over a portion of a budget, and would have the ability to take action on the majority of the recommendations made by a safety committee:

(b) An employer's auxilliary, mobile, or satellite locations, such as would be found in construction operations, trucking, branch or field offices, sales operations, or highly mobile activities, may be combined into a single, centralized committee. This centralized committee shall represent the safety and health concerns of all the locations;

(c) In addition to locating safety committees at each primary place of employment, an employer with work locations which include fire service activities shall establish a Fire Service Safety Committee as required by OAR 437-002-0182(7) in OAR 437, Division 2/L, Oregon Rules for Fire Fighters.

(4) Innovation. Upon application, the division may approve safety committees which are innovative or differ in form or function, when such committees meet the intent of these rules.

(5) Safety Committee Formation and Membership:

(a) The safety committees required by OAR 437-001-0765(2) shall:

(A) Be composed of an equal number of employer and employee representatives. Employee representatives shall be volunteers or shall be elected by their peers. When agreed upon by workers and management, the number of employees on the committee may be greater than the number of employer representatives. Seasonal workers shall not be counted for the purpose of determining the number of members who will serve on the committee;

(B) Consist of:

(i) No fewer than two members for each employer with twenty or less employees, or

(ii) No fewer than four members for each employer with more than twenty employees.

(C) Have a chairperson elected by the committee members.

(b) Employee representatives attending safety committee meetings required by OAR 437-001-0765(2) or participating in safety committee instruction or training required by OAR 437-001-0765(7) shall be compensated by the employer at the regular hourly wage;

(c) Employee representatives shall serve a continuous term of at least one (1) year. Length of membership shall be alternated or staggered so that at least one experienced member is always serving on the committee;

(d) Reasonable efforts shall be made to ensure that committee members are representative of the major work activities of the firm.

(6) Safety Committee Duties and Functions.

(a) Management commitment to workplace health and safety:

(A) The committee shall develop a written agenda for conducting safety committee meetings. The agenda shall prescribe the order in which committee business will be addressed during the meeting;

(B) The safety committee shall hold regular meetings at least once a month except months when quarterly workplace safety inspections are made. This does not exclude other months from safety committee meetings if more frequent safety inspections are conducted;

(C) Quarterly safety committee meetings may be substituted for monthly meetings where the committee's sole area of responsibility involves low hazard work environments such as offices;

(D) Small farms of five or fewer full time employees may substitute quarterly meetings for monthly meetings during the farms' off season. The off season shall mean that period of time when only routine farm upkeep is being done.

(b) Written records:

(A) Minutes shall be made of each meeting which the employer shall review and maintain for three years for inspection by the Division. Copies of minutes shall be posted or made available for all employees and shall be sent to each committee member;

(B) All reports, evaluations, and recommendations of the safety committee shall be made a part of the minutes of the safety committee meeting.

(C) A reasonable time limit shall be established for the employer to respond in writing to all safety committee recommendations.

(c) Employee involvement:

(A) The committee shall establish a system to allow the members to obtain safety-related suggestions, reports of hazards, or other information directly from all persons involved in the operations of the workplace. The information obtained shall be reviewed at the next safety committee meeting, and shall be recorded in the minutes for review and necessary action by the employer.

(d) Hazard assessment and control:

(A) The safety committee shall assist the employer in evaluating the employer's accident and illness prevention program, and shall make written recommendations to improve the program where applicable. Additionally, the safety committee shall:

(i) Establish procedures for workplace inspections by the safety committee inspection team to locate and identify safety and health hazards;

(ii) Conduct workplace inspections at least quarterly; and

(iii) Recommend to the employer how to eliminate hazards and unsafe work practices in the workplace.

(B) The inspection team shall include employer and employee representatives and shall document in writing the location and identity of the hazards and make recommendations to the employer regarding correction of the hazards;

(C) Quarterly inspections of satellite locations shall be conducted by the committee team or by a person designated at the location;

(D) Mobile work sites or locations and activities which do not lend themselves to a quarterly schedule shall be inspected by a designated person as often as Oregon occupational safety and health rules require and/or the committee determines is necessary;

(E) The person designated to carry out inspection activities at the locations identified in sections (C) and (D) of this rule shall be selected by the employer and shall receive training in hazard identification in the workplace.

(e) Safety and health planning. The safety committee shall establish procedures for the review of all safety and health inspection reports made by the committee. Based on the results of the review, the committee shall make recommendations for improvement of the employer's accident and illness prevention program;

(f) Accountability. The safety committee shall evaluate the employer's accountability system and make

recommendations to implement supervisor and employee accountability for safety and health;

(g) Accident investigation. The safety committee shall establish procedures for investigating all safety-related incidents including injury accidents, illnesses and deaths. This rule shall not be construed to require the committee to conduct the investigations.

(7) Safety and Health Training and Instruction:

(a) The following items shall be discussed with all safety committee members:

(A) Safety committee purpose and operation;

(B) OAR 437-001-0760 through 437-001-0765 and their application; and

(C) Methods of conducting safety committee meetings.

(b) Committee members shall have ready access to applicable Oregon Occupational Safety and Health Codes which apply to the particular establishment and verbal instructions regarding their use;

(c) All safety committee members shall receive training based upon the type of business activity. At a minimum, members shall receive training regarding:

(A) Hazard identification in the workplace; and

(B) Principles regarding effective accident and incident investigations.

(8) Effective Date. The effective date for OAR 437-001-0765 is March 1, 1991.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.176

Hist.: WCD 10-1982, f. & ef. 7-30-82; OSHA 12-1990(Temp), f. & cert. ef. 6-18-90; OSHA 28-1990, f. 12-18-90, cert. ef. 3-1-91; OSHA 6-1994, f. & cert. ef. 9-30-94; Renumbered from 437-040-0044, 0045, 0046, 0047, 0048 & 0049; OSHA 10-1995, f. & cert. ef. 11-29-95

Occupational Safety and Health Grant Program

437-001-0800

Application Procedures

(1) The Division may solicit applications for Occupational Safety and Health Grants to develop innovative, proactive occupational safety and health training, educational programs or materials.

(2) Any labor consortium, employer consortium, educational institution that is affiliated with a labor organization or employer group, or other nonprofit entity, may apply for an Occupational Safety and Health Grant as provided in ORS 654.189 and 654.191, and in accordance with OAR 437-001-0800 through 437-001-0810.

(3) An applicant for a grant shall submit the grant application during the period of time specified in the application procedure. An application shall be in writing on the application forms and procedures provided by the Division and shall contain at a minimum:

(a) The name, address and telephone number of each applicant;

- (b) The name address and telephone number of the project director;
- (c) The amount of the request;
- (d) An impact statement including the type and number of employees or employers targeted; the problem to be addressed, and the impact the project will have on occupational safety and health in Oregon;
- (e) A description of the manner in which the grant will be used, including:
 - (A) Anticipated financial expenditures;
 - (B) A developmental plan that states goals and how they will be accomplished;
 - (C) Proposed completion date;
 - (D) Proposed in-kind services;
 - (E) Targeted audience; and
 - (F) Intended measurement of results; and
- (f) Any other information included in the application forms and procedures.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 3-1989, f. & cert. ef. 12-1-89

437-001-0805

Application Review

- (1) The Division shall review all applications and request any additional information needed to assure applications are relevant and complete.
- (2) After an application is determined to be complete and in compliance with the intended goals of the program by the Division, it shall be forwarded to the Safe Employment Education and Training Advisory Committee (SEETAC) for review and possible recommendation for grant approval.
- (3) In reviewing grant applications for possible recommendations for approval to the Director, the committee shall consider at least the following elements:
 - (a) The amount of available funds in the Occupational Safety and Health Grant account;
 - (b) The impact statement details;
 - (c) The innovativeness of the grant request;
 - (d) The feasibility of the developmental plan;
 - (e) The amount of in-kind services;
 - (f) The stability of other funding sources; and

(g) The administrative costs and/or responsibilities imposed on the Division in connection with the grant project.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 3-1989, f. & cert. ef. 12-1-89

437-001-0810

Grant Awards

(1) The Division shall notify applicants, in writing, of the approval or disapproval of the grant request.

(2) The applicant shall execute documents required by the Division for evidence of the type and amount of grant given, performance criteria and reporting requirements, and any other terms and conditions agreed to in connection with the awarding of a grant.

(3) Grant recipients shall make available to the Division all records and materials necessary to monitor the grant award.

(4) If the terms and conditions under which the grant was approved are not met, the Division may, upon written notice, take one or more of the following actions:

(a) Immediately revoke approval of the use of Occupational Safety and Health Grant funds; or

(b) Require repayment of all or a portion of any funds advanced; or

(c) Any other appropriate legal action necessary.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 3-1989, f. & cert. ef. 12-1-89

Farmworker

437-001-0905

Purpose and Objectives

The rules of OAR 437-001-0905 through 437-001-0940 are established to define and carry out the provisions of ORS 315.164 through .167 as amended by 1995 Legislation (the Act), as they pertain to the Department of Consumer and Business Services ("Department"). The Department certifies Projects owned by resident individuals, as identified in ORS 316, or a corporation, as identified in ORS 317, to allow resident individuals or corporations to claim a tax credit against Oregon taxes as provided in the Act. The Department also certifies that qualifying Projects fall within the Cap identified in ORS 315.167(4) and designates the earliest tax year for which the credit will be allowed. The purpose of the program is to encourage the provision of housing for Farmworkers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 315.164 - 315.167

Hist: OSHA 1-1997, f. 1-31-97, cert. ef. 2-1-97

437-001-0910

Definitions

All terms used in OAR 437-001-0905 through 437-001-0940 is as provided in the Act and as further specified in these rules:

- (1) "Application" means a request signed by an Owner for Certification of a Project.
- (2) "Cap" means the maximum amount of tax credits as set by the Legislature in ORS 315.167(4).
- (3) "Certification" means the letter of tax credit approval issued by the Department to the Owner of the Project, or a Taxpayer designated by the owner, who may claim a tax credit under the provisions of the Act.
- (4) "Chronological Order" means after the Department announces that applications are being accepted, all applications received during an open application period will be considered as received as of the close of business on the last day of the open application period. Applications received after an open application period will be considered received as of the close of the business day received, and will receive preference for Certification over applications received after that date.
- (5) "Condition of Habitability" means a condition that is in compliance with:
 - (a) The applicable provisions of the state building code under ORS chapter 455 and the rules adopted thereunder; or
 - (b) If determined on or before December 31, 1995, section 12 and 13, chapter 964, Oregon Laws 1989.
- (6) "Department" means the Department of Consumer and Business Services, State of Oregon.
- (7) "Eligible Costs" includes finance costs, construction costs, excavation costs, installation costs and permit costs but excludes land costs.
- (8) "Firm Commitment of Financing" means an agreement to make funds available to a specific owner on a specific property and which will contain all of the terms and conditions that the Owner has to satisfy. Payment of a commitment fee by the Owner to the lending institution may be required as a condition precedent to issuance of such an agreement.
- (9) "Owner" is an individual, corporation, a nonprofit corporation, state or local government entity including but not limited to a housing authority, which may be a controlling general partner in a limited partnership, who holds legal title to the project and will develop and manage the project in accordance with the OAR, statutes, federal regulations and any other requirements as set forth by the Department.
- (10) "Project" means one or more units of housing which will be rented by farmworkers and their immediate families.
- (11) "Rehabilitation" means to restore and reinstate a building to a Condition of Habitability.
- (12) "Relative" means a brother or sister (whether by the whole or by half blood), spouse, ancestor (whether by law or by blood), or lineal descendant of an individual.
- (13) "Seasonal farmworker" means any person who, for an agreed remuneration or rate of pay, performs temporary labor for another in the production of farm products or in the planting, cultivating or harvesting of seasonal agricultural crops or in the forestation or reforestation of lands, including but not limited to planting, transplanting, tubing,

precommercial thinning and thinning of trees and seedlings, the clearing, piling and disposal of brush and slash and other related activities.

(14) "Seasonal farmworker housing" means housing limited to occupancy by seasonal farmworkers and their immediate families which is occupied no more than nine months of the year.

(15) "Seasonal farmworker housing project" means construction, installation or rehabilitation of seasonal farmworker housing.

(16) "Tenant" is a renter who occupies or will occupy a unit in a Project.

(17) "Year-round farmworker housing" means housing:

(a) Limited to occupancy by farmworkers and their immediate families;

(b) No dwelling unit of which is occupied by a relative of the owner or operator of the farmworker housing; and

(c) Consisting, if located in an exclusive farm use zone, of housing that is in compliance with any applicable local zoning ordinance and that is:

(A) A manufactured dwelling, as that term is defined in ORS 446.003; or

(B) Any other dwelling unit, if the project for which credit under this section is being claimed consists of the rehabilitation of existing farmworker housing.

(18) "Year-round farmworker housing project" means construction, installation or rehabilitation of farmworker housing.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 315.164 - 315.167

Hist: OSHA 1-1997, f. 1-31-97, cert. ef. 2-1-97

437-001-0915

Program Description and Application Requirements

(1) The Department may provide Certifications for the Farmworker Housing Tax Credit Program, solely to projects that provide housing for the exclusive use of farmworkers and their families, subject to availability of Eligible Costs in the program. The Department reserves the right to establish the date(s) applications will be accepted, to request additional information, to establish additional review criteria, and to place a limit on the maximum award of credits to a project. At the time application will be received, the Owner shall submit a written application for Certification, in the manner prescribed by the Department. The Application shall provide information, including, but not limited to:

(a) Name, address, taxpayer identification number, and telephone number of the Owner;

(b) Location of the proposed farmworker housing;

(c) A description of the Project, including the type of housing; number and type of housing units to be provided; and

(d) Any other information as the Department may require.

(2) Once an application has been made, an Owner may begin construction and incur costs at their own risk. Projects that have started construction after an application has been received and have not been awarded tax credits will not be

eligible for future tax credits after December 31 of the year construction began.

(3) The application shall contain a commitment and supportive information that indicates the project will be completed in the calendar year of the award or in the succeeding calendar year.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 315.164 - 315.167

Hist: OSHA 1-1997, f. 1-31-97, cert. ef. 2-1-97

437-001-0920

Application Review

(1) The Department may establish an open application period for the initial receipt of applications in a given year, and after that date shall review the Application in Chronological Order. The Department shall receive applications and decline/certify/partially certify or approve for standby, each Project within 30 calendar days of receiving the Application.

(2) The Department's review of Applications for Certification, may consider, but is not limited to, the following criteria:

(a) Completeness of the application, which may consist of but is not limited to evidence of proper zoning for the type of project, evidence of funding commitments, and evidence that the project is ready to apply for all building permits.

(b) The Owner's, property management agent's and other involved person's experience in providing low-income housing;

(c) The Owner's readiness to proceed;

(d) Financial feasibility;

(e) Other criteria as may be established in the Application or in an annual notice.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 315.164 - 315.167

Hist: OSHA 1-1997, f. 1-31-97, cert. ef. 2-1-97

437-001-0925

Set-Aside

The Department may set aside a portion of the Cap for employer owned small projects.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 315.164 - 315.167

Hist: OSHA 1-1997, f. 1-31-97, cert. ef. 2-1-97

437-001-0930

Standby Applications

- (1) Applications received under 437-001-0905 through 437-001-0930 requesting Certification for amounts in excess of the Cap or a set aside amount may be placed on a standby list.
- (2) The Department may place Applications on the standby list in the chronological order received.
- (3) When a standby Application is selected to receive a Certification of tax credits the Department shall notify the applicant and allow a reasonable time for the applicant to update their Application to reflect current conditions.
- (4) All unfunded standby Applications shall expire on December 31 of the current calendar year. If an application expires, a new application must be submitted for the next calendar year. If construction began in the calendar year the application was placed on standby, then the project will be unable to apply for credits in the next calendar year.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 315.164 - 315.167

Hist: OSHA 1-1997, f. 1-31-97, cert. ef. 2-1-97

437-001-0935

Certification of Eligible Projects

When the requirements of OAR 437-001-0905 through 437-001-0930 are met and the total outstanding Certifications for tax credits do not exceed the Eligible Cost Cap, the Department shall provide Certification to the Owner/taxpayer that:

- (1) The proposed Project may file for a tax credit based on the maximum level of eligible costs specified in the letter, or actual costs, which ever are lower.
- (2) That other criteria apply and must be met for the full term of the tax credit to assure continued eligibility for claiming the tax credit by the owner, taxpayer, or finance institution.
- (3) The Eligible Costs for all projects comply with the Cap.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 315.164 - 315.167

Hist: OSHA 1-1997, f. 1-31-97, cert. ef. 2-1-97

437-001-0940

Monitoring

If, after the Certification and during the term the tax credits are being used, the Owner or operator of a Project is found to be out of compliance with the requirements of the statute, ORS 315.164 through 315.167, these administrative rules, OAR 437-001-0905 through 437-001-0940, or the commitments contained in the Application, the Department shall

promptly notify the Department of Revenue.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 315.164 - 315.167

Hist.: OSHA 1-1997, f. 1-31-97, cert. ef. 2-1-97

Rules for the Administration of Loss Prevention Activities by Insurers/Self-Insured Employers

General

437-001-1005

Authority and Applicability of Rules

(1) OAR 437-001-1005 through 437-001-1065 are promulgated under the Director's authority contained in ORS 654.097.

(2) The Director of the Department of Insurance and Finance delegates the Administrator of the Accident Prevention Division the authority to enforce these rules.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88; OSHA 7-1992, f. & cert. ef. 7-31-92

437-001-1010

Purpose and Scope

(1) Nothing in these rules is intended to impose a duty upon the insurer or to transfer from the employer to the insurer responsibility set forth in ORS 654.001 to 654.991, or to impose liability other than these rules upon the insurer for failure to identify any unsafe conditions or occupational health and safety hazard.

(2) The purpose of these rules is to promote workplace health and safety by:

(a) Establishing mandatory insurer and self-insured employer loss prevention services designed to advise employers on regulations, laws, means and methods for improving health and safety at their places of employment; and

(b) Providing for the evaluation of insurers' and self-insured employers' loss prevention activities by the OR-OSHA Division to ensure compliance with the law and these rules.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88

437-001-1015

Definitions

- (1) "Establishment" -- A single physical location where business is conducted or where services or industrial operations are performed. Where distinctly separate activities are performed at a single physical location, each activity shall be treated as a separate establishment.
- (2) "Insured employer" -- An employer insured with a workers' compensation carrier.
- (3) "Insurer" -- The State Accident Insurance Fund (SAIF) Corporation or any insurance company authorized or regulated under ORS Chapter 731 to issue workers' compensation guaranty contracts in Oregon.
- (4) "Loss prevention effort" -- An ongoing effort by the self-insured employer to integrate health and safety into the workplace in such a manner that occupational injuries and illnesses are reduced.
- (5) "Loss prevention plan" -- A plan developed by the employer with the assistance of the insurer with the primary emphasis on reduction of workplace injuries and illnesses.
- (6) "Loss prevention services" -- Services designed to advise and assist employers in the identification, evaluation, and control of existing and potential causes of accidents and occupational health and safety problems whether initiated by an employer request or by the insurer or by the Division.
- (7) "Loss prevention services program" -- A program intended to promote occupational health and safety, and to help eliminate work hazards to employees.
- (8) "Self-insured employer-- An employer certified under ORS 656.430 as meeting the qualifications of a self-insured employer set out by ORS 656.407.
- (9) "Substantial failure to comply" -- The failure by an insurer or self-insured employer to respond or make available timely on-site services; failure to respond or make available in a timely manner specialized consultative services, or:
 - (a) If an insurer fails to identify and advise of in a timely manner reasonably discoverable serious or life-threatening hazards within the scope of the services requested or provided; or
 - (b) If a self-insured employer fails to identify and control in a timely manner reasonably discoverable serious or life-threatening hazards within the scope of the services requested or provided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88; Administrative Correction 8-5-97

437-001-1020

General Requirements

- (1) The insurer or self-insured employer shall, within 60 days after the effective date of these rules, submit to the Administrator the following information:

- (a) The name of the insurer or self-insured employer;
 - (b) The insurer's or self-insured employer's Oregon business address where records are kept; and
 - (c) The name or title, business address, and telephone number of the representative who will act as liaison with the Division in all matters pertaining to loss prevention services.
- (2) After the first 60 days these rules are in effect, each new insurer shall comply with section (1) of this rule at the time of application for the authority to issue guaranty contracts in Oregon.
- (3) After the first 60 days these rules are in effect, each self-insured employer shall submit the information required in section (1) of this rule at the time the employer submits its application to the Compliance Section of the Workers' Compensation Division for self-insurance.
- (4) Each insurer or self-insured employer shall notify the Division, in writing, of any change in the information in subsection (1)(a) through (c) within 30 days of that change.
- (5) Each insurer shall make available, at the request of the director and in the form prescribed by the director, its annual expenditures for safety and health loss control activities for the prior year and its budget for safety and health loss control activities for the following year.
- (6) When requested by the Division, each insurer and self-insured employer shall make available with reasonable promptness copies of loss prevention, loss control and related records.
- (7) The duty of compliance with OAR 437-001-1005 through 437-001-1070 is that of the insurer or self-insured employer regardless whether the insurer or self-insured employer contracts for assistance for the required services.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88; OSHA 8-1991, f. 4-25-91, cert. ef. 5-1-91; Administrative Correction 8-5-97

Insurers' Programs

437-001-1025

Notification of Services

- (1) When an insurer writes a workers' compensation policy for an employer, and annually thereafter, the insurer shall inform the employer at the employer's Oregon main office of the loss prevention services that are available. The information shall include at least the following:
- (a) A description of all loss prevention services that the insurer is required to offer, and other loss prevention services the insurer provides;
 - (b) A description of the availability of and process for obtaining loss prevention services;
 - (c) An offer, by the insurer, of an on-site evaluation of the loss prevention service needs of the insured;
 - (d) An explanation of the employer's responsibility to provide a safe and healthful workplace as required by the Oregon Safe Employment Act (ORS 654.001 to 654.295 and 654.991); and

(e) A statement of the employer's right to make a complaint to the OR-OSHA Division if an insurer fails to respond to a request from one of its insured employers for loss prevention services or otherwise fails to provide services as offered or required.

(2) An insurer shall provide sufficient copies of the material described in section (1) of this rule for all of the employer's fixed places of employment, and instructions that the employer distribute this material to these locations.

(3) When notified by the Division that an employer is required to have loss prevention services as defined in OAR 437-001-1040(1), the insurer shall make the material described in section (1) of this rule available to each fixed place of employment of the insured.

(4) If the employer does not maintain an Oregon main office, then the insurer shall mail the material described in section (1) of this rule to each of the employer's fixed places of employment in Oregon.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88

437-001-1030

Requests for Services

(1) An insurer shall acknowledge all requests for services by insured employers which do not involve alleged hazards by contacting the employer within 30 days of the request by scheduling a date to begin providing services.

(2) Any request by an insured employer regarding an imminent danger hazard shall be responded to with loss prevention services as soon as possible by the insurer.

(3) Any other requests regarding alleged hazards other than imminent danger shall be responded to with loss prevention services as soon as practicable, but not longer than 30 days following the date of the request.

(4) All service requests shall be recorded on the insurer's service log, and a copy of the report maintained in the insurer's file. This file must be kept for three calendar years.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88

437-001-1035

Loss Prevention Services

(1) Each insurer shall make occupational health and safety loss prevention services available to all its insured employers and shall provide certain other services as required by this rule.

(2) At a minimum, loss prevention services and personnel providing the services must meet the needs of the particular place of employment, special industry, or process, and shall include at least the following:

(a) Evaluation of the employer's loss prevention needs;

- (b) Assistance in evaluating records that may be pertinent to the firm's illness and injury experience;
 - (c) An explanation to the employer of the Oregon Safe Employment Act and rules that apply to the particular place of employment;
 - (d) Provision of partial or complete on-site health and safety surveys, which identify all reasonably discoverable occupational safety and health hazards and items not in compliance with the federal and the Division's occupational safety and health laws, rules and standards within the scope of the survey scheduled;
 - (e) Assistance with industrial hygiene and safety evaluations to detect physical and chemical hazards of the workplace, and implementation of engineering or administrative controls;
 - (f) Assistance with evaluating, obtaining, and maintaining personal protective equipment;
 - (g) Evaluation of workplace design, layout and operation, and assistance with job site modifications utilizing an ergonomic approach;
 - (h) Assistance in evaluating and improving an employer's safety management practices;
 - (i) Assistance in identifying health and safety training needs and available resources; and
 - (j) An offer to provide follow-up services for evaluating the effectiveness of the service provided.
- (3) Loss prevention services shall include a written report with an agreed upon implementation schedule.
- (4) If, when providing loss prevention services, a condition of imminent danger is observed (see OAR 437-001-0015(35)), the insurer shall advise the employer of the hazard and the need to immediately correct it.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88

437-001-1040

Required Loss Prevention Services

- (1) An insurer shall assist in developing a loss prevention plan with each of its employers who has three or more accepted disabling workers' compensation claims and an accepted disabling claims rate equal to or greater than the statewide claims rate per 100 workers during the previous calendar year; or with any employer with 20 or more accepted disabling claims during the previous calendar year. The plan shall promote self-sufficiency on the part of the employer to reduce injuries and illnesses, and shall identify and control all reasonably discoverable occupational health and safety hazards and items not in compliance with the federal and the Division's occupational safety and health laws, rules and standards.
- (2) Within 90 days after the Division notifies an insurer that an employer is determined to require mandatory service, the insurer shall:
- (a) Analyze the employer's loss prevention needs by conducting a safety and health hazard survey and completing a needs assessment worksheet that includes at a minimum the elements in **Appendix A**;

NOTE: Alternative worksheets may be used by the insurer if submitted to the Department of Insurance and Finance and approved in advance of their use.

(b) For the purposes of conducting the safety and health hazard surveys required by subsection (2)(a) of this rule:

(A) The insurer shall conduct an on-site survey at each of the employer's locations with three or more disabling claims, and at each worksite representative of those locations performing a distinctly different activity; or

(B) If none of the employer's locations have three or more claims, the insurer shall conduct an on-site survey at a location which is representative of the similar multiple locations, and at each location performing a distinctly different activity.

(c) Assist the employer in preparing a written loss prevention plan that is based upon the results of the hazard survey and worksheet and includes at a minimum the following:

(A) Management commitment to health and safety;

(B) An accountability system for employer and employees;

(C) Training practices and follow-up;

(D) A system for hazard assessment and control;

(E) A system for investigating all recordable occupational injuries and illnesses that includes written findings and corrective action;

(F) A system for evaluating, obtaining, and maintaining personal protective equipment;

(G) Evaluation of workplace design, layout and operation, and assistance with job site modifications utilizing an ergonomic approach; and

(H) Employee involvement in the health and safety effort.

(d) Tailor the plan to meet the needs of the employer for reduction of injuries and illnesses.

(3) The insurer shall assist the employer in implementation of the loss prevention plan.

(4) The plan shall promote self-sufficiency on the part of the employer to reduce injuries and illnesses toward the goal that the employer will no longer be required by the Division to receive mandatory services.

(5) Upon renewal of the employer's guaranty contract the employer and insurer shall jointly evaluate and update the plan according to the employer's progress in lowering the employer's injury and illness rate.

(6) The insurer's obligation to assist in the development of a loss prevention plan shall terminate if the employer refuses to cooperate.

(7) The insurer shall maintain all records regarding assistance provided for required loss prevention service, including refusals, in the loss prevention service file.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88; OSHA 10-1990(Temp), f. & cert. ef. 5-31-90; OSHA 24-1990, f. & cert. ef. 10-10-90; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

437-001-1045

Loss Prevention Service Log

(1) Every insurer shall maintain a loss prevention service request log. The log shall also include employers requiring mandatory service as defined in OAR 437-001-1040(1). The log shall show:

- (a) The date of each request;
 - (b) The name and address of each insured employer, and whether or not they require mandatory service;
 - (c) Name and title of the person making the request;
 - (d) Type of business;
 - (e) Whether each request was submitted in writing, in person, or by telephone;
 - (f) The nature of each request or a reference to the particular safety or health rule involved;
 - (g) The location of each workplace involved;
 - (h) The date of each response and action taken on the request; and
 - (i) For employers requiring mandatory service, the date their loss prevention plan was developed.
- (2) The log shall be maintained at the Oregon business address where records are kept for Division personnel's review. Each log must be maintained for not less than three years following the date service was requested.
- (3) All insurers shall maintain complete files of all loss prevention services provided at the locations designated by the insurer for Division personnel's review and must be maintained for not less than three years following the date the service was provided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88

Self-Insured and Group Self-Insured Employers' Programs

437-001-1050

Self-Insured and Group Self-Insured Employer Loss Prevention Assistance

- (1) A self-insured employer and each self-insured group shall make available to each of its workplace or group locations occupational safety and health loss prevention assistance.
- (2) A self-insured employer or group shall acknowledge all requests for services which do not involve alleged hazards from any of its locations within 30 days by schedule a date to begin providing services.
- (3) Any request from locations of the self-insured employer or group regarding imminent danger an alleged hazard shall be responded to as soon as possible with loss prevention services.
- (4) All other requests regarding alleged hazards other than imminent danger shall be responded to with loss prevention services as soon as practicable, but not longer than 30 days following the date of the request.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88; OSHA 8-1991, f. 4-25-91, cert. ef. 5-1-91

437-001-1055

Self-Insured and Group Self-Insured Employer Loss Prevention Programs

Each self-insured employer and each member of a group self-insured program shall establish and implement a written occupational health and safety loss prevention program for each establishment. As a minimum requirement, the program shall:

- (1) Provide for a loss prevention effort within the normal functions of the business for prevention or reduction of health and safety injuries and illnesses; and
- (2) Inform its managers and workplace locations of the availability and the process for requesting loss prevention assistance.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88; OSHA 8-1991, f. 4-25-91, cert. ef. 5-1-91

437-001-1060

Self-Insured and Group Self-Insured Employer Loss Prevention Effort

Each self-insured employer and each member of a group self-insured program shall implement a loss prevention effort for each of its locations, which identifies and controls all reasonably discoverable occupational safety and health hazards and items not in compliance with the federal or the division's occupational safety and health laws, rules and standards. The self-insured group shall assist each member of the group in developing and implementing the loss prevention effort. This loss prevention effort shall include at least the following:

- (1) Management commitment to health and safety;
- (2) An accountability system for employer and employees'
- (3) Training practices and follow-up;
- (4) A system for hazard assessment and control;
- (5) A system for investigating all recordable occupational injuries and illnesses that includes corrective action and written findings;
- (6) A system for evaluating, obtaining, and maintaining personal protective equipment;
- (7) On-site routine industrial hygiene and safety evaluations to detect physical and chemical hazards of the workplace, and the implementation of engineering or administrative controls;

(8) Evaluation of workplace design, layout and operation, and assistance with job site modifications utilizing an ergonomic approach;

(9) Employee involvement in the health and safety effort; and

(10) An annual evaluation of the employer's loss prevention activities based on the location's current needs.

(11) The group shall maintain records which document the assistance provided to each member of the group.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88; OSHA 8-1991, f. 4-25-91, cert. ef. 5-1-91

Assessment of Civil Penalties

437-001-1065

Penalty Provisions for Insurers

(1) For insurers who fail to comply with the law and the requirements of OAR 437-001-1005 through 437-001-1065, the Administrator:

(a) Shall assess a civil penalty in accordance with ORS 654.086(i); and

(b) May send a notice to an insurer, in accordance with ORS 656.447, of the Director's intent to request the Administrator of the Insurance Division to suspend or revoke the insurer's certificate of authority.

(2) For self-insured employers who fail to comply with the law and the requirements of OAR 437-001-1005 through 437-001-1065, the Administrator shall assess a civil penalty in accordance with ORS 654.086(i).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 21-1988, f. & cert. ef. 12-27-88; OSHA 7-1992, f. 7-31-92, cert. ef. 10-1-92

APPENDIX A

(See OAR 437-001-1040(2)(a))

Mandatory Loss Prevention Plan Worksheet

This worksheet is provided to analyze the employer's loss prevention needs, and shall be completed jointly by the insurer and the employer. The information is for use by the employer in developing a comprehensive, written loss prevention plan to assist in lowering the employer's occupational injury and illness rate. The insurer is required to assist

the employer in developing a loss prevention plan. A copy of this worksheet, including the results from the hazard assessment survey(s) completed by the insurer, must be provided to the employer.

Note: Insurers may use alternate worksheets to document the development of employer loss prevention plans, if they have been approved in advance by the Department of Consumer and Business Services.

Please attach any additional information if space provided is inadequate.

Date

Employer

Insurer

Name of Employer Representative

Name of Insurer Representative

1. Did the employer agree to develop a loss prevention plan? Yes/No? If not, how is this confirmed by the insurer?

2. Is management committed to occupational safety and health? How is this communicated to employees and supervisors?

3. Explain in detail how supervisors and employees are held accountable for occupational safety and health.

4. How are training programs and practices developed? How are training needs determined? What recordkeeping system is used to determine which employees have had training? What follow-up measures will be used to determine if training is effective?

5. Explain the employer's system for hazard assessment and control. Who is in charge of this system? How will the employer document the system's implementation and use?

6. Describe the employer's system for investigating accidents. Who investigates the accidents and analyzes results? How are findings communicated and to whom?

7. What personal protective equipment do employees need? Describe the employer's system for evaluating, obtaining and maintaining all personal equipment. Who keeps what types of records on maintenance of personal protective

equipment?

8. Explain and provide specifics on evaluation of the employer's workplace design, layout, and operation from an ergonomic approach. What assistance will the insurer provide to the employer for job site modifications from an ergonomic approach?

9. How is employee involvement in the occupational safety and health effort demonstrated? How is the opportunity for involvement communicated to employees? If meetings are held, how often? What is the scope of the meetings and who attends them? Who takes the minutes of the meetings? How are meeting results communicated?

10. A hazard assessment survey must be conducted. (See ORS 656.451(3): "Such services shall include the conduct of workplace surveys to identify health and safety problems). What are the specific findings of this survey? How will hazards identified or suspected be addressed in tailoring the plan to meet specific needs of the employer? How will hazards be corrected?

11. After completing this analysis of the employer's loss prevention management plan, who will be responsible for writing the plan: the insurer, the employer, or both? In what time frame will this plan be written?

12. The insurer must assist the employer in implementing the loss prevention plan. Has the employer requested such assistance? If so, when will the insurer meet again with the employer to assist in this ongoing effort?

This form is provided as a service to workers' compensation insurers by the Department of Consumer and Business Services, Oregon Occupational Safety and Health Division (OR-OSHA). Photocopying is permitted.

APPENDIX B

Instructions for Computing Lost Workday Case Incident Rates (LWDCIR) for and Individual Firm

Incidence rates for an individual establishment or firm may be calculated by employers by using the same formula used to calculate industry-wide incidence rates from the annual Occupational Injury and Illness Survey. An employer may then compare her/his own work injury and illness experience to the overall experience in her/his industry in Oregon or the nation.

The formula requires: (a) the number of lost workday cases, and (b) the number of hours actually worked by all employees during the reference period. To produce an overall incidence rate:

(a) Determine the number of lost workday cases by adding the totals for columns 2 and 9 of the Occupational Injuries and Illnesses Log (OSHA No. 200).

(b) Total the number of hours actually worked during the year by all employees from payroll or other time records. The hours worked figure should not include any non-work time even though paid, such as vacations, sick leave, holidays, etc. (If actual hours worked are not available for employees paid on commission, salary, by the mile, etc., hours worked may be estimated on the basis of scheduled hours or 8 hours per workday.)

The formula for computing the incidence rate is as follows:

(a) Number of lost workday cases x 200,000

= Lost Workday

(b) Employee hours worked Case Incidence

Rate

This rate represents the number of lost workday cases occurring per 200,000 hours of work exposure or 100 full-time equivalent workers. The same base is used in computing the occupational injury and illness rates for Oregon and for the nation.

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**Oregon Administrative Rules
1998 Compilation**

**DEPARTMENT OF CONSUMER AND BUSINESS SERVICES, OREGON
OCCUPATIONAL SAFETY AND HEALTH DIVISION**

DIVISION 2

GENERAL OCCUPATIONAL SAFETY AND HEALTH RULES

General

437-002-0005

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

- (1) **29 CFR 1910.1**, Purpose and scope; published 6/27/74, **Federal Register**, vol. 39, no. 125, pg. 23503.
- (2) **29 CFR 1910.2**, Definitions; published 6/27/74, **Federal Register**, vol. 39, no. 125, pg. 23503.
- (3) **29 CFR 1910.3**, Petitions for the issuance, amendment, or repeal of a standard; published 6/27/74, **Federal Register**, vol. 39, no. 125, pg. 23503.
- (4) **29 CFR 1910.4**, Amendments to this part; published 6/27/74, **Federal Register**, vol. 39, no. 125, pg. 23503.
- (5) **29 CFR 1910.5**, Applicability of standards; published 6/27/74, **Federal Register**, vol. 39, no. 125, pp. 23503-23504; amended 6/30/93, **FR** vol. 58, no. 124, p. 35308.
- (6) **29 CFR 1910.6**, Incorporation by reference; published 6/27/74, **Federal Register**, vol. 39, no. 125, pg. 23504; amended 2/10/84, **FR** vol. 49, no. 29, pg. 5321; amended 3/7/96, **FR** vol. 61, no. 46, p. 9231.
- (7) **29 CFR 1910.7**, Definition and requirements for a Nationally Recognized Testing Laboratory; published 4/12/88, **Federal Register**, vol. 53, no. 70, pp. 12120-12125; and amended 5/11/88, **FR** vol. 53, no. 91, pg. 16838.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 17-1988, f. & ef. 11-10-88; OSHA 4-1997, f. & cert. ef. 4-2-97

Oregon Amendments

437-002-0006

General Oregon Definitions

For the purposes of administration of the Oregon Safe Employment Act, the following terms mean:

- (1) "Act" means the Oregon Safe Employment Act, ORS Chapter 654.
- (2) "Agency" means the Occupational Safety and Health Division, Department of Insurance and Finance.
- (3) "Assistant Secretary" means the Administrator of the Occupational Safety and Health Division or designated representative.
- (4) "Assistant Secretary of Labor for Occupational Safety and Health" means the Administrator of the Occupational Safety and Health Division or designated representative.
- (5) "Office of the Solicitor of Labor" means Legal Counsel for the Occupational Safety and Health Division.
- (6) "Occupational Safety and Health Administration" or "OSHA" means the Oregon Occupational Safety and Health Division, Department of Consumer and Business Services.
- (7) "Standards" mean any occupational safety and health standard which has been adopted and promulgated by a nationally-recognized standards-producing organization, the federal government, or the State of Oregon and shall have the same meaning as, and include, the term "code(s)" and "rule(s)".
- (8) "Administrative Rules" means OAR Chapter 437, Division 001, Rules for the Administration of the Oregon Safe Employment Act, and ORS Chapter 183.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 17-1988, f. & ef. 11-10-88

437-002-0007

Testing and Certification

By adopting these rules, the Department does not establish a testing and certification program separate from the federal OSHA Testing and Certification Program. The Department will accept as valid for compliance with its rules, the Testing and Certifications of Laboratories issued by federal OSHA.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 17-1988, f. & ef. 11-10-88

Adoption and Extension of Established Federal Standards

437-002-0010

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

(1) **29 CFR 1910.11** Scope and Purpose, published 6/27/74, **Federal Register**, vol. 39, no. 125, p. 28504.

(2) **29 CFR 1910.12** Construction work, published 6/27/74, **Federal Register**, vol. 39, no. 125, p. 28504.

NOTE: **29 CFR 1910.13** Ship repairing, and **1910.14** Shipbuilding, were removed 6/30/93, **Federal Register**, vol. 58, no. 124, p. 35308.

(3) **29 CFR 1910.15** Shipyard Employment, published 6/27/74, **Federal Register**, vol. 39, no. 125, p. 28505; amended 6/30/93, **FR** vol. 58, no. 124, p. 35308.

(4) **29 CFR 1910.16** Longshoring, published 6/27/74, **Federal Register**, vol. 39, no. 125, p. 28505; amended 7/5/83, **FR** vol. 48, pg. 30908.

(5) **29 CFR 1910.17** Effective dates, published 6/27/74, **Federal Register**, vol. 39, no. 125, p. 28505; 3/7/96, **FR** vol. 61, no. 46, p. 9235.

(6) **29 CFR 1910.18** Changes in established federal standards, published 6/27/74, **Federal Register**, vol. 39, no. 125, p. 28505.

(7) **29 CFR 1910.19** Special provisions for air contaminants, published 6/30/78, **Federal Register**, vol. 43, p. 28473; amended 10/3/78, **FR** vol. 43, p. 45809; 11/14/78, **FR** vol. 43, p. 53007; 1/26/79, **FR** vol. 44, p. 5447; 6/19/81, **FR** vol. 46, p. 25796; 12/13/85, **FR** vol. 50, p. 51173; 6/20/86, **FR** vol. 51, p. 22733; 10/17/86, **FR** vol. 51, p. 37004; 9/11/87, **FR** vol. 52, p. 34562; 12/4/87, **FR** vol. 52, p. 46291; 8/10/92, **FR** vol. 57, no. 154, pp. 35666-35681; 9/14/92, **FR** vol. 57, no. 178, pp. 42388-42453; 8/10/94, **FR** vol. 59, no. 153, p. 41057; 11/4/96, **FR** vol. 61, no. 214, p. 56831; 1/10/97, **FR** vol. 62, no. 7, p. 1600.

[NOTE: These standards are available at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 16-1988, f. & ef. 11-10-88; OSHA 1-1993, f. & cert. ef. 1-22-93; OSHA 4-1995, f. & cert. ef. 3-29-95; OSHA 4-1997, f. & cert. ef. 4-2-97; OSHA 6-1997, f. & cert. ef. 5-2-97

Access to Employee Exposure and Medical Records

437-002-0015

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below: **29 CFR 1910.20** Access to Employee Exposure and Medical Records has been redesignated to **29 CFR 1910.1020**.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 3-1989, f. & ef. 3-1-89; OSHA 4-1997, f. & cert. ef. 4-2-97

Walking-Working Surfaces

437-002-0020

Adoption by Reference

In addition to and not in lieu of any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

- (1) **29 CFR 1910.21** Definitions, published 6/27/74, **Federal Register**, vol. 39, no. 125, pp. 23505-23508.
- (2) **29 CFR 1910.22** General Requirements, published 6/27/74, **FR** vol. 39, no. 125, p. 23508.
- (3) **29 CFR 1910.23** Guarding Floor and Wall Openings and Holes, published 6/27/74, **FR** vol. 39, no. 125, pp. 23508-23510; amended 10/24/78, **FR** vol. 43, p. 49744; amended 2/10/84, **FR** vol. 49, p. 5321.
- (4) **29 CFR 1910.24** Fixed Industrial Stairs, published 6/27/74, **FR** vol. 39, no. 125, pp. 23510-23511; amended 10/24/78, **FR** vol. 43, p. 49744; amended 2/10/84, **FR** vol. 49, p. 5321.
- (5) **29 CFR 1910.25** Portable Wood Ladders, published 6/27/74, **FR** vol. 39, no. 125, pp. 23510- 23511; amended 10/24/78, **FR** vol. 43, p. 49744; amended 2/10/84, **FR** vol. 49, p. 5321.
- (6) **29 CFR 1910.26** Portable Metal Ladders, published 6/27/74, **FR** vol. 39, no. 125, pp. 23517- 23519; amended 10/24/78, **FR** vol. 43, p. 49745; amended 2/10/84, **FR** vol. 49, p. 5321; amended 8/6/90, **FR** vol. 55, no. 151, pp. 32016-32020.
- (7) **29 CFR 1910.27** Fixed Ladders, published 6/27/74, **FR** vol. 39, no. 125, pp. 23519-23522.
- (8) **29 CFR 1910.28** Safety Requirements for Scaffolding, published 6/27/74, **FR** vol. 39, no. 125, pp. 23522-23529; amended 10/24/78, **FR** vol. 43, p. 49746; amended 2/10/84, **FR** vol. 49, p. 5321; amended 4/12/88, **FR** vol. 53, p. 12121.

(9) **29 CFR 1910.29** Manually Propelled Mobile Ladder Stands and Scaffolds (Towers), published 6/27/74, **FR** vol. 39, no. 125, pp. 23529-23530.

(10) **29 CFR 1910.30** Other Working Surfaces, published 6/27/74, **FR** vol. 39, no. 125, p. 23530; amended 2/10/84, **FR** vol. 49, p. 5322; 3/7/96, **FR** vol. 61, no. 46, p. 9235.

(11) **29 CFR 1910.31** Source of Standards, published 6/27/74, **FR** vol. 39, no. 125, p. 23530; 3/7/96, **FR** vol. 61, no. 46, p. 9235.

(12) **29 CFR 1910.32** Standards Organizations, published 6/27/74, **FR** vol. 39, no. 125, p. 23530; 3/7/96, **FR** vol. 61, no. 46, p. 9235.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 4-1990, f. & cert. ef. 1-23-90; OSHA 4-1997, f. & cert. ef. 4-2-97

437-002-0022

Additional Oregon General Requirements.

(1) Barriers.

(a) Protective barriers or suitable guards shall be erected when covers over openings are removed or excavations made in places accessible to vehicular or pedestrian traffic. Warning lights or flares shall be displayed if work is being done at night. These protective measures shall be maintained until permanent or adequate covers or barricades are in place or the hazard removed.

(b) A watchperson shall be stationed where temporary conditions do not permit safeguarding of employees through the use of warning signs, lights, protective barriers, or covers.

(2) Plant Arrangement.

(a) Provisions for safety (such as adequate work and storage space for the full needs of raw, in-process, and finished materials, and for machinery, equipment and operations) shall be included in plant design, layout, and operation.

(b) A vertical clearance of not less than 6-1/2 feet shall be provided over work areas. Where it is otherwise impractical to secure adequate head room, overhead obstructions may be padded or may be indicated by means of contrasting paint, telltales, or similar means, if such means will furnish adequate protection.

(c) Work platforms provided shall be of sufficient width to provide a safe working space.

(3) Aisles, Passageways, Walkways, Inclines.

(a) Aisles, passageways, and walkways shall be of adequate width for their intended or actual use, and in no event shall they be less than 22 inches wide. Passageways which are elevated more than 4 feet above the ground or floor level shall be provided with standard railings.

(b) Walkways or passageways equipped with standard handrails shall be provided for oilers and other workers who are regularly required to go to elevated or other hazardous locations. Whenever space will permit, they shall be not less than 22 inches wide.

(A) Fixed inclined walkways shall be not less than 22 inches wide, equipped with handrails on each open side, inclined at no greater angle than 24 degrees, and they shall be securely fastened at the top and bottom.

(B) Moveable inclined walkways which extend to floats or floating equipment (except to vessels under Federal jurisdiction) shall be not less than 20 inches wide, and shall be secured at the upper end only with clear space provided for the lower end to adjust automatically with the heights of water.

(d) An adequate anti-slip surface shall be applied to inclined walkways whenever the gradient so warrants. Adequate cleats secured at uniform intervals not to exceed 18 inches, and extending the full width of the walkway when practical, may be used for this purpose.

(e) Inclines extending from floor to floor which are used instead of stairways shall have standard railings in accordance with the requirements for stairways.

(f) Aisles, passageways, walkways, and inclines shall be kept in good repair and shall be free of holes, unevenness, loose boards, protruding nails, or any other unnecessary obstructions or debris.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90; OSHA 6-1994, f. & cert. ef. 9-30-94; Renumbered from 437-002-0022

437-002-0025

Extension Ladders

The following Oregon-initiated rule relate to 29 CFR 1910. 25, **Portable Wood Ladders**: Extension ladders shall be equipped with necessary guide irons, locks, and hooks and have the sections assembled so that the sliding (upper) section shall be on top of the base (lower) section.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

437-002-0028

Guardrails and Toeboards

Guardrails and toeboards shall be installed on all open sides and ends of platforms more than 10 feet above the ground or floor.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

437-002-0030

Floors

The following Oregon-initiated rule relates to 29 CFR 1910.30, **Other Working Surfaces**:

(1) Floors, floor supports, and required appurtenances shall be well maintained and kept in good repair. Defects should be remedied as soon as observed. Unless repaired immediately, hazardous floor openings and holes shall be fenced off or otherwise suitably guarded, and shall remain fenced off or guarded until properly repaired.

(2) Floors subject to slipping hazards due to conditions or processes of an operation or materials to which they will be exposed shall be of material and/or design which will effectively control slippery conditions.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90; OSHA 6-1994, f. & cert. ef. 9-30-94

437-002-0031

Provisions for Window Cleaners

(1) Every window so constructed that a worker must stand on the outside sill or ledge to clean the window and having a sill more than ten feet above the ground or adjoining surface, shall have a sill at least six inches wide with a slope not greater than one to six, and shall have a securely fastened at each side of the window, at a height not less than 42 inches or more than 51 inches, a safety anchorage to which may be fastened a window cleaner's safety belt. Such anchorage shall be of a metal having a corrosion resistance of 60 percent as compared to copper. The anchor shall be machined from bar stock or forged and heat-treated, and shall be capable of supporting a pull of 6,000 pounds without fracture applied in the direction which the anchor must withstand in service should a person fall.

(2) Anchor clearance shall be not less than one inch at either side and not less than five inches above or below the anchor.

(3) All anchors and anchor fastenings shall be provided with means to prevent them from turning, backing off or becoming loose.

(4) Anchor fittings having a single threaded section which is merely screwed into reinforcing plates are prohibited.

(5) Following are acceptable methods of installing anchors in various types of construction. Other methods excepting those specifically prohibited, may be permitted, provided that they furnish at least the equivalent strength and safety:

(a) In wood construction, two through bolts of not less than 3/8 inch diameter shall pass through the entire window frame or mullion to secure each anchor, securely fastened by a washer and nut, the ends of bolts upset to prevent the nuts from loosening or being removed. The use of lag screws is specifically prohibited;

(b)(A) In hollow metal frame construction, the anchor shall be attached by two 3/8 inch diameter bolts which shall pass through the face of the frame and through a 3/8 inch thick steel back-up plate, 3/4 inch wide extending from five inches above the upper bolt to two inches below the lower one. Bolts shall be secured by means of nuts and lock washers or

equivalent means. If impractical to provide nuts and lock washers, the reinforcing plate may be tapped to receive the 3/8 inch bolts, which must pass completely through the plate and be secured with lock washers. If the threaded bolt is an integral part of the anchor, it shall be at least 1/2 inch in diameter and be secured by a nut and lock washer or equivalent means. All screws or bolts used shall have the threads terminate far enough from the head to prevent weakening due to undercutting;

(B) In either solid or hollow aluminum frames, the reinforcing plate and bolts shall be heavily coated with a bituminous paint, and a plastic gasket shall be placed between the anchor and the aluminum metal as a means of preventing electrolytic action between unlike metals; or another acceptable means which will prevent such action may be used.

(c) In solid metal frame construction, anchors shall be attached by two 3/8 inch diameter bolts passed through the frame and secured by nuts and washers on the inside, ends of bolts upset. When this method cannot be used, it will be permissible to drill and tap the metal frame to a depth of at least 3/8 inch and install the anchor with at least two 3/8 inch screws, which shall have the threads terminate far enough from the head to prevent weakening due to undercutting. If the threaded bolt is an integral part of the anchor, it shall be at least 1/2 inch in diameter and be secured by a nut and lock washer, or equivalent means;

(d) In masonry construction, the anchor shall be either a single bolt at least 1/2 inch in diameter, or two 3/8 inch diameter bolts. Such bolt or bolts shall have a head on the inner end and shall be imbedded not less than eight inches in solid masonry, or extend through the wall or mullion and be secured by a nut and lock washer or equivalent means. The use of masonry anchors consisting of flat metal embedded in mortar joints between brick or concrete blocks or stone is prohibited in new or existing buildings.

(6) Where sills are less than six inches wide, auxiliary or portable sills or other means providing equivalent safety may be permitted.

(7) Window cleaners' anchorages shall be inspected regularly and any defects found shall be remedied before workers are permitted to use them.

(8) For buildings constructed, remodeled or renovated on or after the adoption date of this rule the provisions of ANSI/ASME A39.1-1987 shall apply.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

437-002-0032

Ramps and Runways

(1) Ramps and runways shall be substantially constructed, and shall be maintained in safe condition.

(2) Ramps and runways for vehicles shall have adequate width and evenness for safe operation of equipment and they shall be provided with timber guards of not less than nominal six-inch by six-inch material set on nominal three inch blocks, or the equivalent, placed parallel to and secured to the sides of the ramp or runway.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

437-002-0033

Piers and Wharves

(1) Open sides of piers and wharves, more than four feet above ground or water level, shall be provided with a shear or guard timber (bull rail) of not less than six-inch by six-inch wood material set on nominal three-inch blocking, or material of equal strength and of minimum height securely attached. Except for areas where vessels' mooring lines are handled, the open sides not used for loading or unloading purposes shall be provided with standard handrails in addition to shear timbers.

(2) Ladders or other means of access reaching from low water mark to the dock floor shall be provided for each 400 feet or portion thereof of the water side of all wharves and piers. Where portable ladders are used, a secure method of fastening them shall be provided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

Means of Egress

437-002-0040

Adoption by Reference

In addition to and not in lieu of any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

(1) **29 CFR 1910.35** Definitions, published 6/27/74, **Federal Register**, vol. 39, no. 125, pp. 23530-23531; amended 9/12/80, **FR** vol. 45, p. 60703; amended 4/12/88, **FR** vol. 53, p. 12121.

(2) **29 CFR 1910.36** General Requirements, published 6/27/74, **FR** vol. 39, no. 125, p. 23531.

(3) **29 CFR 1910.37** Means of Egress - General, published 6/27/74, **FR** vol. 39, no. 125, pp. 23531-23533; amended 9/12/80, **FR** vol. 45, p. 60703.

(4) **29 CFR 1910.38** Employee Emergency Plans and Fire Prevention Plans, published 9/12/80, **FR** vol. 45, p. 60703.

(5) **29 CFR 1910.39** Sources of Standards, published 6/27/74, **FR** vol. 39, no. 125, pp. 23533; 3/7/96, **FR** vol. 61, no. 46, p. 9235.

(6) **29 CFR 1910.40** Standards Organizations, published 6/27/74, **FR** vol. 39, no. 125, p. 23533; amended 4/28/75, **FR** vol. 40, p. 18426; 3/7/96, **FR** vol. 61, no. 46, p. 9235.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 4-1990, f. & cert. ef. 1-23-90; OSHA 4-1997, f. & cert. ef. 4-2-97

General

437-002-0044

Access and Egress

All counterweights located on or dangerously near passageways or work areas shall be enclosed with a guard which shall extend from the floor or working level to at least midpoint of the counterweight when it is in its highest position, or shall be otherwise guarded to afford equivalent protection; or the area directly below the counterweight shall be effectively barricaded:

- (1) Overhead counterweights which cannot be enclosed or barricaded shall be provided with substantial safety chains or cables, or otherwise secured against falling.
- (2) Safe and adequate access to and egress from all parts of an establishment or operation shall be provided. Means of access or egress shall:
 - (a) Provide a positive protection from or be protected against adjacent hazards by the use of handrails, enclosures, barriers, roofs, or other effective means;
 - (b) Provide a secure treading and supporting surface free from impairment to safe passage (such as slipping, tripping, debris, obstructions, projections);
 - (c) Provide adequate clearance, vertical and lateral, based on potential or actual traffic and use;
 - (d) Be sufficiently illuminated by either natural or artificial sources to render an adequate degree of visibility.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

437-002-0048

Cold Storage Rooms

Every walk-in refrigerator, cooler or freezer designed and constructed to allow persons to enter into it shall have the door latch equipped with hardware which can be opened from the inside at any time without the use of a key or any special knowledge or effort.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

Bins, Bunkers, Hoppers, Tanks and Vats

437-002-0050

General Requirements

- (1) Employees shall not enter bins, bunkers, or hoppers unless they are so constructed and arranged that the employees will not be subject to the hazards of collapsing materials.
- (2) No person shall be permitted to enter bins, bunkers, hoppers, or similar areas containing loose materials (such as chips, sand, grain, gravel, sawdust, etc.) without having a safety belt with lifeline attached, secured to his or her body, and a helper to attend the lifeline, except where no hazard exists.
- (3) Material gates, hopper doors, and similar devices for removing contents on all bins, bunkers, and hoppers shall be so arranged that they may be operated in a safe manner.
- (4) Open bins, bunkers, and hoppers which have upper edges extending less than 36 inches above the floor or other working level shall be equipped with standard hand rails and toeboards, or have their tops covered by a grille or grating of sufficient strength to withstand any load to be imposed upon them, and with openings small enough to prevent a person from falling through.
- (5) Where automotive equipment or other wheeled equipment is used to move materials into open bins, bunkers, and hoppers, guide rails shall be provided along each side of the runway, and a substantial stop not less than nine inches high provided when necessary.
- (6) If persons are required to work from the top of bins, bunkers, or hoppers, a platform or walkway equipped with standard railings shall be provided near the top.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

437-002-0051

Fuel Bins

- (1) Fuel bins shall be provided with adequate exits and all necessary devices to provide safety for employees authorized to enter them.
- (2) Sentry stations or substantially constructed tunnels near the bottom conveyor may be erected for the use of employees in stoking down congested fuel through convenient openings. Pneumatic bottoms, mechanical agitators or scrapers, and similar devices are permitted when properly and safety constructed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

437-002-0052

Tanks and Vats

(1) The sides of open vats and soaking pits containing hazardous liquids, and the sides of all open vats and soaking pits more than four feet in depth shall extend to a height of not less than 42 inches above the floor, working platform or ground level:

(a) The installations which do not meet these requirements shall have standard handrails around them;

(b) The floor around each such pit or vat shall be of non-slip construction with cleated, corrugated, or rough abrasive surface which will retain its non-slip characteristics.

(2) Large vats and soaking pits divided into sections shall be provided with substantial walkways between each section. Each walkway shall be provided with standard railings, removable if necessary.

(3) Elevated tanks, vats, and similar equipment shall be constructed with foundations which are accessible for inspection.

(4) Where employees are required to ascend to elevated platforms on tanks, vats, and similar vessels, or are required to go to the top of such vessel when sides are four feet or more above the ground or other surface, fixed ladders or other means of safe access shall be provided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

437-002-0053

Entering Tanks, Vats and Similar Confined Spaces

(1) "Atmospheres Immediately Dangerous to Life" are defined as those which contain less than 19.0 percent oxygen by volume, or which by reason of high toxicity of the containment, would endanger the life of a person breathing them for even a short period of time.

(2) No person shall enter or work in any tank, or confined space in which the atmosphere is immediately dangerous to life, except under the following conditions:

(a) They shall wear a supplied air or self-contained air breathing apparatus;

(b) He or she shall wear a safety belt with lifeline attached, where practical. Another person, equipped as required in subsection (a) of this section, and with safety belt and lifeline attached, shall be stationed at the opening with adequate help available to remove the person if necessary, and he or she shall hold the safety line when used;

(c) Failure of the person within the enclosure to respond to agreed upon signals shall require immediate rescue action by a person or persons equipped as required in subsections (a) and (b) of this rule;

(d) Air supplied to hose masks and positive pressure air helmets shall be free from harmful dusts, fumes, mists, vapors, or gases to the extent that the inhalation of such air shall not constitute harmful exposure. The air intake to the blower fan or compressor shall be so located as to prevent contamination of the air by carbon monoxide or other hazardous

materials or gases;

(e) Supplied air respiratory equipment shall be equipped with an automatic pressure relief valve, and shall be connected through a pressure reduction valve in the supply line. Maximum allowable pressure, unless otherwise specifically approved, shall be 25 pounds per square inch;

(f) The standard of safety when using positive-pressure air respiratory equipment is the maintenance of positive pressure within the equipment. The minimum volume of air delivered to the user shall not be less than four cubic feet of air per minute for face mask and six cubic feet of air per minute for hoods or helmets.

(3) Oxygen Deficient Atmospheres. The atmosphere in any tank, vat, manhole, vault, blowpit, digester, or similar vessel which has been sealed or unventilated shall be considered as an atmosphere immediately dangerous to life. No person shall enter such enclosure unless:

(a) All requirements for safety equipment and safety procedures required in section (2) of this rule are complied with; or

(b) The atmosphere therein has been tested immediately prior to such entry by a competent person with an oxygen indicator or other suitable device to ensure that it contains sufficient oxygen to sustain life; or

(c) Until mechanical ventilation to provide at least one complete change of uncontaminated air has been provided immediately prior to entry, and is continued during the time the person is inside the enclosure. A safety watcher equipped as required in section (2) of this rule shall be stationed at the entry.

(4) Toxic Atmospheres. No person shall enter any tank or other confined area which has been sealed or unventilated and which contains or has contained toxic materials or gases, unless:

(a) All requirements for safety equipment and safety procedures required in section (2) of this rule are complied with, or the atmosphere has been tested by a competent person using an instrument or method designed for the purpose and has been found to contain contaminants below the threshold limit values of the particular material or gas;

(b) If the atmosphere is found to contain concentrations of hazardous contaminants not immediately dangerous to life, but which is above the threshold limit values for the toxic material, the person entering the enclosure shall wear respiratory protective equipment approved by the National Institute of Occupational Safety and Health, or recommended by the U.S. Department of Agriculture for the existing exposure.

(5) Flammable or Explosive Atmospheres. The atmosphere in any tank or other confined area which has been sealed or unventilated and which contains or has contained combustible or flammable materials or gases shall be considered as an atmosphere immediately dangerous to life:

(a) No person shall enter such enclosure unless all requirements for safety equipment and safety procedures required in section (2) of this rule are complied with, or the atmosphere therein has been tested by a competent person using an instrument or method designed to determine if a flammable or explosive atmosphere is present;

(b) If the atmosphere is found to contain flammable or explosive vapors in concentrations at or above 20 percent of their lower explosive limit, the space shall be ventilated sufficiently to bring the concentration below 20 percent of the lower explosive limit, or only persons equipped and protected in conformity with the requirements of section (3) of this rule shall be permitted to enter the enclosure for the purpose of emergency work, which shall include preparatory work or work involving the setting up of equipment necessary for the gas-freeing operations.

(6) Sufficient natural and/or mechanical means of ventilation shall be provided to maintain the atmosphere within the limits permissible for explosive or toxic materials and gases at all times while persons are inside the enclosure.

(7) When conditions in any tank or other confined area are such that there is a possibility of explosive or toxic materials being released from residues or other sources, additional testing shall be carried on as necessary to determine that the atmosphere has not become immediately dangerous to life. If such conditions do arise, persons shall immediately leave

the contaminated area until the atmosphere has again been made safe for persons wearing the respiratory protective equipment being used.

(8) No person shall enter any tank, vat, or similar confined space which contains power-driven machinery until the provisions of 1910.147 have been complied with.

(9) Intake pipelines which convey hazardous commodities into tanks, vessels, vats, and similar containers shall be adequately blinded or disconnected and disaligned before workers are permitted to enter such enclosures. Blinds, if used, shall clearly indicate whether the line is open or closed. Valves in such lines nearest the containers shall be closed, locked, and warning tags attached thereto. Cold water and air lines need not be blinded or disconnected and disaligned, provided they are equipped with positive control valves conveniently located near the container, and the valves are closed, locked, and properly tagged.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms

437-002-0060

Adoption by Reference

In addition to and not in lieu of any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

(1) **29 CFR 1910.66** Powered Platforms for Building Maintenance, published 6/27/74, **Federal Register**, vol. 39, no. 125, pp. 23533-23537; amended 10/24/78, **FR** vol. 43, p. 49746; amended 2/10/84, **FR** vol. 49, p. 5322; amended 7/28/89, **FR** vol. 54, no. 144, pp. 31456-31477; 3/7/96, **FR** vol. 61, no. 46, p. 9235.

(2) **29 CFR 1910.67** Vehicle-Mounted Elevating and Rotating Work Platforms, published 6/27/74, **FR** vol. 39, no. 125, p. 23537; amended 3/26/75, **FR** vol. 40, p. 13439; amended 8/6/90, **FR** vol. 55, no. 151, pp. 32016-32020; 3/7/96, **FR** vol. 61, no. 46, p. 9235.

(3) **29 CFR 1910.68** Manlifts, published 6/27/74, **FR** vol. 39, no. 125, pp. 23537-23540; amended 10/24/78, **FR** vol. 43, p. 49746; amended 9/29/86, **FR** vol. 51, p. 34560; 3/7/96, **FR** vol. 61, no. 46, p. 9235.

(4) **29 CFR 1910.69** Sources of Standards, published 6/27/74, **FR** vol. 39, no. 125, pp. 23540; 3/7/96, **FR** vol. 61, no. 46, p. 9235.

(5) **29 CFR 1910.70** Standards Organizations, published 6/27/74, **FR** vol. 39, no. 125, p. 23540; amended 3/26/75, **FR** vol. 40, p. 13440; 3/7/96, **FR** vol. 61, no. 46, p. 9236.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 4-1990, f. & cert. ef. 1-23-90; OSHA 4-1997, f. & cert. ef. 4-2-97

Vehicle-Mounted Elevating and Rotating Work Platforms

437-002-0067

Extensible and Articulating Boom Platforms

Clearly visible flashing warning lights shall be operating on all vehicles when using aerial equipment exposed to traffic.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

Proximity to Overhead High Voltage Lines and Equipment

(These Regulations do not Apply to Underground Installations)

437-002-0069

General

No employer shall require or permit any employed to enter or to perform any function in proximity to high-voltage lines, unless danger from accidental contact with said high-voltage lines has been effectively guarded against.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

437-002-0071

Clearance or Safeguards Required

(1) The operation, erection, or transportation of any tools, equipment, or any part thereof capable of movement; the handling, transportation, or storage of any materials; or the moving of any building, near high-voltage lines, is prohibited, if at any time it is possible to bring such object within ten feet of high-voltage lines.

(2) For equipment in transit, on smooth surfaces, the clearance shall be a minimum of four feet for voltages less than 50 kV, ten feet for voltages over 50 kV, up to and including 345 kV, and 16 feet for voltages up to and including 750 kV.

(3) A person shall be designated to observe clearance and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means.

(4) The ten-foot requirement shall not be reduced by movement due to any strains impressed upon the structures supporting the high-voltage line and upon any equipment, fixtures, or attachments thereon.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

437-002-0073

Warning Signs Required

The employer shall post and maintain in plain view of the operator on each crane, derrick, power shovel, drilling rig, hay loader, hay stacker, pile driver, or similar apparatus, any part of which is capable of vertical, lateral, or swinging motion, a durable warning sign legible at 12 feet reading "Unlawful to operate this equipment within 10 feet of high-voltage lines".

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

437-023-0075

Notification to Power Company and Responsibility for Safeguards

(1) When any operations are to be performed, tools or materials handled, equipment is to be moved or operated within ten feet of any high-voltage line, the person or persons responsible for the work to be done shall promptly notify the operator of the high-voltage line of the work to be performed, and shall be responsible for the completion of the safety measures as required before proceeding with any work which would impair the aforesaid clearance.

(2) This section when applied to railway systems, shall be construed as permitting operation of standard rail equipment, which is normally used in the transportation of freight and/or passengers, and the operation of relief trains, or other equipment in emergencies, at a distance of less than ten feet from any high-voltage conductor; but shall be construed as prohibiting normal repair or construction operations at a distance of less than ten feet from any high-voltage conductor by other than properly qualified and authorized persons or employees under the direct supervision of any authorized person who is familiar with the hazards involved, until the safety provisions of the foregoing sections have been complied with.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & cert. ef. 1-23-90

Occupational Health and Environmental Control

437-002-0080

Adoption by Reference

In addition to and not in lieu of any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

(1) **29 CFR 1910.94** Ventilation, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 5/28/75, **FR** vol. 40, p. 24522; 6/9/75, **FR** vol. 40, p. 24522; 10/24/78, **FR** vol. 43, p. 49746; 2/10/84, **FR** vol. 49, p. 5322; 8/6/90, **FR** vol. 55, no. 151, p. 32015; 6/30/93, **FR** vol. 58, no. 124, p. 35308; 3/7/96, **FR** vol. 61, no. 46, p. 9236.

(2) **29 CFR 1910.95** Occupational Noise Exposure, published 6/27/74, **Federal Register**, vol. 30, p. 23502; amended 1/16/81, **FR** vol. 46, p. 4161; 12/29/81, **FR** vol. 46, p. 62845; 3/8/83, **FR** vol. 48, p. 9776; 6/28/83, **FR** vol. 48, p. 29687; 6/7/89, **FR** vol. 54, p. 24333; 3/7/96, **FR** vol. 61, no. 46, p. 9236. **29 CFR 1910.96** Ionizing radiation has been redesignated to **29 CFR 1910.1096**.

(3) **29 CFR 1910.97** Nonionizing radiation, published 6/27/74, **Federal Register**, vol. 39, p. 23502; 3/7/96, **FR** vol. 61, no. 46, p. 9236.

(4) **29 CFR 1910.98** Effective dates, published 6/27/74, **Federal Register**, vol. 39, p. 23502.

(5) **29 CFR 1910.99** Sources of standards, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 5/28/75, **FR** vol. 40, p. 23073; 6/11/82, **FR** vol. 47, p. 25323; 3/7/96, **FR** vol. 61, no. 46, p. 9236.

(6) **29 CFR 1910.100** Standards organization, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 4/18/75, **FR** vol. 40, p. 18426; 6/30/93, **FR** vol. 58, no. 124, p. 35309; 3/7/96, **FR** vol. 61, no. 46, p. 9236.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & ORS 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 2-1992, f. 2-6-92, cert. ef. 5-1-92; OSHA 4-1993, f. 4-1-93, cert. ef. 5-1-93; OSHA 4-1997, f. & cert. ef. 4-2-97

Ventilation

437-002-0081

Oregon Ventilation Regulations

In addition to, and not in lieu of 29 CFR 1910.94, the following rules pertaining to ventilation apply in Oregon:

(1) Definitions:

(a) "Administrative Control" means the reduction of employee exposure to physical or chemical agents by control of the time of exposure to some period less than eight hours in length;

(b) "Harmful" or "Hazardous" as applied to the health effects of dusts, fumes, vapors, mists, gases, or any environmental condition, means any mechanical, infectious, toxic, or other action which is likely to produce medically determined injury or disease of exposed workers;

(c) "Health Hazard Control Measure" means the equipment or working arrangements designed to prevent the exposure of employees to harmful or hazardous situations. Such control measures may include, but are not limited to:

- (A) Ventilation systems;
- (B) Energy absorption system;
- (C) Personal protective equipment;
- (D) Air contaminant monitoring; and
- (E) Human biological monitoring.

(d) "Local Exhaust System" means a system of hoods, booths, or enclosures designed to remove contaminants at points of generation or release into the atmosphere connected by means of piping to airflow or suction producing equipment;

(e) "Occupational Health Hazard" means those materials, processes, and atmospheric contaminants or energy concentrations which during normal or abnormal working conditions are likely to result in injury or illness to the unprotected employee;

(f) "Ventilation, Dilution" means ventilation provided to dilute the concentration of atmospheric contaminants in the atmosphere in all or part of the place of employment;

(g) "Ventilation, General" means the provision of fresh air at the place of employment;

(h) "Ventilation, Local Exhaust" means that the type of ventilation in which suction is applied at the point of generation or release of atmospheric contaminants;

(i) "Ventilation, Natural" means ventilation designed to depend wholly upon relative air density, and includes the use of openable doors, windows, and other building apertures.

(2) Recirculation. No air from any local exhaust system shall be recirculated, unless:

(a) The inert dust contained therein has a Permissible Exposure Limit (PEL) equal to or greater than ten milligrams per cubic meter as listed in Tables Z-1, Z-2, or Z-3 in OAR Chapter 437, Division 2, Subdivision Z, 1910, OAR 437-002-0382, Oregon Rules for Air Contaminants. The inert dust concentration in such recirculated air shall not exceed five milligrams per cubic meter; or

(b) The contaminant contained therein has a Permissible Exposure Limit (PEL) equal to or greater than 100 parts per million as listed in Tables Z-1, Z-2, or Z-3 or OAR Chapter 437, Division 2, Subdivision Z, OAR 437-002-0382, Oregon Rules for Air Contaminants. The contaminant concentration in such recirculated air shall not exceed 25 percent of its PEL; or

(c) The concentrations of contaminants in recirculated air do not exceed 25 percent of unity as calculated by the formula given in Division 2, Subdivision Z, OAR 437-002-0382(4)(b), Oregon Rules for Air Contaminants.

(3) Make-Up Air. Outside air equal in amount to the air removed by local exhaust systems shall be provided to replace air removed by an exhaust ventilation system.

(4) Air Contamination from Exhaust System. The discharge from any exhaust system shall be such that no air contamination therefrom will enter any window, door, or other opening of any work area in quantities sufficient to create a harmful or hazardous work atmosphere.

(5) Use of Salamanders and Fuel-Burning Heating Devices. Salamanders and other fuel-burning heating devices shall not be used in enclosed or inadequately ventilated spaces in which workers are employed unless such heating device is

provided with a proper pipe, chimney, or enclosure to carry hazardous gases to the outside atmosphere.

(6) Local Exhaust Ventilation. The capacity of a local exhaust system shall be calculated on the basis of all hoods, booths, and enclosures connected to the system being open, except where the system is so interlocked that only a portion of it can be operated at a given time, in which case the capacity shall be calculated on the basis that all the hoods in the group requiring the greatest volume rate of exhaust are open.

(7) Exhausting More Than One Substance. Two or more operations involving more than one substance shall not be connected to the same exhaust system when a combination of the substances removed may constitute a fire hazard, or otherwise dangerous mixture.

(8) Exhausting Materials with Flammable Properties. Those processes or operations which require local exhaust ventilation and generate materials with flammable properties shall be protected from sources of ignition.

(9) Removal of Collected Materials. Collected materials shall be removed when necessary so as to maintain effective operation of the local exhaust system at all times.

(10) Disposal of Collected Materials. Collected materials shall be disposed of in a manner which will not result in a hazard.

(11) Requirements for Reduction of Air Contaminant Concentrations. A local exhaust system shall be in operation until all contaminants are reduced to concentrations at or below the Threshold Limit Values when any person is at risk.

(NOTE: 1910.94(a)(6) was NOT adopted by OR-OSHA. In Oregon, OAR 437-002-0081(12) (which references a more current ANSI standard) applies.)

(12) Air supply and air compressors. The air for abrasive-blasting respirators shall be free of harmful quantities of dusts, mists, or noxious gases, and shall meet the requirements for air purity set forth in ANSI Z9.2-1979, Fundamentals Governing the Design and Operation of Local Exhaust Systems. The air from the regular compressed air line of the plant may be used for the abrasive-blasting respirator if:

- (a) A trap and carbon filter are installed and regularly maintained to remove oil, water, scale, and odor;
- (b) A pressure reducing diaphragm or valve is installed to reduce the pressure down to requirements of the particular type of abrasive-blasting respirator; and
- (c) An automatic control is provided to either sound an alarm or shut down the compressor in case of overheating.

(NOTE: Oregon did *not* adopt **1910.94(a)(6)**, which references an outdated ANSI standard. Instead, the following Oregon-initiated rule applies. This rule is identical, except that the current ANSI standard is referenced.

(13) Blasting Nozzles. In addition to and not in lieu of the provisions of 1910.94(a)(7), blasting nozzles shall be equipped with a deadman switch or other effective means to prevent hose and nozzle from whipping. A support shall be provided on which the nozzle may be mounted when not in use.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 2-1992, f. 2-6-92, cert. ef. 5-1-92

(NOTE: 1910.95(g)(3) was NOT adopted by OR-OSHA because in Oregon, only CAOH- certified technicians, audiologists, otolaryngologist or physicians may perform audiometric examinations. In Oregon, OAR 437-002-0095 applies:

437-002-0095

Audiometric Testing in Oregon

Audiometric tests shall be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist or physician.

NOTES:

-1- Technicians currently certified by OR-OSHA may continue to use their Oregon certificates until they expire, or until July 1, 1996, whichever occurs first.

-2- In Oregon, free on-site assistance may be obtained from the Consultative Section, Oregon Occupational Safety and Health Division (OR-OSHA), Department of Consumer and Business Services, 350 Winter St NE, Salem, OR 97310. Telephone (503) 378-3272.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1993, f. 4-1-93, cert. ef. 5-1-93

NOTES:

-1- The following Oregon-initiated rule, OAR 437-002-0098, relates to 29 CFR 1910.96, Ionizing Radiation.

-2- The provisions of OAR 437-002-0080(3) and 437-002-0098 will be enforced by the Department of Human Resources, Health Division, under an Interagency Agreement with the Department of Insurance and Finance, Occupational Safety and Health Division (OR-OSHA). Copies are available from OR-OSHA and the Health Division.

437-002-0098

Additional Applicability

In addition to, and not in lieu of **1910.1096**, the rules and regulations specified in ORS 453.605 to 453.745, Control of Radiation, administered by the Department of Human Resources, Oregon Health Division, shall apply to all employees working with or near ionizing radiation sources.

NOTE:§1910.1096, Ionizing Radiation, is enforced in Oregon by the Department of Human Resources, Health Division, under an Interagency Agreement with the Department of Consumer and Business Services, OR-OSHA Division. Oregon-initiated Rule 437-002-0098 also applies and is enforced by the Health Division. Copies are available from OR-OSHA and the Health Division.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 2-1992, f. 2-6-92, cert. ef. 5-1-92; OSHA 6-1994, f. & cert. ef. 9-30-94; OSHA 4-1997, f. & cert. ef. 4-2-97

Hazardous Materials

437-002-0100

Adoption by Reference

In addition to and not in lieu of any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

- (1) **29 CFR 1910.101** Compressed gases (General requirements), published 6/27/74, **Federal Register**, vol. 39, p. 23502; 3/7/96, **FR** vol. 61, no. 46, p. 9236.
- (2) **29 CFR 1910.102** Acetylene, published 6/27/74, **Federal Register**, vol. 39, p. 23502; 3/7/96, **FR** vol. 61, no. 46, p. 9236.
- (3) **29 CFR 1910.103** Hydrogen, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 10/24/78, **FR** vol. 43, p. 49746; 4/12/88, **FR** vol. 53, p. 12121; 8/6/90, **FR** vol. 55, no. 151, p. 32015; 6/30/93, **FR** vol. 58, no. 124, p. 35309; 3/7/96, **FR** vol. 61, no. 46, p. 9236.
- (4) **29 CFR 1910.104** Oxygen, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 10/24/78, **FR** vol. 43, p. 49746; 3/7/96, **FR** vol. 61, no. 46, p. 9237.
- (5) **29 CFR 1910.105** Nitrous oxide, published 6/27/74, **Federal Register**, vol. 39, p. 23502; 3/7/96, **FR** vol. 61, no. 46, p. 9237.
- (6) **29 CFR 1910.106** Flammable and combustible liquids, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 1/27/75, **FR** vol. 40, p. 3982; 6/2/75, **FR** vol. 40, p. 23743; 10/24/78, **FR** vol. 43, p. 49746; 11/7/78, **FR** vol. 43, p. 51759; 9/7/82, **FR** vol. 47, p. 39164; 9/12/86, **FR** vol. 51, p. 34560; 4/12/88, **FR** vol. 53, p. 12121; 8/6/90, **FR** vol. 55, no. 151, p. 32015; 3/7/96, **FR** vol. 61, no. 46, p. 9237.
- (7) **29 CFR 1910.107** Spray finishing using flammable and combustible materials, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 9/12/80, **FR** vol. 45, p. 60704; 2/10/84, **FR** vol. 49, p. 5322; 4/12/88, **FR** vol. 53, p. 12121; 3/7/96, **FR** vol. 61, no. 46, p. 9237.
- (8) **29 CFR 1910.108** Dip tanks containing flammable or combustible liquids, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 9/12/80, **FR** vol. 45, p. 60704; 2/10/84, **FR** vol. 49, p. 5322; 4/12/88, **FR** vol. 53, p. 12121; 3/7/96, **FR** vol. 61, no. 46, p. 9237.
- (9) **29 CFR 1910.109** Explosives and blasting agents, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 10/24/78, **FR** vol. 43, p. 49747; 9/12/80, **FR** vol. 45, p. 60704; 4/12/88, **FR** vol. 53, p. 12122; 2/24/92, **FR** vol. 57, no. 36, p. 6403; 3/29/93, **FR** vol. 58, no. 58, p. 16496; 6/30/93, **FR** vol. 58, no. 124, p. 35309; 3/7/96, **FR** vol. 61, no. 46, p. 9237.
- (10) **29 CFR 1910.110** Storage and handling of liquified petroleum gases, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 10/24/78, **FR** vol. 43, p. 49747; 2/10/84, **FR** vol. 49, p. 5322; 4/12/88, **FR** vol. 53, p. 12122; 6/20/90, **FR** vol. 55, p. 25094; 8/6/90, **FR** vol. 55, no. 151, p. 32015; 3/19/93, **FR** vol. 58, no. 52, p. 15089; 6/30/93, **FR** vol. 58, no. 124, p. 35309; 3/7/96, **FR** vol. 61, no. 46, p. 9237.
- (11) **29 CFR 1910.111** Storage and handling of anhydrous ammonia, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 10/24/78, **FR** vol. 43, p. 49748; 2/10/84, **FR** vol. 49, p. 5322; 4/12/88, **FR** vol. 53, p. 12122; 3/7/96, **FR** vol. 61, no. 46, p. 9238.
- (12) Reserved for **29 CFR 1910.112** (Reserved)
- (13) Reserved for **29 CFR 1910.113** (Reserved)

(14) **29 CFR 1910.114** Removed. Published 3/7/96, **Federal Register**, vol. 61, no. 46, p. 9238.

(15) **29 CFR 1910.115** Removed. Published 3/7/96, **Federal Register**, vol. 61, no. 46, p. 9238.

(16) **29 CFR 1910.116** Removed. Published 3/7/96, **Federal Register**, vol. 61, no. 46, p. 9238.

(17) **29 CFR 1910.119** Process safety management of highly hazardous chemicals, published 2/24/92, **Federal Register**, vol. 57, no. 36, pp. 6403-6417; amended 3/4/92, **FR** vol. 57, no. 43, p. 7847; 6/1/92, **FR** vol. 57, no. 105, pp. 23060-1. (NOTE: Excepted rules adopted by reference by OR-OSHA by Admin. Order 6-1994 on 9/30/94.) Amended 3/7/96, **FR** vol. 61, no. 46, p. 9238.

(18) **29 CFR 1910.120** Hazardous waste operations and emergency response, Interim Final Rules published 12/19/86, **Federal Register**, vol. 51, no. 244, pp. 45663-45675; and amended 5/5/87, **FR** vol. 52, no. 85, pp. 16241-16243. Final Rules were published 3/6/89, **FR** vol. 54, no. 42, pp. 9294-9335; amended 4/13/90, **FR** vol. 55, no. 72, pp. 14072-14075; 4/18/91, **FR** vol. 56, no. 75, pp. 15832-15833; amended 8/22/94, **FR** vol. 59, no. 161, pp. 43270-43275; 3/7/96, **FR** vol. 61, no. 46, p. 9238.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 19-1988, f. & ef. 11-17-88; APD 12-1989, f. & ef. 7-14-89; OSHA 22-1990, f. 9-28-90, cert. ef. 10-1-90; OSHA 3-1992, f. & cert. ef. 2-6-92; OSHA 3-1993, f. & cert. ef. 2-23-93; OSHA 6-1994, f. & cert. ef. 9-30-94; OSHA 3-1995, f. & cert. ef. 2-22-95; OSHA 4-1997, f. & cert. ef. 4-2-97

Spray Finishing Using Flammable or Combustible Materials

Oregon Initiated Rules

437-002-0101

Oregon Start-Up Dates

29 CFR 1910.120, **Hazardous Waste Operations and Emergency Response - Final Rules**, is effective on July 14, 1990.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 19-1988, f. & ef. 11-17-88; APD 12-1989, f. & ef. 7-14-89

437-002-0107

Spray Finishing

(1) Location and Application:

(a) Spray finishing shall be conducted in a spray room or booth provided with local exhaust ventilation except:

(A) When spraying is infrequent and of short duration; or

(B) When spraying is a single "air brush"; or

(C) The object to be sprayed is of such weight or proportion as to render it impracticable to move it into a spray area; or

(D) When spray painting is conducted out of doors.

(b) Spray finishing outside of a booth or room, as permitted by paragraph (1)(a)(C) of this rule, shall be done only after the following provisions have been met:

(A) All light switches, fans, receptacles, overhead lights and all other sources of ignition within 20 feet of the spraying and overspray area shall be rendered inoperative or shall consist of Class I, Group D, explosion proof types as specified in the National Electrical Code, NFPA 33-1989 and ANSI C2-1990;

(B) All building construction including floors, walls, ceilings, beams, etc., within 20 feet of the spraying and overspray area shall consist of or be protected by noncombustible materials;

(C) All areas within 20 feet of the spraying and overspray area shall be protected by automatic sprinklers. Where automatic sprinklers are not available, other automatic extinguishing equipment shall be provided;

(D) Aisles leading to exits from the spray finishing area shall be maintained clear at all times;

(E) Employees not engaged in the spray finishing operation shall not be permitted within 20 feet of the spraying and overspray area;

(F) Employees engaged in spray finishing operations shall be provided with and wear respiratory protection unless exhaust ventilation has been provided and shown to reduce employee exposure to any material in the finish or its solvent to below the limits established in OAR 437-002-0382, Oregon Rules for Air Contaminants, in Division 2/Z. Respirators and their maintenance shall meet all of the requirements of 29 CFR 1910.134, Respiratory Protection, in Division 2/I;

(G) No combustible residues, paints, masking materials or other combustible material, except as specified in paragraph (1)(b)(B) of this rule, shall be stored or allowed to accumulate in the spraying and overspray area. The spraying and overspray area shall be given daily housekeeping and maintenance while in use and it shall be left free of any accumulations between uses;

(H) Whenever possible spray finishing shall be conducted with maximum effective general or local exhaust ventilation and/or when the least number of employees are on the job. Such conditions may result when:

(i) Ventilation systems in other areas of the plant are shut down to maximize the efficiency of the spraying and overspray area exhaust system; or

(ii) Doors may be opened to provide general ventilation; or

(iii) At the end of the work shift or during the work shift which has the least number of employees.

(2) Design and Construction of Spray Rooms:

(a) All spray rooms, including floors, shall be designated, constructed and maintained to meet the minimum State of Oregon Uniform Building Code fire resistive classification of at least one hour;

(b) In addition to, and not in lieu of, the provisions in 29 CFR 1910.94(c)(6)(ii), spray rooms shall have a minimum of 30 air changes per hour.

(3) Velocity and Air Flow Requirements. In addition to, and not in lieu of, the provisions in 29 CFR 1910.94, Table G-10, Minimum Maintained Velocities into Spray Booths, a "small booth" has a face area of less than six square feet and a "large booth" has a face area of six square feet or larger.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 2-1992, f. 2-6-92, cert. ef. 5-1-92

NOTES:

-1- Oregon did *not* adopt the following in 1910.109, Explosives and Blasting Agents:

(a) Tables H-21 and H-22, and their respective Notes; and

(b) The Definition of "magazine" in 1910.109(a)(6).

In Oregon, OAR 437-002-0109, Table OR-H-21 and OR-H-22, and their respective Notes, apply. Also, the definition of "magazine" in Note 5 of OR-H-21 applies.

-2- The following Oregon-initiated rules relate to 29 CFR 1910.109, Explosives and Blasting Agents.

437-002-0109

Explosives and Blasting Agents

(1) Blasting and Use of Explosives:

(a) Smoking, firearms, matches, open flame lamps, fires and flame or spark producing devices shall be prohibited in any explosive magazine or within a radius of 100 feet thereof, and with 100 feet of where explosives are being handled, transported, or used;

(b) All blasts shall be fired electronically with an electric blasting machine or properly designed electric power sources, except as provided in sections of this rule;

(c) All explosives shall be accounted for at all times. Explosives not being used shall be kept in a locked magazine, unavailable to persons not authorized to handle them. The employer shall maintain an inventory and use records of all explosives. Appropriate authorities shall be notified of any loss, theft, or unauthorized entry into a magazine;

(d) The preparation of primers shall be done in a safe place, well away from fire, possible sparks, magazines or powder boxes. Where practical to do so, primers should be prepared at the point of use and immediately placed in the bore hole.

(2) Recordkeeping and Loading:

(a) The blaster shall keep an accurate, up-to-date records of explosives, blasting agents, and blasting supplies used in a blast and shall keep an accurate running inventory of all explosives and blasting agents stored on the operations;

(b) No explosives or blasting agents shall be left unattended at the blast site. No loaded holes shall be left unattended or unprotected. All loaded holes shall be fired before leaving the blast site.

(3) Electric Firing. Flashlight batteries shall not be used when firing a circuit of electric blasting caps. The electric current delivered to the charge shall meet the manufacturer's recommended level.

(4) Locks. Each door shall be equipped with two mortise locks; with two padlocks fastened in separate hasps and staples; with a combination or mortise lock and padlock; with a mortise lock that requires two keys to open; or a three-point lock. Locks shall be five-tumbler proof. All padlocks shall be protected with 1/4-inch steel caps constructed so as to prevent sawing or lever action on the locks or hasps.

(5) Cap Boxes. Storage facilities for blasting caps in quantities of 100 or less shall have sides, bottoms, and covers constructed of No. 12-gauge metal and lined with a nonsparking material. Hinges and hasps shall be attached thereto by welding. A single five-tumbler proof lock shall be sufficient for locking purposes.

NOTES:

-1- Use the American Table of Distances for Storage of Explosive Materials to determine safe distances from inhabited dwellings, highways, passenger railways, and between explosive materials magazines.

-2- Use the appendix, Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents, to determine non-propagating distances to ammonium nitrate fuel oil (ANFO) blasting agents and to ammonium nitrate.

-3- Use the greater of the distances shown in the American Table of Distances and in the Table of Recommended Separation Distances to determine the required separation between a magazine for storage of explosives and a magazine for storage of blasting agents.

(6)(a) Table of Distances. The provisions contained in Table 21 are in lieu of the provisions contained in 29 CFR 1910.109, Table H-21, American Table of Distances for Storage of Explosives. Related Notes are printed following the table for clarity in using Table OR-H-21;

(b) Table of Recommended Separation Distances. The provisions contained in Table 22 are in lieu of the provisions contained in 29 CFR 1910.109, Table H-22, Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents. Related notes are printed following the table for clarity in using Table OR-H-22.

[Publications: The publication(s) and Tables referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 2-1992, f. 2-6-92, cert. ef. 5-1-92

437-002-0118

Reinforced Plastics Manufacturing

(1) Applicability. If a specific type of equipment, process or practice is *not* limited to the reinforced plastics industry, the provisions contained in other Divisions of OAR Chapter 437, Oregon Occupational Safety and Health Code, shall apply.

(2) Scope:

(a) These rules shall apply to reinforced plastics manufacturing operations, in their shop buildings (not field work) involving the use of polyester, vinylester, and other similar products in which styrene monomer is a reactive monomer

for the resin. This division applies to chopper gun, gelcoating, hand laminating and casting operations utilizing resin and organic peroxide catalyst;

(b) This division does *not* apply to:

(A) Application of flammable organic materials such as acetone, methyl ethyl ketone (MEK), either alone or mixed as flammable or combustible paints or diluents;

(B) Operations, involving polyurethane finishes or foams utilizing isocyanate catalysts;

(C) Operations involving epoxy resin compounds utilizing amine hardeners; or

(D) Cleaning of chopper guns, lines, and associated equipment in which acetone, MEK, or other flammable or combustible organic solvents are sprayed into the open air as part of the cleaning process.

(3) Definitions. The following definitions shall apply to this rule:

(a) "Chopper Gun" A device that feeds fiberglass rovings through a chopper and ejects them into a stream of resin and organic peroxide catalyst onto a mold surface. The resin and organic peroxide catalyst are combined and ejected from the chopper gun by either one of two systems:

(A) One nozzle ejects resin while another nozzle ejects organic peroxide catalyst towards the mold surface; or

(B) The resin and organic peroxide catalyst are fed into a single chopper gun mixing chamber ahead of the nozzle.

NOTE: By either method, the resin mixture precoats the strands of glass and the merged product is directed onto a mold surface by the operator.

(b) "Combustible" Any substance having a flashpoint at or above 100° F. (37.8° C.). Combustible substances shall be divided into two classes:

(A) Class II - Substances with flashpoints at or above 100° F. (37.8° C.) and below 140° F. (60° C.) except any mixture having components with flashpoints of 200° F. (93.3° C.) or higher, the volume of which make up 99 percent or more of the total volume of the mixture;

(B) Class III - Substances with flashpoints at or above 140° F. (60° C.).

(c) "Flammable" Any substance having a flashpoint below 100° F. (37.8° C.). Flammable liquids shall be known as Class I liquids;

(d) "Flashpoint" The minimum temperature at which a liquid gives off vapor within a test vessel in sufficient concentration to form an ignitable mixture shall be determined as follows:

(A) For a liquid which has a viscosity of less than 45 Saybolt Universal Seconds (SUS) at 100° F. (37.8° C.), does not contain suspended solids, and does not have a tendency to form a surface film while under test, the procedure specified in the standard method of test for flashpoint by tag closed tester (ASTM D-56-70) shall be used;

(B) For a liquid which has a viscosity of 45 SUS or more at 100° F. (37.8° C.), or contains suspended solids, or has a tendency to form a surface film while under test, the standard method of test for flashpoint by Pensky-Marlen's Closed Tester (ASTM D-93-71) shall be used, except that the methods specified in Note 1 to Section 1.1 of ASTM D-93-71 may be used for the respective materials specified in the Note;

(C) For a liquid that is a mixture of compounds that have a different volatilities and flashpoints, its flashpoint shall be determined by using the procedure specified in subsection (4)(a) or (b) of this definition on the liquid in the form it is shipped. If the flashpoint, as determined by this test, is 100° F. (37.8° C.) or higher, an additional flashpoint determination shall be run on a sample of the liquid evaporated to 90 percent of its original volume and the lower value of the two tests shall be considered the flashpoint of the material;

(D) Organic peroxide catalysts are excluded from any of the flashpoint determination methods specified in this section.

(e) "Gelcoating" A chopper gun pressure pot or similar device is used to apply the resin and organic peroxide catalyst mixture to a mold surface without glass fibers;

(f) "Hand Laminating" Resin is mixed with organic peroxide catalyst and applied by hand with a brush, squeegee, or roller with fiberglass reinforcements;

(g) "Hazard" A substance, process, practice or condition which could result in an injury or illness to an employee;

(h) "Resin" A mixture of true esters dissolved in a polymerizable monomer (styrene);

(i) "Threshold-Limit Value Short Term Exposure Limit (TLV-STEL)" The maximum concentration to which workers continuously without suffering from irritation, chronic or irreversible tissue change, or narcosis of sufficient degree to increase accident proneness, impair self-rescue, or materially reduce work efficiency, provided that no more than four excursions per day are permitted, with at least 60 minutes between exposure periods, and provided that the daily TLV-TWA also is not exceeded. The STEL should be considered a maximum allowable concentration, or ceiling, not to be exceeded at any time during the 15-minute excursion period.

(4) Permissible Exposure Limits:

(a) An employee's exposure to any material listed in **Table 1**, in any eight-hour work shift of a 40-hour work week, shall not exceed the eight-hour time-weighted average limit for that material in the table;

(b) An employee's exposure to a material listed in **Table 1** shall not exceed, at any time during an eight-hour shift, the TLV-STEL level given for the material in the table, except for a time period, and up to a concentration not exceeding the maximum duration and concentration allowed in the column under "Acceptable Maximum Peak";

(c) Employee exposure to other airborne contaminants shall be in accordance with OAR Chapter 437, Division 2, Subdivision Z, 1910.1000, Air Contaminants, and/or other applicable regulations.

NOTE: In the Oregon Rules for Reinforced Plastics Manufacturing, Table OR-118-1, Permissible Exposure Limits, in OAR 437-002-0118(4), has been revised to reflect the current limits in OAR 437-002-0382, Oregon Rules for Air Contaminants, which were adopted on 11/15/93 in lieu of 1910.1000, Air Contaminants.

(5) Methods of Compliance:

(a) To achieve compliance with section (4) of this rule, Permissible Exposure Limits, administrative or engineering controls must first be determined and implemented whenever feasible;

(b) When such controls are not feasible to achieve full compliance, protective measures as prescribed in OAR Chapter 437, Division 129, Personal Protective Equipment, Apparel, and Respirators shall be used to keep the exposure of employees to airborne contaminants within the limits prescribed in this rule.

(6) Employee Information and Training. A training program shall be established and all affected employees shall be trained regarding the safe handling of materials used in the industry which shall include instruction in storage, handling large and small quantities, cleanup and disposal of spills, first aid for spills, equipment training, potential health and safety hazards, personal hygiene, personal protective measures, and the labelling system.

(7) Personal Protective Equipment:

(a) Safety glasses shall be worn at all times by personnel working in the manufacturing area of reinforced plastics plants;

(b) Face shields and safety glasses shall be worn when opening and filling pressurized catalyst injection equipment;

(c) An eyewash fountain shall be provided no more than 25 feet or 15 seconds of actual travel from a work area where MEK peroxide is being mixed or transferred:

(A) The criteria of 25 feet shall apply if the employee is working alone;

(B) The criteria of 15 seconds shall apply if other employees are close enough under normal working conditions to provide assistance and a formal training program which includes emergency first aid procedures for eye protection has been implemented.

(d) Clothing saturated or impregnated with flammable liquids, corrosive or toxic substances, irritants, or oxidizing agents, that present a health hazard to employees shall be removed and disposed of, or properly cleaned before reuse; however, clothing coated with cured resin may be worn.

(8) Warning Signs and Labels:

(a) The hazardous chemical or material identification labels shall be placed on all containers of hazardous chemicals. Labels are not required on small containers of hazardous chemicals which are scheduled for use and disposal within one workshift. Keys explaining the labelling system shall be prominently posted in the workplace. Employees shall be trained in reading the labels;

(b) Where extreme occupational health hazards are known to exist in the workplace, the employer shall provide warning signs or other equally effective means of calling attention to such hazards at the location where the hazards exist.

(9) Housekeeping:

(a) Housekeeping shall be sufficient to keep accumulations of combustible residues to a minimum as practical;

(b) All combustible and flammable residues shall be placed in covered noncombustible containers;

(c) To prevent excessive permanent buildup of overspray and overchop, the use of paper, polyethylene film, building or roofing paper or other similar sheet material shall be permitted on side walls and floors of choppergun and gelcoat areas:

(A) When the accumulated depth of overchop and/or gelcoat has reached an average thickness of two inches in the overspray area, it shall be disposed of after at least four hours curing;

(B) A single day's accumulation of more than an average of two inches shall be permitted provided it is disposed of before operations are resumed the next day.

(d) Excess catalyzed resin inside a building shall be disposed of in open-topped containers provided with bar screens, large mesh wire screens, or other means, to support individual containers across its top through which surplus catalyzed resin can be poured and upon which empty containers that once held catalyzed resin can be placed to cure. The open-topped containers shall contain water at least two inches deep in which the resin shall be poured and permitted to cure in a safe fashion. Containers can be used until filled with setup resin and disposed of along with other nontoxic waste.

(10) Hygiene Facilities and Practices. If acetone is used directly on the skin to clean hands, barrier or a therapeutic cream must be made available to the employee. Gloves shall be provided should any employee wish additional protection.

(11) Storage and Handling of Flammable and Combustible Materials:

(a) The storage and handling of acetone and other Class I and II liquids for cleanup and gun flushing shall be subject to the following requirements:

(A) Class I and II solvents shall be kept in containers that are covered during storage;

(B) Areas within the shop where acetone or other Class I solvents are transferred into containers less than five gallons each shall be considered Class I, Division I areas for a five-foot radius around the point of transfer, and Class, Division 2, for an additional five feet outside of the area; and

(C) "Dirty" acetone in small individual cleanup containers of less than five gallons each may be handled by pouring into a large container suitable for disposal or recycling which shall be kept covered.

(b) The following subsections shall apply to chopper gun or gelcoating areas:

(A) Areas where flammable and combustible liquids are used, shall be protected by automatic sprinklers or equivalent extinguishing systems. If a special extinguishing system including, but not limited to, those employing foam, carbon dioxide, or dry chemical, is provided, approved equipment shall be used and installed in an approved manner;

(B) Exhaust fans mounted four feet or less, as measured from the invert (bottom) of the duct above the floor, shall have nonsparking fan blades, and

(i) A motor mounted external to the air stream in a non-explosive atmosphere. The fan shall be driven by an interconnecting belt;

(ii) Those fans having air suction ducts four feet or less above the floor shall comply with subsection (2)(b) of this rule.

(C) Exhaust fans mounted more than four feet above the floor shall have nonsparking fan blades;

(D) All other electrical equipment in chopper gun or gelcoating operations must conform to the requirements of National Fire Protection Association (NFPA) 33-1989.

(c) Acetone and other Class I liquids shall be transferred only through a closed piping system from a safety can by means of a device drawing through the top of from a container or portable tank by gravity through an approved self-closing valve. The nozzle and container shall be electrically interconnected;

(d) Acetone shall be kept in covered containers when not in use;

(e) Special input and exhaust ventilation shall be provided where employees must be inside or under the item being fabricated (e.g., inside a pipe or boat hull or under a large fabricated shape) to keep air concentrations of hazardous and/or flammable or combustible materials at or below 25 percent of the lower explosive limit and employee exposure at or below the permissible exposure limit;

(f) Areas where flammable and combustible materials are handled shall either be posted with "No Smoking" signs, or smoking shall be prohibited throughout plant, manufacturing and storage areas;

(g) Storage and handling of flammable and combustible materials not addressed in these rules shall meet the requirements of OAR Chapter 437, Division 2, Subdivision H, 1910.106, Flammable and Combustible Liquids.

(12) Storage and Handling of Organic Peroxide Catalysts:

(a) Organic peroxide catalysts shall be isolated and stored in their original containers in a cool place under 100° F. (37.8° C.), away from other combustible or flammable materials and ignition sources;

(b) Organic peroxide catalyst containers shall be covered or kept closed at all times;

(c) Organic peroxide catalysts shall be brought into the area of use in no more than two consecutive days' supply;

(d) Larger than eight-pound containers or organic peroxide catalyst shall not be permitted outside designated catalyst storage areas, except for hand layup operations or for filling the catalyst reservoir of chopper gun and gelcoat equipment;

(e) When organic peroxide catalyst is being poured into the catalyst reservoir of chopper gun and gelcoat equipment, the catalyst container shall be equipped with a special curved pouring spout or other device which directs the catalyst into the reservoir without splashing:

(A) A supply of water of not less than one gallon shall be permanently installed on the chopper gun or gelcoat apparatus to wet down any catalyst spills which may occur due to overfilling. Catalyst spills shall be absorbed in accordance with the manufacturer's recommendations;

(B) Immediately after filling the chopper gun or gelcoat apparatus with catalyst, the empty or partially filled catalyst container shall be removed immediately before commencement of any other operation.

(13) Fire Protection. Areas where flammable and combustible materials are handled shall either be posted with "No Smoking" signs, or smoking shall be prohibited throughout plant, manufacturing and storage areas.

(14) Ventilation:

(a) Special input and exhaust ventilation shall be provided where employees must be inside or under the item being fabricated (e.g., inside a pipe or boat hull or under a large fabricated shape) to keep air concentrations of hazardous and/or flammable or combustible materials at or below 25 percent of the lower explosive limit and employee exposure at or below the permissible exposure limit;

(b) During cleanup and gun flushing with acetone or other Class I and II liquids, sufficient ventilation shall be provided to maintain air concentrations below 25 percent of the lower explosive limit (LEL) and employee exposure at or below the permissible exposure limit;

(c) Where acetone and Class I solvents are used in physical operations (e.g., mixing) there shall be a minimum ventilation rate of one cubic foot per minute per square foot or floor area in the immediate work area.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 2-1992, f. 2-6-92, cert. ef. 5-1-92; OSHA 6-1994, f. & cert. ef. 9-30-94

437-002-0119

Oregon Effective Dates

(1) Information pertaining to the equipment in the process shall include material and energy balances for processes built after November 24, 1992.

(2) The employer shall perform an initial process hazard analysis (hazard evaluation) on processes covered by this standard. The process hazard analysis shall be appropriate to the complexity of the process and shall identify, evaluate, and control the hazards involved in the process. Employers shall determine and document the priority order for conducting process hazard analyses based on a rationale which includes such considerations as extent of the process hazards, number of potentially affected employees, age of the process, and operating history of the process. The process hazard analysis shall be conducted as soon as possible, but not later than the following schedule:

(a) No less than 25 percent of the initial process hazards analyses shall be completed by November 24, 1994;

(b) No less than 50 percent of the initial process hazards analyses shall be completed by November 24, 1995;

- (c) No less than 75 percent of the initial process hazards analyses shall be completed by November 24, 1996;
 - (d) All initial process hazard analyses shall be completed by November 24, 1997;
 - (e) Process hazards analyses completed after November 24, 1987, which meet the requirements of this paragraph are acceptable as initial process hazards analyses. These process hazard analyses shall be updated and revalidated, based on their completion date.
- (3) In lieu of initial training for these employees already involved in operating a process on November 24, 1992, an employer may certify in writing that the employee has the required knowledge, skills, and abilities to safely carry out the duties and responsibilities as specified in the operating procedures.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 8-1992, f. 8-13-92, cert. ef. 11-24-92; OSHA 3-1993, f. & cert. ef. 2-23-93; OSHA 6-1994, f. & cert. ef. 9-30-94

Personal Protective Equipment

437-002-0120

Adoption by Reference

In addition to and not in lieu of any other health and safety codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

- (1) **29 CFR 1910.132** General requirements, published 6/27/74, **Federal Register**, vol. 39, p. 23502, amended 6/30/93, **FR** vol. 58, no. 124, p. 35306; 4/6/94, **FR** vol. 59, no. 66, p. 16360.
- (2) **29 CFR 1910.133** Eye and face protection, published 6/27/74, **Federal Register**, vol. 39, p. 23502; 4/6/94, **FR** vol. 59, no. 66, p. 16360; 3/7/96, **FR** vol. 61, no. 46, p. 9238; 5/2/96, **FR** vol. 61, p. 19547.
- (3) **29 CFR 1910.134** Respiratory protection, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 10/24/78, **FR** vol. 43, p. 49748; 2/10/84, **FR** vol. 49, p. 5322; 4/30/84, **FR** vol. 49, p. 18295; 6/30/93, **FR** vol. 58, no. 124, p. 35309.
- (4) **29 CFR 1910.135** Occupational head protection, published 4/6/94, **Federal Register**, vol. 59, no. 66, p. 16362; 3/7/96, **FR** vol. 61, no. 46, p. 9238; 5/2/96, **FR** vol. 61, p. 19547.
- (5) **29 CFR 1910.136** Occupational foot protection, published 4/6/94, **Federal Register**, vol. 59, no. 66, p. 16362; 5/2/96, **FR** vol. 61, p. 19547; 3/7/96, **FR** vol. 61, no. 46, p. 9238; 5/9/96, **FR** vol. 61, p. 21228.
- (6) **29 CFR 1910.137** Electrical protective equipment, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 1/31/94, **FR** vol. 59, no. 20, p. 4435-7.
- (7) **29 CFR 1910.138** Hand Protection, published 4/6/94, **Federal Register**, vol. 59, no. 66, p. 16362.
- (8) **29 CFR 1910.139** Removed. Published 3/7/96, **Federal Register**, vol. 61, no. 46, p. 9238.
- (9) **29 CFR 1910.140** Removed. Published 3/7/96, **Federal Register**, vol. 61, no. 46, p. 9238.

(10) Appendices.

(a) Appendix A - References for further information (non-mandatory).

(b) Appendix B - Non-mandatory compliance guidelines for hazard assessment and personal protective equipment selection.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 9-1993, f. 7-29-93, cert. ef. 9-15-93; OSHA 3-1994, f. & cert. ef. 8-1-94; OSHA 3-1997, f. & cert. ef. 3-28-97; OSHA 4-1997, f. & cert. ef. 4-2-97

Oregon Initiated Rules for Personal Protective Equipment

437-002-0123

Additional Oregon General Requirements for Protective Equipment

NOTE: Protective equipment includes shields, barriers, restraints, and equipment for protection of any part of the body.

(1) Appropriate high temperature protective clothing shall be worn by workers who are exposed to possible contact with molten metals.

(2) Where the need for their use is indicated, protective covering, ointments, gloves, or other effective protection shall be provided for and used by persons exposed to materials which are hazardous to the skin.

(3) Personal protective equipment shall be worn and used in a manner which will make full use of its protective properties.

(4) Each employer shall maintain a regular system of inspection and maintenance of personal protective equipment furnished to workers.

(5) Workers shall check their equipment at the beginning of each shift.

(6) Rings, wristwatches, earrings, bracelets, and other jewelry which might contact power driven machinery or electric circuitry, shall not be worn.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 9-1993, f. 7-29-93, cert. ef. 9-15-93; OSHA 5-1994, f. & cert. ef. 9-30-94

437-002-0125

Oregon Rules for Fall Protection

(1) All employees shall be protected from fall hazards when working on unguarded surfaces more than ten feet above a lower level or at any height above dangerous equipment.

NOTE: These provisions do *not* apply when the work is of limited duration and limited exposure, and the hazards involved in rigging and installing the safety devices equal or exceed the hazards involved in the actual activities, such as the activities of grain weight-samplers on railroad gondola-hopper cars, or railcar inspectors when testing or inspecting car tops.

(2) Lifelines, body belts/harnesses and lanyards shall be used only for employee safeguarding.

(3) Any lifeline, body belt-harness or lanyard actually subjected to in-service loading, as distinguished from static load testing, shall be immediately removed from service and shall not be used again for employee safeguarding.

(4) The point of attachment for lifelines shall be capable of supporting a minimum dead weight of 5,000 pounds.

(5) Personal fall arrest systems shall be rigged so that an employee can neither free fall more than six feet, nor contact any lower level.

(6) Personal fall restraint systems shall be rigged so that an employee cannot free fall more than two feet.

(7) Lifelines used on rock-scaling operations, or in areas where the lifeline may be subjected to cutting or abrasion, shall be a minimum of 7/8-inch wire core manila rope. For all other lifeline applications, a minimum of 5/8-inch manila or equivalent with a minimum breaking strength of 5,000 pounds shall be used.

(8) All body belts/harnesses and lanyard hardware shall be drop forged or pressed steel, cadmium plated in accordance with type 1, Class B plating specified in Federal Specification QQ-P-416. Surface shall be smooth and free of sharp edges.

(9) All body belts/harnesses and lanyard hardware, except rivets, shall be capable of withstanding a tensile loading of 4,000 pounds without cracking, breaking, or taking a permanent deformation.

(10) Body belts/harnesses and lanyards shall be a minimum of 1/2-inch nylon or equivalent, with a maximum length to provide for a fall of no greater than six feet. The rope shall have a nominal breaking strength of 5,000 pounds.

(11) All lifelines, lanyards, and body belts/harnesses shall be periodically inspected by the supervisor in charge. Employees shall inspect their body belts/harnesses and lifelines daily. Any defective body belts/harnesses or lifelines shall be discarded or repaired before use.

NOTE: Additional requirements for use of body belts/harness systems are contained in other divisions of the Oregon Occupational Safety and Health Code and the American National Standard A10.14-1991, Requirements for Safety Belts, Harnesses, Lanyards and Lifelines for Construction and Demolition Use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 9-1974, f. 3-19-74, ef. 4-15-74; WCB 12-1976, f. & ef. 5-20-76; WCB 20-1976, f. 7-6-76, ef. 9-15-76; APD 11-1988(Temp), f. & ef. 7-12-88; APD 1-1989, f. & ef. 1-3-89; OSHA 9-1993, f. 7-29-93, cert. ef. 9-15-93

437-002-0127

Oregon Rules for Work Clothing

(1) Clothing shall be worn which is appropriate to the work performed and conditions encountered.

(2) Loose sleeves, ties, lapels, cuffs, or other loose clothing shall not be worn near moving machinery.

NOTE: Application of this rule is not intended to negate requirements for guarding power-driven machines.

(3) Clothing saturated or impregnated with flammable liquids, corrosive or toxic substances, irritants, or oxidizing agents shall be removed immediately and not worn again until properly cleaned.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 9-1993, f. 7-29-93, cert. ef. 9-15-93

NOTE: In Oregon, the ANSI Standard may be viewed at the OR-OSHA Resource Center located at 350 Winter St NE, Salem OR 97310.

437-002-0130

Additional Oregon Rules for Eye and Face Protection

Lasers. Employees whose occupation or assignment requires exposure to laser beams shall be furnished laser safety goggles as required by Occupational Health Regulations which will protect for the specific wavelength of the laser and be of optical density adequate for the energy involved.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 9-1993, f. 7-29-93, cert. ef. 9-15-93; OSHA 5-1994, f. & cert. ef. 9-30-94

NOTE: Federal rule 1910.134(d)(1) was NOT adopted by OR-OSHA. Instead, OAR 437-002-0133 applies:

437-002-0133

Oregon Rule for Air Quality in Respirators

Compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration shall be of high purity. Oxygen shall meet the requirements of the United States Pharmacopoeia for medical or breathing oxygen. Breathing air shall meet at least the requirements of the specification for Grade D breathing air as described in Compressed Gas Association Commodity Specification G-7.1-1989. Compressed oxygen shall not be used in supplied-air respirators or in open circuit self-contained breathing apparatus that have previously used compressed air. Oxygen must never be used with air line respirators.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 9-1993, f. 7-29-93, cert. ef. 9-15-93; OSHA 5-1994, f. & cert. ef. 9-30-94

437-002-0135

Oregon Rules for Head Protection

Employees who are exposed to power-driven machinery or to sources of ignition shall wear caps or other head covering which completely covers the hair.

NOTE: Application of this rule is not intended to negate requirements for guarding power-driven machinery.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 9-1993, f. 7-29-93, cert. ef. 9-15-93; OSHA 5-1994, f. & cert. ef. 9-30-94

437-002-0136

Additional Oregon Rules for Hand Protection

Gloves shall not be worn by persons whose hands are exposed to moving parts in which they could be caught.

NOTE: Application of this rule is not intended to negate requirements for guarding power-driven machinery.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 5-1994, f. & cert. ef. 9-30-94

437-002-0137

Oregon Rules for Foot Protection

(1) Special types or designs of shoes or foot guards are required where conditions exist that make their use necessary for the safety of workers.

(2) Leggings or high boots of leather, rubber, or other suitable material shall be worn by persons exposed to hot substances or dangerous chemical spills.

NOTE: OAR 437-002-0137(2) has been moved to §1910.138, Hand Protection. See OAR 437-002-0136, Additional Oregon Rules for Hand Protection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 9-1993, f. 7-29-93, cert. ef. 9-15-93; OSHA 5-1994, f. & cert. ef. 9-30-94

437-002-0138

Additional Oregon Rule for Electrical Protective Equipment

Tests of Rubber Gloves and Sleeves. Rubber gloves and sleeves shall be electrically tested at least once every 3 months after they are checked out for use, and complete records shall be kept of all such tests and date of issue. Rubber gloves and sleeves not checked out for use within 6 months shall be re-tested before being issued.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 3-1994, f. & cert. ef. 8-1-94

437-002-0139

Oregon Rules for Life Jackets and Buoyant Protective Equipment

- (1) Working Over or Near Water:
- (a) Employees shall be provided with and shall wear U.S. Coast Guard or equivalent approved buoyant protective equipment at all times while working on or over water which is more than five feet in depth as follows:
- (A) On floating pontoons, rafts, and floating stages;
- (B) On open decks of floating plants (such as dredges, piledrivers, cranes, pond saws, and similar types of equipment) which are not equipped with bulwarks, guardrails or lifelines;
- (C) Working alone at night where there are potential drowning hazards regardless of other safeguards provided;
- (D) On floating logs, boom sticks or unguarded walkways; and
- (E) On boom boats and other work boats.
- (b) Where buoyant protective equipment is provided, it shall be of a design and shall be worn in a manner that will tend to maintain the wearer's face above water. It shall be capable of floating a 16 pound weight for three hours in fresh water. Such equipment shall not be dependent upon manual or mechanical manipulation or chemical action to secure the buoyant effect.
- (2) Buoys and Boats. Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys and shoreline shall not exceed 200 feet along exposed sides of work areas adjacent to water over five feet in depth. Such rings, if used at night where a person might be beyond illuminated areas, should be provided with a means of rendering them visible.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 9-1993, f. 7-29-93, cert. ef. 9-15-93

General Environmental Controls

437-002-0140

Adoption by Reference

In addition to and not in lieu of any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

- (1) **29 CFR 1910.141** Sanitation, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 4/28/75, **FR** vol. 40, p. 18446; 5/28/75, **FR** vol. 40, p. 23073; 10/24/78; **FR** vol. 43, p. 49748.
- (2) Reserved for **29 CFR 1910.142** Temporary labor camps.
- (3) **29 CFR 1910.143** Nonwater carriage disposal systems (Reserved).
- (4) **29 CFR 1910.144** Safety color code for marking physical hazards, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 10/24/78, **FR** vol. 43, p. 49749; 2/10/84, **FR** vol. 49, p. 5322; 3/7/96, **FR** vol. 61, no. 46, p. 9239.
- (5) **29 CFR 1910.145** Specifications for accident prevention signs and tags, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 10/24/78; **FR** vol. 43, p. 49749; 11/7/78, **FR** vol. 43, p. 51759; 2/10/84, **FR** vol. 49, p. 5322; 9/19/86, **FR** vol. 51, p. 33260; 3/7/96, **FR** vol. 61, no. 46, p. 9239.
- (6) **29 CFR 1910.146** Permit-required confined spaces, published 1/14/93, **Federal Register**, vol. 58, no. 9, pp 4549-4563; corrections published 6/29/93, **FR** vol. 58, no. 123, p. 34844; amended 5/19/94, **FR** vol. 59, no. 96, pp. 26411-26116.
- (7) **29 CFR 1910.147** The control of hazardous energy, (lockout/tagout); published 9/1/89, **Federal Register**, vol. 54, no. 169, pp. 36687-36696; amended (extension of effective date) 11/6/89, **FR** vol. 54, no. 213, p. 46610; amended 9/20/90, **FR** vol. 55, no. 183, pp. 38685-38687.
- (8) **29 CFR 1910.148** Removed. Published 3/7/96, **Federal Register**, vol. 61, no. 46, p. 9239.
- (9) **29 CFR 1910.149** Removed. Published 3/7/96, **Federal Register**, vol. 61, no. 46, p. 9239.
- (10) **29 CFR 1910.150** Removed. Published 3/7/96, **Federal Register**, vol. 61, no. 46, p. 9239.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & ORS 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 2-1990, f. 1-19-90, cert. ef. 3-1-90; OSHA 4-1991, f. 2-25-91, cert. ef. 3-15-91; OSHA 13-1992, f. 12-7-92, cert. ef. 2-1-93; OSHA 8-1993, f. & cert. ef. 7-1-93; OSHA 5-1994, f. & cert. ef. 9-30-94; OSHA 4-1997, f. & cert. ef. 4-2-97

437-002-0141

Additional Oregon Sanitation Requirements

(1) Definitions:

(a) "Potable Water" means water meeting the bacteriological and chemical quality requirements prescribed in OAR Chapter 333, Division 61, Public Water Systems, of the Oregon State Health Division;

(b) "Sanitary" means free from agents injurious to health.

(2) Expectoration. Expecting upon the walls, floors, workplaces, or stairs of any establishment is prohibited.

(3) Disposal of Waste Materials.

(a) Scrap, waste material, or debris shall not be permitted to accumulate in work areas in a manner that will constitute a hazard or contribute to a hazardous condition in a place of employment. It shall be removed as required for the safety of

workers.

(b) Flammable waste, such as oily rags, shall be removed to a safe place, or be placed in containers designed or suitable for such use.

(c) Where the operation of machines or equipment creates waste materials hazardous to workers, such machines or equipment shall be equipped with suitable collecting or removal systems, except that where the refuse is too heavy, bulky, or otherwise unsuitable to be handled by such means, provision for the temporary safe storage and regular removal of the refuse shall be made.

NOTE: Water supply systems design and construction standards are contained in the Oregon Health Division rules, OAR Chapter 333, Division 61, Public Water Systems.

(4) Toilet Facilities. Toilet facilities at permanent worksites must be reasonably accessible.

(5) Washing Facilities. Handwashing facilities shall be provided in work areas where the employees are exposed to hazardous materials which will have a deleterious effect on or be absorbed through the skin if the contamination is not removed.

NOTE: OR-OSHA did not adopt 1910.141(d)(3)(ii). In Oregon, OAR 437-002-0141(6) applies:

(6) Shower Facilities. One shower shall be provided for each five employees of each sex, or numerical fraction thereof, who are required to shower during the same shift.

(7) Ventilation/Smoking.

(a) Exhaust or natural ventilation in eating facilities shall be sufficient to prevent the excessive build-up of cigarette smoke, or other atmospheric contaminants.

(b) Where employees work in an enclosed space, exhaust or natural ventilation shall be sufficient to prevent the build-up of cigarette smoke or other atmospheric contaminants.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 13-1992, f. 12-7-92, cert. ef. 2-1-93; OSHA 6-1994, f. & cert. ef. 9-30-94

NOTE: In lieu of 1910.142, Temporary Labor Camps, the following Oregon-initiated rules have been adopted. OAR 437, Division 147, Labor Camps, was redesignated as part of Division 2/J, and renumbered as OAR 437-002-0142.

437-002-0142

Labor Camps

(1) Application:

(a) These rules apply to any labor camp as defined in subsection (4)(f) of this rule;

(b) These rules shall pertain to any type of labor camp together with the tract of land pertaining thereto, established, or to be established, operated or maintained for housing workers with or without families whether or not fees are paid or collected;

(c) These rules apply but are not limited to railroad work trains, logging camps, construction camps, and similar housing;

(d) These rules pertain but are not limited to tents, frame construction housing, trailers, and prefabricated structures as defined in ORS 455.010. Manufactured dwellings shall be required to comply with specifications contained herein pertaining to construction of sleeping places, unless they are in compliance with ORS 446.155 to 446.185, which contain the requirements and specifications for sanitation and safety design for manufactured dwellings;

(e) These rules shall apply to housing which is given to, rented, leased to or otherwise provided to employees for use while employed and provided either by the employer, a representative of the employer or a camp operator;

(f) These rules, unless otherwise stipulated, are applicable to all occupants of the labor camp;

(g) These rules shall also apply to all labor camp housing sites owned, operated, or allowed to operate on property under the jurisdiction of any state or municipal authority.

(2) Exemptions:

(a) Housing including tents, vehicles, mobile homes, and trailers owned or provided by employees for their own use are not subject to these rules. However, when such housing is provided, the camp operator is responsible for the provision and maintenance of all other requirements as specified herein;

(b) These rules do not apply to accommodations subject to licensing as mobile home parks, organizational camps, traveler's accommodations or recreation parks;

(c) Mobile homes and trailers which, due to the nature of the work being done, are being moved regularly from place to place are exempt from these rules except when located at parks or camps intended for the parking of such mobile facilities.

(3) Scope. These rules apply to any labor camp or labor camp facility as defined in subsection (4)(c) or (f) of this rule.

(4) Definitions:

(a) "Clean" means the absence of soil or dirt or removal of soil or dirt by washing, sweeping, clearing away, or any method appropriate to the material at hand;

(b) "Division" means the Oregon Occupational Safety and Health (OR-OSHA) Division of the Department of Consumer and Business Services;

(c) "Facility" means a sleeping place, drinking water installation, toilet installation, sewage disposal installation, food handling installation, or other installation required for compliance with the labor camp rules;

(d) "Garbage" means food wastes, food packaging materials or any refuse that has been in contact with food stuffs;

(e) "Housing Site" is a location upon which a sleeping place is situated;

(f) "Labor Camp" means any place, area or piece of land where sleeping places or housing sites are provided by an employer for his/her employees or by another person, including a camp operator, who is providing such accommodations for employees;

(g) "Local Public Health Administrator" means the administrator as defined in ORS 431.418 for the county or district in which a labor camp, or the larger portion thereof, is located;

(h) "Operator" means a person holding legal title to the land on which a labor camp is located. However, if the legal title and the right to possession are in different persons, "operator" means a person having the lawful control or supervision over the labor camp under a lease or otherwise;

(i) "Potable Water" means water meeting the bacteriological and other requirements specified in OAR Chapter 437, Division 2/J, 1910.141, Sanitation, which sets specific limits on the presence of certain substances in water supplies;

(j) "Refuse" includes waste materials such as paper, metal, discarded items, as well as debris, litter and trash;

(k) "Sanitary" means free from agents which may be injurious to health;

(l) "Sewage" means the water-carried human and animal wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places, together with such groundwater infiltration, surface waters, or industrial wastes as may be present;

(m) "Sleeping Place" means any room, structure, shelter, tent, trailer house, vehicle or other place where one or more persons are housed. Sleeping place is not limited to a place for sleeping only but includes the entire area where one or more persons are housed;

(n) "Toilet Room" means a room maintained within or on the premises of any labor camp, containing toilet facilities for use by employees and occupants of that camp.

(5) Purpose. The purpose of this rule is to prescribe minimum safety and health requirements for establishing, operating and maintaining labor camps.

(6) Camp Registration Requirements: No labor camp or facility shall be operated which is not registered with OR-OSHA as described in 437-002-0142(6)(a)(A)(i) through (iv):

(A) Labor camps and facilities shall be registered each year prior to occupancy. They shall be registered with OR-OSHA in the following manner:

(i) The operator will contact OR-OSHA at least 45 days prior to the first day of operation or occupancy of the camp or facility to provide OR-OSHA with the necessary information on the camp.

(ii) Camps not previously registered will be registered upon completion of a preoccupancy consultation by OR-OSHA in which the camp or facility is found to be substantially in compliance with all applicable safety and health rules.

(iii) If significant changes in the circumstances of the camp have occurred since the last registration, OR-OSHA may, at its discretion, refer the employer for a consultation prior to re-registering the camp.

(iv) Once registered, the operator must display the registration certificate provided by OR-OSHA in a place frequented by employees. The operator is required to also provide and display a translation of the certificate in the language or languages used to communicate with employees.

(B) The Director may revoke a camp registration for the following reasons:

(i) Making any material misrepresentation, false statement or willful concealment in the application for registration,

(ii) Conditions under which the registration was accepted no longer exist or have changed, or

(iii) OR-OSHA determines that the camp is substantially out of compliance with the applicable safety and health rules.

(C) Any group or individual may protest the proposed registration or renewal of any labor camp or facility under the following conditions:

(i) The signed and dated protest must be submitted in writing and received by the Director prior to issuance of the registration or renewal.

(ii) The protest must include the name, address and phone number of the individual or group filing it.

(iii) The protest must clearly identify which camp or facility is the subject of the protest, including the exact physical location and name of the applicant.

(iv) The protest must clearly state the facts and reasons for the protest. Such facts and reasons must be based on factors which are within the scope of ORS 654 and any regulations adopted thereunder.

(7) Site:

(a) All sites shall be adequate in size to prevent overcrowding of necessary structures;

(b) The grounds of a labor camp shall be maintained in a clean, sanitary condition, free from waste water, sewage, garbage, litter, refuse and noxious plants such as poison oak and poison ivy;

(c) During the period of camp occupancy, grass, weeds, and brush shall be kept cut;

(d) All housing site land shall be adequately drained and shall not be subject to periodic flooding during the period of camp occupancy;

(e) Camps shall not be located within 200 feet of swamps, pools, sink holes, unless such water surfaces are subjected to effective mosquito control measures;

(f) All labor camps shall be located on well-drained ground and the sites shall be graded, ditched, or rendered free from depressions in which water can stand;

(g) Measures shall be taken so as to adequately dispose of the waste water and spillage underneath outside water hydrants;

(h) Provisions shall be taken to prevent or control the breeding of mosquitoes, flies, and rodents in the immediate camp area and in the barns, pens, feed yards, or similar livestock or poultry areas within 200 feet of any labor camp facility owned or under lawful control or supervision of the camp operator;

(i) The operator of a labor camp shall be responsible for the daily maintenance and operation of the camp and its facilities;

(j) All toxic materials such as pesticides, fertilizers, paints and solvents shall be stored in a safe place accessible only to authorized camp occupants;

(k) No empty containers such as drums, bats, cans, or bottles which contained toxic materials shall be left in the immediate camp area or disposed of in such a manner so as to endanger the camp occupants;

(l) No poultry or livestock shall be kept within approximately 200 feet of the immediate camp area during the period of camp occupancy unless appropriate measures have been taken to prevent a sanitation or health hazard and to effectively eliminate flies and mosquitoes;

(m) All housing sites in a labor camp shall be provided with electrical service;

(n) All electrical wiring and lighting fixtures shall comply with the Oregon Electrical Code;

(o) Each room in a sleeping place shall contain a ceiling or wall-type electric light fixture in working order and at least one wall-type electrical convenience outlet;

(p) Toilet rooms, lavatories, shower or bathing rooms, laundry rooms, hallways, stairways, or other hazardous dark areas shall be provided with ceiling or wall-type electric lighting;

(q) Privies shall be lit either directly as are other toilet rooms or indirectly from an outside light source;

(r) Corridors and walkways shall be provided with sufficient lighting to allow safe travel at night.

(8) Water Supply:

(a) All domestic water furnished at labor camps shall conform to the required standards for purity as required in OAR Chapter 437, Division 2/J, 1910.141, Sanitation, which sets specific limits on the presence of certain substances in water supplies:

(b) Except where water is obtained from a community water supply system, water sample from each drinking water system shall be submitted for bacteriological analysis prior to the occupancy of the camp, and as often thereafter as required by the Division in order to assure a potable water supply;

(c) An ample supply of safe and potable water shall be provided in every labor camp for drinking, handwashing, bathing and domestic purposes. Water for drinking and domestic purposes shall be available within 100 feet of each sleeping place. An ample supply shall be construed as not less than 35 gallons of water per day per camp occupant;

(d) The water supply storage and distribution facilities shall be arranged, constructed, and if necessary, periodically disinfected to satisfactorily protect the water from contamination. (All plumbing in a labor camp shall be installed in compliance with ORS 447.140 and state regulations relating to plumbing and water supply and any applicable county or city plumbing code.);

(e) Cups, dippers or other utensils used in common for drinking purposes are prohibited;

(f) If drinking fountains are provided at a labor camp they shall be angle-jet type with adequate water pressure at all times;

(g) Where water, unsafe for drinking purposes is accessible, this water shall be posted as "Unsafe for Drinking";

(h) Portable water containers equipped with spigots and tightfitting lids may be used by the camp operator for providing and storing drinking water in the camp. These containers shall be constructed of impervious non-toxic materials which protect the water from contamination and shall be washed with soap or detergent and sanitized with a suitable sanitizer at least every seven days;

(i) Containers such as barrels, pails or tanks from which the water must be dipped or poured are prohibited;

(j) There shall be no cross connection between a system furnishing water for drinking purposes and a nonpotable supply;

(k) In addition to requirements stated above, where applicable the provisions of OAR Chapter 437, Division 2/J, 1910.141, Sanitation, which contain specifications for water system design, construction, and maintenance shall also apply.

(9) Laundry, Handwashing, Toilet, and Bathing Facilities:

(a) An adequate supply of hot and cold water under pressure shall be available for all common use handwashing, bathing, and laundry facilities at all labor camps;

(b) In installations containing flush toilets, lavatory, bathing, or laundry facilities, the floor and walls shall be of readily cleanable finish and impervious to moisture;

(c) Floor drains shall be provided in all shower rooms to remove waste water and facilitate cleaning; and floors shall be sloped to drain and not made of slipper materials;

(d) The walls and partitions of shower rooms shall be smooth and impervious to moisture;

- (e) All laundry, handwashing, bathing, and central facilities shall be maintained in a clean and sanitary condition;
- (f) In every labor camp there shall be at least one handwashing basin provided with hot and cold water under pressure for every 15 occupants of the camp. These handwashing facilities shall be provided either adjacent to all toilet facilities or adjacent to the sleeping places in a labor camp. A 24-inch linear measurement of a "trough" type sink with an individual faucet shall be considered equal to one basin. The use of a single common towel is prohibited;
- (g) If paper towels are provided, there shall be a container provided for their disposal;
- (h) Handwashing facilities shall be maintained in a clean and sanitary condition;
- (i) In every labor camp there shall be at least one shower head provided with hot and cold water under pressure for every 15 occupants of each sex. A plumbed-in bathtub may be substituted for a shower head. When a total of nine or less persons of both sexes are housed, only one shower need be provided;
- (j) In every labor camp there shall be at least one toilet for every 15 occupants or fractional part thereof for each sex housed in the labor camp. When a total of nine or less persons of both sexes are housed, only one toilet need be provided;
- (k) Toilet facilities shall be in good repair and maintained in a clean and sanitary condition;
- (l) Laundry and drying facilities to serve the needs of the occupants shall be conveniently located and readily accessible within the camp area for use by all occupants of the labor camp when public laundry and drying facilities are not available within five miles of the camp site. When laundry facilities are required in a labor camp under this rule, laundry trays or tubs, plumbed with hot and cold water under pressure shall be provided in the ratio of 1 to 25 occupants. Mechanical washers may be provided in the ratio of 1 to 50 occupants in lieu of laundry trays, although a minimum of one laundry tray per 100 occupants shall be provided in addition to the mechanical washers;
- (m) Clothes lines or drying facilities to serve the needs of the occupants shall be provided. Mechanical clothes dryers may be provided in the ratio of 1 per 50 occupants in lieu of clothes drying lines;
- (n) In toilet rooms and privies where there are multiple toilets or toilet seats, there shall be partitions between each individual toilet or toilet seat, to provide privacy. These partitions may be less than the height of the room walls but the top of the partition shall not extend less than six feet from the floor and the bottom of the partition shall not extend more than one foot from the floor. The width of the partition shall not extend less than 1-1/2 feet beyond the front of the toilet seat. A door, curtain or arrangement of design shall be provided so the toilet compartment is private;
- (o) All labor camp toilet rooms shall be ventilated in accordance with the State Plumbing Regulations (OAR Chapter 814, 21-280 through 21-290) relating to ventilation of toilet rooms and, in the case of privies, conform to the requirements of the section contained in the regulations governing the subsurface disposal of sewage (OAR Chapter 437, Division 2/J, 1910.141, Sanitation), which contains specifications for the design, construction and maintenance of privies and other toilet rooms;
- (p) No water closet, chemical toilet, or urinal shall be located in a room used for other than toilet or washing purposes;
- (q) All toilet facilities shall be provided with toilet paper and equipped with toilet paper holders or dispensers;
- (r) Toilet and bathing facilities provided for each set shall be distinctly marked for "women" and "men" in English and in the native language of employees expected to occupy the camp or marked with easily understood pictures or symbols;
- (s) When common use bathing or toilet facilities for both sexes are in the same building, they shall be separated by a solid, non-absorbent wall extending from the floor to the ceiling;
- (t) There shall be a usable path or walkway which is maintained and free of weeds, debris, holes or standing water from each sleeping place to the central toilet facilities, if any;

(u) Toilet facilities in labor camps shall be no more than 200 feet from the sleeping places that they serve and privies shall not be closer than 50 feet from any sleeping place or any facility where food is prepared or served;

(v) Privies shall conform to the regulations of the Division with regard to their construction and location and they shall be maintained in good repair and in a clean and sanitary condition. (See OAR Chapter 437, Division 2/J, 1910.141, Sanitation, which contains specifications for the design, construction and maintenance of toilet facilities.);

(w) If urinals are used in the toilet facility and where three or more toilets are required for men, one urinal may be substituted for one toilet (24 inches of trough-type urinal shall be considered equivalent to one urinal), up to a maximum of one-third of the total toilets required;

(x) Urinals shall be constructed on non-absorbent, non-corrosive materials with a smooth and cleanable finish.

(10) Sewage Disposal and Plumbing:

(a) Sewage disposal in a labor camp shall be effected by means of a connection to a community sewer system, a septic tank with subsurface disposal of the effluent, pit type privies or other sanitary means conforming to ORS 447.140 which relates to the Department of Environmental Quality requirements and to OAR Chapter 437, Division 2/J, 1910.141, Sanitation, which also contains specifications for sewage disposal;

(b) All plumbing in a labor camp shall be installed in compliance with ORS 447.140 which relates to Department of Environmental Quality Requirements and with state regulations relating to plumbing and water supply and applicable county or city plumbing code.

(11) Garbage and Refuse Disposal:

(a) All refuse in a labor camp including garbage and kitchen wastes, shall be stored in durable, watertight containers so constructed as to exclude flies and rodents;

(b) Refuse and garbage containers shall be maintained in a clean and sanitary condition and in good repair, and in a minimum ratio of one container of not less than 20-gallon capacity per 15 occupants. Containers must be accessible to all camp occupants and in no case located outside of the housing site;

(c) All garbage and refuse shall be removed from a labor camp at least once a week;

(d) All refuse and garbage containers shall be kept covered and the garbage storage area shall be kept clean and free of flies and rodents;

(e) Burning of any food garbage or wet refuse is prohibited whether or not a burning permit is granted by a local or state agency;

(f) The garbage and refuse shall be disposed of in accordance with the rules of the section relating to solid waste disposal contained in OAR Chapter 437, Division 2/J, General Environmental Controls (Sanitation), which contains requirements for the safe disposal of hazardous materials and to DEQ rules and regulations (ORS Chapter 459, and OAR Chapter 340) which govern the disposal of garbage and refuse as well as other solid wastes.

(12) Sleeping Places:

(a) All sleeping places in a camp shall be maintained in a safe and sanitary condition, in good repair structurally; and shall be so constructed as to provide shelter for the occupants against the elements and to exclude ground and surface water as well as exclude, structurally or otherwise, rodents and insects;

(b) The walls and roof of the permanently constructed sleeping places shall be tight and solid; the floors shall be constructed of rigid and durable material, and shall be of a smooth and cleanable finish and be maintained in good repair. If tents are provided as sleeping places, they shall have floors constructed of wood, asphalt or concrete. Such

floors shall be smooth and of tight construction;

(c) The sleeping places that are occupied between the months of October through May shall be provided with heating equipment capable of maintaining a temperature of at least 68° F. and installed and maintained in accordance with applicable state and local fire building and electrical regulations;

(d) All heating equipment in a labor camp must meet the following specifications:

(A) Any stoves or other sources of heat utilizing combustible fuel shall be installed and vented in such a manner as to prevent fire hazards and a dangerous concentration of gases. No portable heaters other than those operated by electricity shall be permitted. If a solid or liquid fuel stove is used in a room with wooden or other combustible flooring, there shall be a concrete slab, insulated metal sheet, or other fire resistant material on the floor under each stove, extending at least 18 inches beyond the perimeter of the base of the stove;

(B) Any wall or ceiling with 18 inches of a solid or liquid fuel stove or a stove pipe shall be of fire resistant material. A vented metal collar shall be installed around a stovepipe, or vent passing through a wall, ceiling, floor or roof or combustible material;

(C) When a heating system has automatic controls, the controls shall be of the type which cut off the fuel supply upon the failure or interruption of the flame or ignition, or whenever a predetermined safe temperature or pressure is exceeded;

(D) All gas appliances and gas piping shall be installed in accordance with National Fire Protection Administration (NFPA) Standard 54-1969 which contains specifications for design and installation of gas appliances, valves, piping and related items

(e) Screens of not less than 16 mesh shall be provided on the doors and windows of the sleeping places when flies or mosquitoes are present. All doors with screens shall be tight fitting, in good repair, and self-closing. No screens will be required if adequate control measures are employed to effectively eliminate flies and mosquitoes;

(f) If tents are used for sleeping places, the tent body and screens shall be sound. Except with respect to Wasco and Hood River Counties, the tents shall be treated with an effective water-proofing materials as often as is necessary to assure the tent's being waterproof. The tents shall be adequately screened to effectively keep out flies and mosquitoes. Tents shall not be used for housing between the months of October through May;

(g) Beds, bunks or cots shall be provided for each occupant and suitable storage facilities such as wall lockers shall be provided for each occupant or family unit;

(h) If mattresses are furnished they shall be clean, in good repair, and free from insects and animal parasites before being used by occupants. After each period of occupancy, all mattresses shall be treated with an effective insecticide or fumigated and stored in a clean, dry place;

(i) Such beds, etc., as are provided, shall be spaced so that there is sufficient room between them to allow for rapid and safe exiting in case of emergency. Beds shall be elevated approximately 12 inches off the floor;

(j) Nothing in this rule shall be construed to prohibit "banking" where floors are elevated with earth, or other suitable material around the outside walls in areas subject to extreme low temperatures;

(k) Each room used for sleeping purposes where double bunk beds are not used shall contain at least 50 square feet of floor space for each employee (with at least one half of the floor area having a minimum ceiling height of seven feet), with the following exceptions:

(A) If employees are members of the same nuclear family (in this instance being defined as a mother and father, their combined children and grandparents), then space shall be provided as follows:

- (i) Full space for the first employee over 12;
- (ii) 3/4 space for each additional occupant over 12, whether or not they are employed;
- (iii) 1/2 space for children under 12, whether or not they are employed.

(B) Any room where workers cook, live, and sleep (regardless of whether double bunk beds are used) shall contain at least 60 square feet of floor space per occupant except that the adjustments specified in paragraph (A) of this subsection shall apply to members of the same nuclear family;

(C) In camps constructed after August 1, 1975, space used for combined cooking, eating, and sleeping purposes shall contain not less than 100 square feet per occupant except that the adjustments specified in paragraph (a) of this subsection shall apply to members of the same nuclear family.

(l) In rooms used for sleeping purposes only, where double bunk beds are used, 40 square feet per occupant will be provided. Triple bunks are prohibited;

(m) Separate private areas for sleeping shall be provided for each sex if not related or for each family;

(n) Except where ventilation is provided by mechanical or some other method, each habitable room in a shelter shall have openable windows or skylight openings directly to the out-of-doors. Nothing in this rule shall be construed to prohibit those windows that meet the fire exit requirements to be used as such.

(o) In every labor camp all sleeping places shall be swept, cleaned, and be free from rodents, insects, and animal parasites before occupancy.

(13) Fire Protection:

(a) Fires are prohibited in the housing site except in equipment specifically designed for such purposes. No stove or combustion heater shall be located so as to block escape from a sleeping place. All labor camps shall be equipped with a mechanical means of arousing the occupants in the event of danger from fire or other emergency;

(b) Fire extinguishing equipment shall be provided in a readily accessible place, located not more than 100 feet from each housing unit. Such equipment shall provide protection equal to a 2-1/2 gallon stored pressure or a five-gallon pump-type water extinguisher;

(c) All sleeping places constructed with one door, except tents, vehicles, and trailer houses that are owned by the occupants, shall have, in addition to a door, a window that can be used as an exit in case of fire. This window shall have an openable space of not less than 24 inches by 24 inches of which the lowest portion thereof is not more than 48 inches above the floor. This window shall open directly to the out-of-doors and shall be readily openable by the housing occupants from inside without breaking of glass. This window shall be located in a wall different than the outside door to the unit. If the living unit has more than one room, the exit window shall be in a room other than one having the outside door and shall be clearly marked as a fire exit;

(d) All sleeping places in labor camps shall be constructed and maintained in accordance with the applicable local and state fire and safety laws and regulations.

(14) Cooking, Eating, and Dining Facilities:

(a) In a labor camp where food or meals are prepared or served by the operator or by a concessionaire, the facilities for the practices of preparation and serving shall comply with ORS Chapter 624 which contains requirements for food storage, food preparation procedures and facilities, and other sanitation requirements relating to food handling;

(b) In camps where food or meals are prepared in a common use facility by the occupants, the facilities shall comply with the regulations cited above;

(c) Except where adequate, central eating and kitchen facilities are provided, in each sleeping place a separate area, with or without partition, shall be provided and equipped for use as a kitchen and eating place and the following equipment shall be provided:

(A) A mechanical refrigerator, which must be capable of maintaining food at no more than 45° F.;

(B) A stove or hot plate which is of adequate size to serve the intended number of occupants, and if located within 18 inches of a wall, that wall must be made of or finished with smooth cleanable, non-absorbent, grease resistant and fire resistant material;

(C) Food storage shelves and a food preparation area which must be constructed of or finished with smooth, non-absorbent, cleanable material; and

(D) A table and chairs or equivalent seating and eating arrangements to accommodate the number of occupants living in the sleeping place. The refrigerator and stove or hot plate shall be maintained in working condition. These facilities shall be clean prior to each occupancy.

(15) Reporting Communicable Diseases:

(a) The operator of the labor camp shall cause a report to be made to the local public health administrator and this Division immediately if an individual housed in the camp is known to have or is suspected to have any communicable disease or illness. This report shall include the name and address of the individual;

(b) If an outbreak of suspected food poisoning occurs in a labor camp or an unusual prevalence of any illness in which fever, diarrhea, sore throat, vomiting or jaundice is a prominent symptom, the operator of the camp shall immediately report the outbreak or unusual prevalence to the local public health administrator and the Division.

(16) First Aid:

(a) OAR Chapter 437, Division 2/K, Medical and First Aid, relating to first aid and medical services shall apply to all labor camps. This rule includes requirements for: First aid supplies: the provision of a space to permit an ill or injured employee to lie down until disposition of need; and emergency medical plan; and a plan of communication.

NOTE: OAR Chapter 437, Division 2/K requires all employees be knowledgeable concerning the first aid requirements and emergency medical plans. If employees' native language is other than English, this must be taken into account in meeting this requirement.

(17) Access to ORS and OAR. Those wishing access to any of the Oregon Revised Statutes (ORS) or Oregon Administrative Rules (OAR) referenced herein, may contact the OR-OSHA central office or nearest field office.

(18) Recreation Area.

NOTE: The following is only a recommendation.

The Oregon Occupational Safety and Health Division strongly recommends for the health and safety of camp occupants, especially children, and the indirect protection of camp properties, that at each labor camp a recreational area should be provided. This area should be separate and protected from main thoroughfares and automobile parking, be cleared, leveled, and planted in grass, or prepared in such a manner that it can be used by the occupants for recreational purposes. The area should be maintained free of hazards and debris and provide at least 100 square feet for each housing unit occupied by children under 14 years of age. The total recreational area should not be less than 2,500 square feet. If recreational equipment is provided it should be maintained in good repair.

NOTE: Rules on Field Sanitation are located in OAR 437, Division 81, Agriculture, Rules 437-081-2950 through 2990.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 13-1992, f. 12-7-92, cert. ef. 2-1-93; OSHA 9-1995, f. & cert. ef. 11-29-95

NOTE: The following Oregon-initiated rule relates to 29 CFR 1910.147(c)(5).

437-002-0144

Additional Oregon Rules for General Environmental Controls

(1) Illumination.

(a) Adequate general and local lighting shall be provided for rooms, building and work areas during the time of use.

(b) Factors upon which the adequacy and effectiveness of illumination shall be judged, include the following:

(A) The quantity of light as specified in American National Standard ANSI All.1-1965, "American Standard Practice for Industrial Lighting".

(B) The quality of light in terms of freedom from glare, and correct direction, diffusion and distribution.

(C) Freedom from shadows and extreme contrasts.

(c) All skylights, side windows, lamps and other accessories which are necessary for illumination shall be kept clean, and in working order.

(2) Temperature Provisions. Where processes create harmful or hazardous temperature and humidity conditions, measures shall be taken to control the conditions or to control the effect on the employee.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 6-1994, f. & cert. ef. 9-30-94

437-002-0145

Additional Oregon Rules for Accident Prevention and Tags.

Warning Devices. Warning signs, danger signs, warning flags, warning lights, or similar devices shall be conspicuously posted at all locations where existing conditions not otherwise adequately guarded warrant their use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 6-1994, f. & cert. ef. 9-30-94

The Control of Hazardous Energy (Lockout/Tagout)

Note: This exemption of construction, agriculture and maritime employment was not adopted in Oregon. Lockout/ tagout rules continues to apply to all Oregon employers.)

NOTE: The following Oregon-initiated rule relates to 29 CFR 1910.147(c)(5):

437-002-0154

Unique Locks

In addition to and not in lieu of the definition contained in 1910.147(b) for "lockout device," each person's lock shall have either a key or combination which is unique to that device.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 2-1990, f. 1-19-90, cert. ef. 3-1-90

Medical and First Aid

437-002-0161

Medical Services and First Aid

(1) Definitions:

NOTE: 29 CFR 1910.151 through .153 were NOT adopted by OR-OSHA. In Oregon, OAR 437, Division 127, Medical Services and First Aid, was redesignated as Division 2/K, and renumbered as OAR 437-002-0161, Medical Services and First Aid, by OR-OSHA Admin. Order 2-1993, filed 2/3/93, EFFECTIVE 2/3/93.

(a) "Emergency Medical Service" is the provision of care by a medically trained person, whether this service is provided by a hospital, clinic, ambulance, disaster car, or rescue vehicle;

(2) "In Proximity" is defined as that which is available nearby to ensure prompt treatment in the event of need;

(c) "Qualified First Aid Person" means a person with evidence to show valid (current) first aid training by the American Red Cross or equivalent.

(2) First Aid Supplies:

(a) The employer shall provide first aid supplies based upon the intended use and types of injuries that could occur at the place of employment. The first aid supplies shall be available in close proximity to all employees. Either bulk pack or unit pack supplies are acceptable;

(b) First aid supplies must be stored in containers adequate to protect the contents from damage, deterioration, or contamination. The container shall be clearly marked, available when needed and must not be locked, but may be sealed;

(c) The employer shall ensure that the first aid supplies are available for each shift.

NOTES:

-1- Supplies such as gloves and a mouth barrier device are considered personal protective equipment, and are regulated by 1910.132 in Div. 2/I, Personal Protective Equipment.

-2- The Safety Code for Motor Vehicle Transportation of Workers (OAR 735-026-0000) adopted by the Motor Vehicles Division of the Department of Transportation contains requirements for the first aid kit which is required when school buses are used to transport workers. In addition, the Public Utilities Commission has adopted Federal Motor Carrier Safety Regulations which apply to for-hire buses.

(3) Personnel:

(a) The employer shall ensure the ready availability of emergency medical services for the treatment of all injured employees;

(b) Where emergency medical services are not in proximity to the place of employment, a qualified first aid person shall be available.

NOTE: More specific requirements for first aid training are found in: 1910.94, Ventilation, in Div. 2/G; OAR 437-002-0118, Reinforced Plastics, in Div. 2/H; 1910.120, Hazardous Waste Operations and Emergency Response, in Div. 2/H; 1910.252 in Div. 2/Q, Welding, Cutting and Brazing; OAR 437-002-0304, Tree & Shrub Services, in Div. 2/R; 1910.268, Telecommunications, in Div. 2/R; Div. 2/T, Commercial Diving Operations.

(4) Emergency Medical Plan:

(a) An emergency medical plan to ensure the rapid provision of medical services to employees with major illnesses and injuries shall be developed. In such cases, the employer shall determine that the service will be available in an emergency;

(b) If a physician or an ambulance with Emergency Medical Technicians is readily accessible to the place of employment, then the minimum emergency medical plan must contain the emergency telephone number of the ambulance service. The emergency telephone number shall be posted conspicuously at the place of employment;

(c) Employers in areas with a designated 9-1-1 telephone number may utilize the 9-1-1 service in lieu of posting the specific ambulance telephone number;

(d) If the place of employment is not in proximity to emergency medical services, then the employer shall have, in addition to the information required in subsection (a) of this section, a definite plan of action to be followed in the event of serious injury to an employee. The plan of action shall consist of the arrangements for:

(A) Communication. Two-way radio, telephone, or provision for emergency communication to contact the emergency medical services;

(B) Transportation. Availability of transportation to a point where an ambulance can be met or to the nearest suitable medical facility. Vehicles provided for this purpose shall be available at all times, shall have right-of-way over all vehicles or equipment under the control of the employer, and shall be equipped so that due consideration can be given to the proper care and comfort of the injured employee;

(C) Qualified medical personnel at destination;

(D) All employees shall be knowledgeable concerning the qualified first aid person(s), the first aid requirements, and emergency medical plan.

(5) Emergency Eyewash and Shower Facilities:

(a) Clean water under pressure shall be immediately available wherever materials which are hazardous, toxic, or corrosive are handled, and fixed work areas or stations where such hazardous, toxic, or corrosive materials are handled shall have eyewash fountains and deluge showers immediately available for use;

(b) If such fountains or showers are subject to freezing, protective measures to prevent such freezing shall be taken;

(c) Additional eyewash fountains and/or deluge showers shall also be provided outside of fixed hazardous work locations when, under reasonably foreseeable circumstances, the fixed site facilities would be unusable.

Stat. Auth.: ORS 654.025(2) & 757.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 13-1979, f. & ef. 7-7-75; WCB 4-1975, f. 10-6-75, ef. 11-1-75; WCB 4-1976, f. 4-5-76, ef. 4-15-76; OSHA 2-1993, f. & cert. ef. 2-3-93

Fire Protection

437-002-0180

Adoption by Reference

In addition to and not in lieu of any other health and safety codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR** 1910, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

- (1) **29 CFR 1910.155** Scope, application and definitions applicable to this subpart, published 9/12/80, **Federal Register**, vol. 45, p. 60704; amended 4/12/88, **FR** vol. 53, p. 12122.
- (2) **29 CFR 1910.156** Fire brigades, published 9/12/80, **FR** vol. 45, p. 60706; amended 5/1/81, **FR** vol. 46, p. 24557; 4/30/84, **FR** vol. 49, p. 18295; 3/7/96, **FR** vol. 61, no. 46, p. 9239.
- (3) **Portable Fire Suppression Equipment. 29 CFR 1910.157** Portable fire extinguishers, published 9/12/80, **FR** vol. 45, p. 60708; amended 5/1/81, **FR** vol. 46, p. 24557; 9/29/86, **FR** vol. 51, p. 34560; 3/7/96, **FR** vol. 61, no. 46, p. 9239.
- (4) **29 CFR 1910.158** Standpipe and hose systems, published 9/12/80, **FR** vol. 45, p. 60710; 3/7/96, **FR** vol. 61, no. 46, p. 9239.
- (5) **Fixed Fire Suppression Equipment. 29 CFR 1910.159** Automatic sprinkler systems, published 9/12/80, **FR** vol. 45, p. 60710; amended 5/1/81, **FR** vol. 46, p. 24557.
- (6) **29 CFR 1910.160** Fixed extinguishing systems, general, published 9/12/80, **FR** vol. 45, p. 60711.
- (7) **29 CFR 1910.161** Fixed extinguishing systems, dry chemical, published 9/12/80, **FR** vol. 45, p. 60712.
- (8) **29 CFR 1910.162** Fixed extinguishing systems, gaseous agent, published 9/12/80, **FR** vol. 45, p. 60712; amended 5/1/81, **FR** vol. 46, p. 24557.
- (9) **29 CFR 1910.163** Fixed extinguishing systems, water spray and foam, published 9/12/80, **FR** vol. 45, p. 60712.
- (10) **Other Fire Protection Systems. 29 CFR 1910.164** Fire detection systems, published 9/12/80, **FR** vol. 45, p. 60713.
- (11) **29 CFR 1910.165** Employee alarm systems, published 9/12/80, **FR** vol. 45, p. 60713.
- (12) **Appendices To Subpart L.** Appendix A to Subpart L - Fire protection, published 9/12/80, **FR** vol. 45, p. 60715; amended 5/1/81, **FR** vol. 46, p. 24557.

(13) Appendix B to Subpart L - National consensus standards, published 9/12/80, **FR** vol. 45, p. 60715; amended 6/30/93, **FR** vol. 58, no. 124, p. 35309.

(14) Appendix C to Subpart L - Fire protection references for further information, published 9/12/80, **FR** vol. 45, p. 60715; amended 6/30/93, **FR** vol. 58, no. 124, p. 35309.

(15) Appendix D to Subpart L - Availability of publications incorporated by reference in Section **1910.156**, Fire Brigades, published 9/12/80, **FR** vol. 45, p. 60715; amended 6/30/93, **FR** vol. 58, no. 124, p. 35309; 3/7/96, **FR** vol. 61, no. 46, p. 9239.

(16) Appendix E to Subpart L - Test methods for protective clothing, published 9/12/80, **FR** vol. 45, p. 60715; amended 5/1/81, **FR** vol. 46, p. 24557.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 14-1993, f. 8-37-93, cert. ef. 11-1-93; OSHA 4-1997, f. & cert. ef. 4-2-97

437-002-0182

Oregon Rules for Firefighters

(1) Scope and Application:

(a) These rules shall apply to any and all activities, operations and equipment of employers and employees involved in providing fire protection services, and other emergency first response and related activities, which are subject to the provisions of the Oregon Safe Employment Act. These rules shall not apply to the following exempted firefighting activities:

(A) Aircraft firefighting and rescue;

(B) Forest and uncultivated, wildland firefighting;

(C) Private industry fire brigades;

(D) Marine firefighting and rescue.

EXCEPTION: When a public fire department elects to participate in one or more of the exempted firefighting activities, that fire department shall comply with all of the provisions of this rule.

(b) The provisions of this rule shall be supplemented by the provisions of other applicable safety and health rules of OR-OSHA.

(2) Definitions:

(a) "Aerial Device": An aerial ladder elevating platform, aerial ladder platform, or water tower that is designed to position personnel, handle materials, provide egress and discharge water;

(b) "After Flame": The time a test specimen continues to flame after the flame source has been removed;

(c) "ANSI": American National Standards Institute;

- (d) "Apparatus": A mobile piece of firefighting equipment such as pumper, water tender, etc.;
- (e) "Drill Tower": A structure which may or may not be attached to the station and which is principally used for non-classroom training of the firefighters in fire service techniques, and which is over two stories in height;
- (f) "Emergency Incident": Any situation to which the fire department responds to deliver emergency services, including rescue, fire suppression, medical treatment, and other forms of hazard control and mitigation;
- (g) "Emergency Scene": The site where the suppression of a fire or the emergency exists;
- (h) "Fire Chief": An employer representative responsible for managing the fire department's operation;
- (i) "Firefighter":
 - (A) A person involved in performing fire department duties and responsibilities, which include fire suppression;
 - (B) A firefighter may be a career or volunteer member of a fire department and may occupy any position or rank within the fire department.
- (j) "Fire Training": Training received by firefighters to maintain proficiency in the performance of their assigned duties;
- (k) "Fire Retardant": A material to reduce, stop or prevent flame spread.
- (l) "Flame Resistance": The property of materials, or combinations of component materials, to retard ignition and restrict the spread of flame;
- (m) "Hazardous Material Incident": The accidental release of hazardous materials from their containers;
- (n) "Helmet": A head protective device consisting of a rigid shell, energy absorption system, and chin strap intended to be worn to provide protection for the head or portions thereof, against impact, flying or falling objects, electric shock, penetration, heat and flame;
- (o) "Hose Tower": A vertical structure where hose is hung to dry.
- (p) "IFSTA": International Fire Service Training Association;
- (q) "Lifeline": Length of rope to which employees are secured when in extremely hazardous areas;
- (r) "Live Fire Training": Any fire set within a structure, tank, pipe, pan, etc., under controlled conditions to facilitate the training of firefighters under actual fire conditions;
- (s) "MSHA": Mine Safety and Health Administration;
- (t) "NFPA": National Fire Protection Association;
- (u) "Nondestructive Testing": A test to determine the characteristics or properties of a material or substance that does not involve its destruction or deterioration;
- (v) "Private Industry Fire Brigades": A group of employees within an industry who are required to fight interior structural fires at their place of employment;
- (w) "Protective Clothing": The clothing or equipment worn to protect the head, body and extremities from chemical, physical and health hazards;
- (x) "Quick Disconnect Valve": A device which starts the flow of air by insertion of the hose (which leads from the facepiece into the regulator of self-contained breathing apparatus, and stops the flow of air by disconnection of the hose

from the regulator;

(y) "Rescue Saw (Cut-off-Saw)": A powered saw with a large circular cutting blade covered in part by a movable guard used to cut metal, wood, or concrete enclosures;

(z) "Respirators":

(A) Atmosphere-supplying respirators: May be self-contained in which a cylinder of air or oxygen or an oxygen generating chemical provides the necessary oxygen for breathing, or a hose-type respirator in which the air is supplied from an external source;

(B) Air-purifying respirators: Contain chemical cartridges and/or filters to remove the contaminant prior to breathing;

(C) Positive pressure demand respirators (positive pressure respirators): Types of respirators which constantly and automatically maintain a positive pressure in the mask by the introduction of air when a spring-loaded valve senses that the positive pressure has been lowered because of inhalation or the leakage of air from the mask.

(aa) "Responding": The act of answering an emergency call or other alarm;

(bb) "Scabbard": A guard which will prevent accidental injury and which covers the blade and pick of an axe or other sharp instrument when worn by the firefighter;

(cc) "SCBA": A self-contained breathing apparatus designed to provide the wearer with a supply of respirable air carried in and/or generated by the breathing apparatus. This apparatus requires no intake of air or oxygen from the outside atmosphere, and can be designed to be a demand or pressure demand type respirator;

(dd) "Station (Fire Station)": Structure in which fire service apparatus and/or personnel are housed;

(ee) "Tailboard": Standing Space at rear of an engine or pumper apparatus where firefighters ride;

(ff) "Training": The process of making proficient through instruction and hands-on practice in the operation of equipment, including respiratory protection equipment, that is expected to be used and in the performance of assigned duties;

(gg) "Warning Light": A flashing or rotating light.

(3) Organizational Statement. The employer shall prepare and maintain a statement or written policy which includes basic organizational structure and functions of the organization, in addition to the type, amount and frequency of training to be provided to firefighters. This statement shall be made available for inspection by the Administrator and by employees or their designated representatives.

(4) Personnel:

(a) The employer shall review and evaluate the physical capability of each employee annually to determine their ability to perform duties which may be assigned. The review and evaluation shall be accomplished through physical examination, stress testing or satisfactory performance demonstrated during the performance of their assigned duties;

(b) The employer shall not permit an employee with known heart disease, epilepsy, or emphysema to participate in activities at the emergency scene unless a physician's certificate of the employee's fitness to participate in such activities is provided. This shall not limit the employer's ability to assign personnel to support activities (vs. fire suppression activities).

(5) Employer's Responsibility:

(a) Each employer shall comply with the provisions of this division to protect the life, safety, and health of employees;

(b) It shall be the responsibility of the employer to establish and supervise:

(A) A safe and healthful working environment, as it applies to nonemergency conditions or to emergency conditions at the scene after the incident has been terminated, as determined by the officer in charge; and

(B) Programs for training employees in the fundamentals of accident prevention;

(C) A safe and healthful working environment, as it applies to live fire training exercises.

(c) The employer shall maintain all equipment in a safe condition;

(d) The employer shall see that employees who participate in exempted firefighting activities listed in section (1) of this rule are properly trained, protected, clothed and equipped for the known hazards of that particular emergency operation.

(6) Employee's Responsibility:

(a) Each firefighter shall comply with the provisions of this rule which are applicable to his/her own actions and conduct in the course of his/her employment;

(b) Firefighters shall notify the appropriate employer and/or safety committee representative of unsafe practices and of unsafe conditions of equipment apparatus or workplaces;

(c) All firefighters, at regularly scheduled times, shall attend required training and/or orientation programs designed to increase their competency in occupational safety and health;

(d) Firefighters and other employers shall apply the principles of accident prevention in their work. They shall use all required safety devices and protective equipment;

(e) Each firefighter shall take proper care of his/her protective equipment;

(f) Firefighters who are expected to perform firefighting operations shall notify their employer when health conditions arise or are discovered that will limit their capability or performing those duties.

(7) Safety Committee:

(a) A fire department safety committee shall be established and administered by public or private employers in accordance with the requirements of OAR 437-001-0765 in Division 1, General Administrative Rules;

(b) When applicable, the representation on the safety committee shall include both career and volunteer firefighters.

(8) Firefighting Training and Education:

(a) The employer or employer representative shall establish and implement a policy for the delivery of education and training designed to develop and maintain an appropriate level of knowledge, skill, and ability throughout the firefighting classifications (ranks). Such education and training shall be provided to firefighters before they perform assigned duties on a continuing basis;

(b) When applicable, the representation on the safety committee shall include both career and volunteer firefighters.

(8) Firefighting Training and Education:

(a) The employer or employer representative shall establish and implement a policy for the delivery of education and training designed to develop and maintain an appropriate level of knowledge, skill, and ability throughout the firefighting classifications (ranks). Such education and training shall be provided to firefighters before they perform assigned duties on a continuing basis;

(b) Before firefighters participate in structural firefighting activities, or in live fire training in a structure, they shall meet the training levels prescribed by the Fire Standards and Accreditation Board's "Basic Firefighter" Rule 3007, Subsections 05-01.01 through 05-10-03, or have equivalent training;

(c) When live fire training occurs, it shall be conducted under the direction of the fire department training officer, or employer authorized representative. All live fire training shall be conducted pursuant to General Requirements for Live Fire Training established by the State Fire Marshal under OAR 838-010-0070(3)(b), (c) and (d), *except* as follows or equivalent. Exceptions to the State Fire Marshal's Live Fire Training regulations:

(A) OAR 838-010-0070(3)(b)(G) and (H) shall not apply;

(B) OAR 838-010-0070(3)(c)(B), governing Water Supply, shall not apply. Instead, the following provisions shall govern water supply:

(i) Sufficient backup lines shall be provided to ensure adequate protection for personnel on training attack lines;

(ii) The instructor-in-charge of the live fire training evolutions shall determine, prior to each specific evolution, how many training attack lines and backup lines will be necessary. The instructor-in-charge shall then:

(I) Assign one instructor to each "backup line";

(II) Assign sufficient additional personnel to "backup lines" to provide mobility; and

(III) Assign one additional instructor for each additional functional assignment.

(iii) The water supply for any individual live fire training evolution shall be assessed based on the extent of the evolutions, size and structure of the building and contents to be involved, method of attack to be employed, protection of exposures, and reserves for potential contingencies;

(iv) A minimum reserve of additional water in the amount of 50 percent of the fire flow demand shall be available to handle exposure protection or unforeseen situations;

(v) Separate sources shall be utilized for supply of attack lines and backup lines in order to preclude the loss of both water supply sources at the same time.

(d) During live fire training, firefighters shall wear the protective equipment normally required for that type of firefighting;

(e) When rope rescue training occurs, it shall be conducted under the direction of the fire department training officer or department-designated authority in accordance with the equipment manufacturers' recommendations. The training officer shall keep records of the manufacturers' training requirements, and shall comply with all such requirements;

(f) All fire hoses used by fire departments for training and fire combat shall meet the service testing requirements noted in Chapter 5 of NFPA 1962, 1993 edition;

(g) The employer shall provide training for the purpose, proper selection, fitting, use, and limitations of personal protective equipment;

(h) The employer shall assure that each employee is informed of the procedure of reporting unsafe work conditions or equipment.

(9) General Requirements for Protective Clothing:

(a) The employer shall provide to employees all required protective clothing, except that an employee at the employee's option may supply protective clothing at no cost to employees. The protective clothing must meet the requirements in sections (9) through (14) of this rule, whether supplied by the employer or employee;

(b) The employer shall assure that new protective clothing intended for structural firefighting which is ordered, used or purchased after the effective date of this division, meets the requirements contained in sections (9) through (14) of this rule. The employer shall assure that firefighters wear this clothing when performing structural firefighting;

(c) In situations other than structural firefighting, the employer shall ensure that protective clothing appropriate for the known hazards of that particular emergency operation is worn;

(d) Protective clothing currently in use which does not meet the requirements of sections (9) through (14) of this rule may continue to be used until October 1, 1998, if it was designed for firefighting purposes and meets the manufacturer's original specifications and maintains the protective capabilities for which it was designed;

(e) The employer shall assure that appropriate protective clothing protects the head, body, and extremities and consists of at least the following components: Foot and leg protection, hand protection, body protection, and eye, face and head protection.

(10) Body Protection:

(a) Body protection shall be as follows to ensure full body protection for the wearer;

(b) Coats and trousers used by structural firefighters shall be at least equivalent to the National Fire Protection Association (NFPA) Standard, No. 1979, 1991 edition, entitled "Protective Clothing for Structural Firefighting". (See also **Appendix A.**)

(11) Head Protection:

(a) Head protection shall consist of a protective head device, ear protection, flaps and chin strap which meet the requirements of NFPA Standard 1972, 1992, titled "Helmets for Structural Firefighting";

(b) Use, care, alterations and maintenance instructions for protective headgear shall be supplied for each helmet;

(c) Care, maintenance, and alteration of helmets shall conform to the manufacturer's recommendations;

(d) During structural firefighting helmet accessories designed to provide or maintain protection from health and safety hazards shall be worn in the manufacturer's recommended position. (See also **Appendix A.**)

(12) Hand Protection:

(a) Hand protection for firefighting activities shall consist of protective gloves or glove system which will provide protection against cut, puncture, and heat penetration. Gloves or glove system shall meet the requirements of NFPA Standard 1973, 1988, titled "Gloves for Structural Firefighting".

(13) Foot and Leg Protection:

(a) Foot and leg protection shall meet the requirements of paragraphs (13)(a)(A) and (B) of this rule and may be achieved by either of the following methods:

(A) Fully extended boots which provide protection for the legs; or

(B) Protective shoes or boots worn in combination with protective trousers that meet the requirements of section (10) of this rule.

(b) Protective footwear shall meet the requirements of NFPA Standard 1974, 1992 edition, titled "Protective Footwear for Structural Firefighting";

(c) Firefighters' boots may be resoled but must meet the requirements of this rule.

(14) Eye and Face Protection. Eye and face protection worn by firefighters at the fire ground shall comply with the following regulations:

(a) General requirements. Face protection shall be required where there is a reasonable probability of injury that can be prevented by such protection, when such face protection does not protect the eyes from foreign objects additional eye protection shall be provided;

(b) When self-contained respiratory equipment is being utilized by firefighters, additional eye and face protection will not be required. Employers shall make conveniently available a type of protection suitable for the work to be performed, and employees shall use such protectors. Protectors shall meet the following minimum requirements:

(A) They shall provide adequate protection against the particular hazards for which they are designed;

(B) They shall be reasonably comfortable when worn under the designated conditions;

(C) They shall be durable;

(D) They shall be capable of being disinfected;

(E) They shall be easily cleanable;

(F) Protectors that can be worn over corrective lenses shall be available for those who need them, and should be kept clean and in good repair.

(c) Face shields:

(A) Face shields shall accommodate any of the following styles;

(i) Clear transparent;

(ii) Colored transparent.

(B) Disinfection. When a person is assigned protective equipment, it is recommended that this equipment be cleaned and disinfected regularly;

(C) Face shields must be an integral part of the fire helmet and may be installed in a fixed position or hinged allowing adjustment of the shields;

(D) In the event breathing apparatus is being used which incorporates a face mask, the face mask will be considered an acceptable face shield.

(d) Goggles, flexible, or cushioned fitting. Goggles shall consist of a wholly flexible frame, forming a lens holder or a rigid frame with integral lens or lenses, having a separate cushioned fitting surface on the full periphery of the facial contact area:

(A) Materials used shall be chemical-resistant, nontoxic, nonirritating and slow-burning;

(B) There shall be a positive means of support on the face, such as an adjustable headband of suitable material or other appropriate means of support to retain the frame comfortably and snugly in front of the eyes.

(e) Design, construction, testing, and use of devices for eye and face protection shall be in accordance with ANSI Z87.1, Occupational Eye and Face Protection (1979).

NOTE: Firefighters shall be protected from the effects of noise exposures which exceed the noise levels deemed to be safe as provided in OAR Chapter 437, Division 2/G, 1910.95, Occupational Noise Exposure.

(15) General Requirements for Respiratory Protection:

NOTE: The employer shall assure that respiratory protective devices as worn by firefighters meet the requirements contained in OAR Chapter 437, Division 2/I, Personal Protective Equipment, and are certified under 30 CFR Par 11 (NIOSH Approval).

Eye glasses, goggles or facial hair shall not interfere with the fit of the facepiece.

(16) Requirements for Approved Self-Contained Breathing Apparatus:

(a) Approved (DOT and NIOSH) self-contained breathing apparatus with full facepiece, or with approved helmet or hood configuration, shall be provided to and worn by firefighters while working where toxic atmospheres or an oxygen deficiency may be present;

(b) Approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet DOT and NIOSH criteria;

(c) Self-contained breathing apparatus shall have a minimum duration rating of 30 minutes in accordance with the methods and requirements of the Mine Safety and Health Administration (MSHA) and NIOSH;

(d) Self-contained breathing apparatus shall be provided with an indicator which automatically sounds an audible alarm when the remaining air supply of the apparatus is reduced to within a range of 20 to 25 percent of its rated service time.

(17) Positive-Pressure Breathing Apparatus:

(a) Positive pressure-demand self-contained breathing apparatus or self-contained breathing apparatus which can be switched from a demand to a positive pressure mode, shall be worn by firefighters. Switchable breathing apparatus, from demand to positive pressure mode, shall not be used after July 1, 1996;

(b) This apparatus shall be in the positive-pressure mode when firefighters are performing interior structural firefighting operations, and/or when in toxic or oxygen-deficient atmospheres;

(c) The employer shall assure that new self-contained breathing apparatus ordered or purchased for use by firefighters are positive pressure-demand self-contained breathing apparatus.

(18) Inspection, Cleaning, and Maintenance of Respiratory Protective Devices:

(a) Respiratory protective devices shall be stored in a convenient, clean, and sanitary location;

(b) All respiratory protective devices shall be inspected, cleaned, and sanitized after use. Inspections after use shall include a check for the tightness of connections, condition of the facepiece, head bands, valves, and connecting tubes. Rubber or elastic parts shall be inspected for pliability and signs of deterioration. The breathing air cylinder gauge shall be checked;

(c) In addition to inspections after each use, respiratory protective devices shall be more thoroughly inspected at least once a month. This shall include:

(A) A test for air tightness of cylinders and cylinder valves;

(B) A test of the operation of reducing valves and bypass valves;

(C) A test of the low-air alarm function;

(D) Repairs of items identified as needing repairs.

(d) Respirator parts shall not be substituted for those of another manufacturer during maintenance and repair. All respirator parts including hoses, fittings, regulators, and other parts shall be maintained as provided by the original manufacturer;

(e) Employees shall not repair reducing or admission valves or regulators on SCBA unless they are trained to do so by the manufacturer or other qualified persons.

(19) Respiratory Protective Device Training:

(a) An employee shall not use self-contained breathing apparatus to enter an uncontrolled contaminated or oxygen deficient atmospheres until such time as the employee has completed the training program prescribed in OAR Chapter 437, Division 2/I, 1910.134, Respiratory Protection;

(b) All firefighter personnel within the department shall demonstrate annually their proficiency in the use and limitations of SCBA;

(c) The employer shall make regular inspections and evaluations to determine the effectiveness of the respiratory program.

(20) Respiratory Protective Device Records. The following records shall be maintained:

(a) Monthly inspection record of each respirator;

(b) Testing of compressor alarm systems, including carbon monoxide alarm; and

(c) A record of the respirator repairs.

(21) Breathing Air Compressors and Cylinders:

(a) The air compressor shall be designed and manufactured for the purpose of supplying at least Grade D breathing air meeting the requirements of ANSI/CGA Standard G7.1-1989, Commodity Specification for Air. In addition, Grade D breathing air shall not have a condensed hydrocarbon concentration greater than -5 mg/m^3 ;

(b) The compressor shall be so located to avoid entry of contaminated air into the system intake;

(c) The compressor shall be constructed with suitable in-line air-purifying sorbent beds and filters installed between the receiver and the discharge of the compressor, and composed of at a minimum particulate fiber, an activated charcoal bed, and a moisture absorber;

(d) Compressors shall be equipped with alarms to detect overheating of the compressor:

(A) If an oil-lubricated compressor is used, it shall have a high-temperature or carbon monoxide alarm, or both;

(B) If only a high temperature alarm is used, the air from the compressor shall be tested for carbon monoxide each time it is used to fill bottles or at least weekly.

(e) All maintenance of the compressor and self-contained breathing apparatus shall be done by a qualified person;

(f) All cylinders except A.S.M.E. cylinders shall be tested according to federal Department of Transportation Standard, 49 CFR Part 178, Subpart C (1978);

(g) Air samples shall be taken every six months from the compressor and analyzed by the employer or an independent laboratory for Grade D breathing air. Air samples shall also be tested when the system is installed or repaired. Analysis shall be conducted according to ANSI/CGA Standard G7.1-1989 edition, Commodity Specification for Air.

(22) Identification of Hazardous Locations:

- (a) A means shall be provided for identifying nonresidential premises where hazardous materials are stored, as defined in the Uniform Fire Code, 1991 edition, as amended by the State of Oregon, effective July 15, 1992, under Articles 4 and 80, and in quantities as set forth in the hazardous material permit required by Article 4 of the Uniform Fire Code;
- (b) Hazardous chemicals required to be identified by this section are those defined in Article 9, Section 9.110, and Article 80, Section 80.101 of the Uniform Fire Code;
- (c) Each fire department that expects to or plans to respond to a hazardous material incidents shall develop a written response plan;
- (d) The written response plan must contain the policies and procedures on:
 - (A) Pre-emergency planning and coordination with outside parties;
 - (B) Personnel roles, lines of authority, training, and communication;
 - (C) Emergency recognition and prevention;
 - (D) Safe distances and places of refuge;
 - (E) Site security and control;
 - (F) Evaluation routes and procedures;
 - (G) Decontamination;
 - (H) Emergency medical treatment and first aid;
 - (I) Emergency alerting and response procedures;
 - (J) Critique of response and follow-up;
 - (K) Personal protective equipment and emergency equipment; and
 - (L) Specific response procedures.
- (e) The incident commander shall be responsible for:
 - (A) Identification of the hazardous substance and condition;
 - (B) Implementing emergency operations;
 - (C) Ensuring personal protective equipment is worn;
 - (D) Limit access to hot zone to those with a specific mission assignment;
 - (E) Implementing decontamination procedures;
 - (F) Designating a safety official;
 - (G) Training criteria for emergency responders; and
 - (H) Medical surveillance for haz-mat team members.
- (23) Fire Apparatus Area:

- (a) Walkways around apparatus shall be kept free of obstructions;
- (b) The station's apparatus floors shall be so far as practical kept free of grease, oil, and tripping hazards;
- (c) No Class I or II flammable liquids shall be used for cleaning purposes to remove grease or dirt from apparatus;
- (d) Exhaust gases from diesel or gasoline apparatus within buildings shall be maintained within the limits of OAR 437-002-0382, Oregon Air Contaminant Rules.

(24) Design and Construction of Fire Apparatus:

- (a) All fire apparatus with the exception of specialized apparatus shall conform to OAR 437, Division 2/N, Oregon Rules for Commercial and Industrial Vehicles, OAR 437-002-0223;
- (b) Employers who have purchased used fire apparatus or used military equipment prior to the effective date of this division shall not be required to bring them under a more stringent code than the one in force at the time the apparatus was manufactured. The exception to this rule would be seat belts and communication systems between the tailboard and driver compartment as required by section (25) of this rule, Automotive Fire Apparatus Equipment, and roll bars on all open top off-road vehicles as required by subsection (f) of this section;
- (c) Firefighters' vehicle tailboards shall not project outboard of the vehicle sides or fenders and shall be designed to provide safe footing;
- (d) Exhaust systems shall be installed and maintained in proper condition and shall be so designed as to minimize the exposure of the firefighter to the exhaust gases;
- (e) The loaded gross weight and empty height of the vehicle shall be posted in the vehicle such that it can be clearly read by the driver;
- (f) Roll bars shall be in place on all open top off-road vehicles for roll-over protection.

(25) Automotive Fire Apparatus Equipment:

- (a) All equipment on a vehicle shall be adequately secured when the vehicle is in motion;
- (b) Workers being transported by fire department vehicles shall ride only in designated secure positions. Safety belts shall be provided for firefighters riding the tailboard. (See also OAR 437, Division 2/N, Oregon Rules for Commercial and Industrial Vehicles, OAR 437-002-0223.);
- (C) Vehicles with obstructed view to the rear of the vehicle when backing, shall be equipped with one of the following:
 - (A) A visual warning device visible from the rear of the vehicle; or
 - (B) An automatic back-up alarm which shall be sounded immediately on backing; or
 - (C) A firefighter, who is visible in the driver's left-side mirror, shall stand to the rear of the truck to guide the driver while backing;
 - (D) After July 1, 1995, only back-up alarms shall be used. (See paragraph (B) of this subsection.)
- (d) Firefighting vehicles shall be brought to a full stop before workers disembark;
- (e) If workers are required to ride the tailboard, an electrical signal system or voice communication system shall be installed between the tailboard and the driver's compartment. A code of signals shall be used for controlling the movement of the vehicle;

(f) Vehicles equipped with emergency warning lights shall be used to control traffic at emergency scenes and shall be supplemented by the use of traffic cones, fire department personnel, police, or other traffic control measures as the emergency scene is controlled.

(26) Automotive Apparatus Maintenance and Repair. Each employer shall establish written records and procedures whereby apparatus has:

(a) A scheduled monthly maintenance check; or

(b) A maintenance check each time the apparatus is returned to the station following an emergency response, a drill, or any type of test drive.

(27) Tires. Tire which are excessively worn, cracked, deteriorated or damaged in any way shall not be used. All tires shall have a minimum tread depth of 2/32".

(28) Aerial Devices:

(a) Aerial devices used for firefighting shall be inspected and tested by a person competent in performing such tests and inspections in accordance with the recommendations of NFPA Standard 1914, 1991 at least annually;

(b) Where defects are found in critical components of an aerial device, the repairs shall be tested and certified in accordance with NFPA Standard 1914, 1991 by a registered professional engineer or manufacturer of the apparatus or an American Welding Society (AWS) Certified Welding Inspector. A permanent record of such tests and repairs shall be maintained for each unit.

(29) Hose Drying Towers:

(a) Hose Drying Towers:

(a) Floor openings on hose tower platforms shall be equipped with a guardrail meeting the requirements of OAR Chapter 437, Division 2/D, 1910.23, Guarding Floor and Wall Openings and Holes;

(b) The toeboard requirements for elevated work platforms in hose drying towers shall not apply unless hand tools or objects other than hoses are carried onto the platforms;

(c) The requirements for ladders shall meet the requirements of OAR Chapter 437, Division 2/D, 1910.27, Fixed Ladders;

(d) Ropes used to hoist hose in the hose towers shall have a breaking strength to safe load strength (rated working load) ratio of 3 to 1.

(30) Drill Towers. Permanent fixed ladders on the outside of drill towers and drill buildings are exempt from the requirements of offset platform landings and ladder cage guards.

(31) Testing, Maintenance, and Inspection of Fire Service Equipment. The employer shall maintain and inspect fire service equipment at least annually and perform any tests recommended by the manufacturers at the date of manufacture, or the recommendations of NFPA or IFSTA.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1985, f. 7-10-85, ef. 10-1-85; APD 8-1988, f. 6-28-88, ef. 9-1-88; OSHA 14-1993, f. 8-27-93, cert. ef. 11-1-93

APPENDIX A

PROTECTIVE CLOTHING

(This Appendix is for the code user's information; it is not mandatory.)

(1) General. OAR 437-002-0182(9) does not require all fire fighters to wear protective clothing. It is not the intention of these rules to require employers to provide a full ensemble of protective clothing for every fire fighter without consideration given to the types of hazardous environments to which the fire fighter might be exposed. It is the intention of these rules to require adequate protection for those fire fighters who might be exposed to fires in an advanced state, smoke, toxic gases, and high temperatures. Therefore, the protective clothing requirements only apply to those fire fighters who perform structural fire fighting operation.

(2) Additionally, the protective clothing requirements do not apply to the protective clothing worn during outside fire fighting operations (brush and forest fires, crash crew operations) or other special fire fighting activities. It is important that the protective clothing to be worn during these types of fire fighting operations reflect the hazards which are expected to be encountered by fire fighters.

3. Head protective devices are required to be provided with ear flaps so that the ear flaps will be available if need. It is recommended that ear protection always be used while fighting interior structural fires.

4. Many head protective devices are equipped with face shields to protect the eyes and face. These face shields are permissible as meeting the eye and face protection requirements of this rule as long as such face shields meet the requirements of OAR 437, Division 2/I, Personal Protective Equipment and ANSI Z87.1-1968, Eye and Face Protection.

5. Additionally, full facepieces, helmets or hoods of approved breathing apparatus which meet the requirements of OAR 437, Division 2/I, 1910.134, Respiratory Protection, and 437-002-0182(9), (10), and (14), are also acceptable as meeting the eye and face protection requirements.

6. It is recommended that a flame resistant protective head covering such as a hood or snood, which will not adversely affect the seal of a respirator facepiece, be worn during interior structural fire fighting operations to protect the sides of the face and hair.

7. Respiratory protective devices. Respiratory devices shall be used in accordance with OAR 437, Division 2/I, 1910.134, Respiratory Protection.

APPENDIX B

APPARATUS OPERATION SIGNAL COMMUNICATION

(This Appendix is not mandatory. The signal system described here is only an example.)

The following set of signals could be used for communication between the driver and a tiller or between the driver and fire fighters riding the tailboard:

- (a) One long buzz means "Stop."
- (b) Two buzzes means "Forward."
- (c) Three buzzes means "Reverse."

Before any of the above functions are undertaken, with the exception of stopping, the same appropriate signal must be received from the tailboard. Example: If driver is responding to an alarm before starting out, two beeps is responding to an alarm before starting out, two beeps on the horn will be sounded. Driver will not advance, however, until the same signal is sounded from the tailboard or tiller.

Compressed Gas and Compressed Air Equipment

437-002-0200

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

- (1) **29 CFR 1910.166** (Reserved).
- (2) **29 CFR 1910.167** (Reserved).
- (3) **29 CFR 1910.168** (Reserved).
- (4) **29 CFR 1910.169** Air receivers, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 2/10/84, **FR** vol. 49, p. 5322; 3/7/96, **FR** vol. 61, no. 46, p. 9239.
- (5) **29 CFR 1910.170** Removed. Published 3/7/96, **Federal Register**, vol. 61, no. 46, p. 9239.
- (6) **29 CFR 1910.171** Removed. Published 3/7/96, **Federal Register**, vol. 61, no. 46, p. 9239.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: OAR 654.025(2) & ORS 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1993, f. 7-29-93, cert. ef. 9-15-93; OSHA 4-1997, f. & cert. ef. 4-2-97

Oregon-Initiated Rules

437-002-0210

Additional Oregon Rules for Compressed Air and Compressed Gas Equipment

(1) Air and Gas Compressors -- General:

(a) Workers shall not use compressed gases to clean clothing which is being worn nor shall it be intentionally directed at any other person;

NOTE: Use of compressed air for cleaning work and work areas is also prohibited except under special conditions. See OAR Chapter 437, Division 2/P, Hand and Portable Powered Tools and Other Hand-Held Equipment.

(b) Hose connections shall be securely made and maintained in safe working condition. Effective means shall be used to prevent hose from whipping.

(2) Piping Systems:

(a) All piping systems and their component parts which are installed to carry air, steam, or other material at more than atmospheric pressure shall be of adequate design and strength to safely withstand pressures to be placed upon them without the resulting stresses exceeding the allowable stress for the material used in their construction. The allowable stresses to be used shall be determined by referring to recognized standards for materials and design as developed by the American National Standards Institute;

(b) The only non-metallic pipe acceptable for pressure line service with gaseous substances is that which is recommended and listed by its manufacturer as designed for compressed air or gas service. PVC pipe can only be used for compressed air if it is buried or encased;

(c) All compressed air or gas piping systems which use plastic pipe must be "project specific"; that is, designed by a competent person to specifications suited for a particular application or project. Design and operational specifications and information must be kept with the system for as long as it is in use;

(d) Only a competent person(s) may install any compressed air or gas piping system described in subsections (b) and (c) of this section.

(3) High Temperature Piping:

(a) All steam and other high temperature pipe lines within seven feet of the floor or work platform or passageway shall be covered with non-combustible insulating material or otherwise protected against accidental contact with persons;

(b) Steam hose connections shall be securely made and maintained in safe working condition. Effective means shall be used to prevent hose from whipping.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1993, f. 7-29-93, cert. ef. 9-15-93

Materials Handling and Storage

437-002-0220

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

- (1) **29 CFR 1910.176** Handling materials - general, published 6/27/74, **Federal Register**, vol. 39, p. 23052; amended 10/24/78, **FR** vol. 43, p. 49749.
- (2) **29 CFR 1910.177** Servicing of Multi-Piece and Single Piece Rim Wheels; published 1/29/80, **Federal Register**, vol. 45, no. 20, pp. 6713-6716; amended 2/3/84, **FR** vol. 49, no. 24, pp. 4350-5352; amended 9/8/88, **FR** vol. 53, no. 174, pg. 34737; 3/7/96, **FR** vol. 61, no. 46, p. 9239.
- (3) **29 CFR 1910.178** Powered industrial trucks, published 6/27/74, **Federal Register**, vol. 39, p. 23052; amended 5/28/75, **FR** vol. 40, p. 23073; 10/24/78, **FR** vol. 43, p. 49749; 2/10/84, **FR** vol. 49, p. 5322; 4/12/88, **FR** vol. 53, p. 12122; 8/6/90, **FR** vol. 55, p. 32015; 3/7/96, **FR** vol. 61, no. 46, p. 9239.
- (4) **29 CFR 1910.179** Overhead and gantry cranes, published 10/18/72, **Federal Register**, vol. 37, p. 22102; amended 6/1/73, **FR** vol. 38, p. 14373; 10/24/78, **FR** vol. 43, p. 49750; 2/10/84, **FR** vol. 49, p. 5323; 9/29/86, **FR** vol. 51, p. 34561; 4/12/88, **FR** vol. 53, p. 12122; 8/6/90, **FR** vol. 55, p. 32015; 3/7/96, **FR** vol. 61, no. 46, p. 9239.
- (5) **29 CFR 1910.180** Crawler, locomotive and truck cranes, published 4/27/74, **Federal Register**, vol. 39, p. 23502; amended 2/10/84, **FR** vol. 49, p. 5323; 9/29/86, **FR** vol. 51, p. 35561; 4/12/88, **FR** vol. 53, p. 12122; 8/6/90, **FR** vol. 55, p. 32015; 3/7/96, **FR** vol. 61, no. 46, p. 9239.
- (6) **29 CFR 1910.181** Derricks, published 10/18/72, **Federal Register**, vol. 37, p. 22120; amended 6/1/73, **FR** vol. 38, p. 14373; 10/24/78, **FR** vol. 43, p. 49750; 2/10/84, **FR** vol. 49, p. 5323; 9/29/86, **FR** vol. 51, p. 34561; 4/12/88, **FR** vol. 53, p. 12122; 8/6/90, **FR** vol. 55, p. 32015; 3/7/96, **FR** vol. 61, no. 46, p. 9240.
- (7) **29 CFR 1910.182** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9240.
- (8) **29 CFR 1910.183** Helicopters, published 6/27/75, **Federal Register**, vol. 40, p. 27369; amended 7/28/75, **FR** vol. 40, p. 31598; 3/30/76, **FR** vol. 41, p. 13353.
- (9) **29 CFR 1910.184** Slings, published 6/27/75, **Federal Register**, vol. 40, p. 27369; amended 7/28/75, **FR** vol. 40, p. 31598; 3/30/76, **FR** vol. 41, p. 13353; 6/30/93, **FR** vol. 58, no. 124, p. 35309; 3/7/96, **FR** vol. 61, no. 46, p. 9240.
- (10) **29 CFR 1910.189** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9240.
- (11) **29 CFR 1910.190** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9240.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 13-1993, f. 8-20-93, cert. ef. 11-1-93; OSHA 4-1997, f. & cert. ef. 4-2-97

Oregon Initiated Rules

437-002-0221

Additional Oregon Rules for Handling Materials

(1) Definitions:

- (a) "Aerial Cableways" An aerial cableway is a cable-supported system in which the material-handling carrier is not detached from the operating span and the travel is wholly within the span. A cableway transports a load for short distances, in a single carrier traveling back and forth on a single cable, or on multiple parallel cables, a hoisting operation being combined with the transfer of the load; the operation is intermittent;
- (b) "Aerial Tramways" An aerial tramway is a cable-supported system in which the travel of the materials handling carriers is continuous or reversible over the supports of one or more spans. On continuous tramways, a series of loaded carriers travel in one direction. On reversible tramways, one carrier travels back and forth on a cable. Bi-cable tramways have a fixed track cable, along which the carriers are hauled by a traction rope. Twin-cable tramways are similar, except that carriers run on a pair of track cables. Mono-cable tramways have a single running rope to support and move the carriers.

(2) General:

- (a) Permanent aisles and passageways shall be appropriately marked;
- (b) Pile foundations shall be designed and arranged to support maximum loads without sinking, sagging, or permitting piles to tip;
- (c) Containers of toxic, flammable, radioactive, or irritating substances shall be properly labeled and stored as specified in other sections of the Oregon Occupational Safety and Health Code;
- (d) Aisles and passageways shall be kept clear to provide for the free and safe movement of material handling equipment and employees.

(3) Disposal of Material:

- (a) Scrap, waste material, and rubbish shall be removed at reasonable intervals from the immediate work area as the work progresses. Materials shall not be permitted to accumulate in such volume as to impede safe access to the work area;
- (b) All solvent waste, oily rags, and flammable liquids shall be kept in fire resistant covered containers.

(4) Storage -- Location:

- (a) Stored material shall not obstruct lights, sprinklers, and other fire extinguishing equipment, aisles, exits, or electrical switch panels;
- (b) Temporarily stored material that creates a hazard shall be marked by highly visible warning signs;
- (c) In conditions of reduced visibility, reflectorized signs shall be used on temporarily stored material which creates a hazard. If conditions make reflectorized signs ineffective, the sign shall be lighted or other effective warning shall be used;
- (d) Materials which could cause hazardous reactions shall be kept segregated in storage and marked with appropriate warning signs.

(5) Stacks and Piles. All material stacks and piles shall be placed on level and solid supports and shall be stable and self-supporting.

(6) Bricks and Blocks:

- (a) Brick stacks shall not be more than seven feet in height. When a loose brick stack reaches a height of four feet, it shall be cross-tied and tapered back two inches in every foot of height above the four-foot level;

(b) When masonry blocks are stacked higher than six feet, the stack shall be cross-tied and tapered back one-half block per tier above the six-foot level.

(7) Lumber:

NOTE: OAR Chapter 437, Division 2/R, Special Industries, 1910.265, Sawmills, contains requirements for unitizing, stacking, and transporting lumber and wood products at manufacturing facilities and mills.

(a) Used lumber shall have all nails removed before stacking;

(b) Lumber stacks shall be made of units whose height is no more than 1-1/2 feet higher than the base;

(c) Manual handling of lumber from stacks shall not be done from atop stacks more than one unit in height.

(8) Bagged Materials:

(a) Bagged materials shall be stacked by stepping back the layers and crosskeying the bags at least every ten bags high;

NOTE: This requirement does not apply where pallets effectively stabilize the stack of bagged materials.

(b) When bags are removed from a pile, the stability of the pile shall be maintained.

(9) Loose Material -- Sand, Gravel, Crushed Rock, Sawdust, Etc. Undercutting of stock piles is prohibited; materials in such piles shall be kept as near as is practical to the angle of repose and present no hazard to employees.

(10) Corrugated and Flat Iron -- Steel:

(a) Corrugated and flat iron shall be stacked in stable piles;

(b) Racks capable of supporting the imposed loads without deformation shall be used for storing steel plate on edge and shall provide positive protection against the danger to personnel from toppling or sliding plates.

(11) Pipe and Bar Stock:

(a) In removing pipe and bar stock from unsecured piles, workers shall not approach the side of the pile but shall remove it from the ends of the pile;

(b) Pipe or bar stock extending into passageways shall be clearly marked or padded.

(12) Drums, Rolls, Cylindrical Objects:

(a) Barrels, drums, large pipe, rolls of paper, and other cylindrical objects piled on their sides shall have the bottom row securely blocked. If separators are used between rows of the pile, blocks shall be secured at each end of the separators;

(b) Spacing strips shall be placed between bundles;

(c) Structural steel, poles, pipe, bar stock and other cylindrical materials, unless racked, shall be stacked and blocked to prevent spreading, tilting, or rolling.

(13) Equipment Design and Construction:

(a) All equipment, structures, and appurtenances used for handling or storing materials shall be designed, constructed and maintained in accordance with sound engineering practices and the specifications and recommendations of the manufacturer. They shall be of sufficient strength to support the loads acting on them in addition to their own dead loads. Allowances shall be made for wind, impact, erection and any special loadings that may occur. No combination of these loadings shall be permitted to cause a stress in any member that exceeds the allowable stress for the material of

that member;

(b) Safe load capacities recommended by the manufacturers of equipment shall not be exceeded;

(c) Workers shall not remain or work under or near elevated loads and units of materials being moved unless they are provided with adequate protection;

(d) Loads suspended in slings or supported by hoists, jacks, or other devices, shall be blocked or cribbed before workers are permitted to work underneath;

(e) Materials shall not be dropped or thrown from an elevation where this procedure might endanger other workers;

NOTE: In such cases, materials should be lowered by means of proper riggings, slings, conveyors, chutes, or other safe means.

(f) Tag lines or guide ropes shall be provided and used whenever manual guidance is required to control swinging loads;

(g) Structures and devices used for loading and unloading performed units, loads, pallet boards, or trays shall be of construction and material to maintain safe support for the loads being handled on them;

(h) Pallet boards, and trays shall be loaded in a manner that will ensure stability of loads.

(14) Conveyors, General. Conveyors shall meet the applicable requirements for design, construction, inspection, testing, maintenance and operation as prescribed in ANSI B20.1-1957, Safety Code for Conveyors, Cableways, and Related Equipment.

(15) Controls of Conveyors:

(a) Means for stopping the motor or engine shall be provided at the operator's station;

(b) If the operator's station is remote from the power source, provisions for stopping the motor or engine shall be provided at the motor or engine location and at the operator's station;

(c) Conveyor systems shall be equipped with an audible warning signal to be sounded immediately before starting up the conveyor;

NOTE: This requirement does not apply to portable single unit conveyors where other warning methods are effective.

(d) Emergency stop devices shall be arranged so that the conveyor cannot be started again until the actuator has been reset to running or "on" position;

NOTE: Automatic electrical or mechanical stopping devices should be provided on a conveyor where the equipment into which it feeds has been stopped or has been blocked so that it cannot receive additional materials.

(e) Where overload conditions would create a hazard to workers, overload protection shall be provided.

(16) Backstops, Brakes on Conveyors. Inclined conveyors, where reversing or running away presents a hazard to workers, shall be provided with anti-runaway, backstop devices, or suitable guards.

(17) Loading, Transfer and Discharge Points of Conveyors:

(a) Means to guard workers from injury by moving material shall be provided at a conveyor loading, transfer and discharge points;

(b) The area around all loading and unloading points shall be kept clear of obstructions.

(18) Conveyor Guards:

- (a) Screw conveyors shall be guarded to prevent employee contact with turning flights;
- (b) Where a conveyor passes over work area, aisles and thoroughfares, suitable guards shall be provided to prevent material from falling from the conveyor;
- (c) Return sections of conveyors higher than seven feet and located over or near passageways and work areas, shall be supported by roller or guards;
- (d) Conveyor troughs in which moving sections of a conveyor operate shall be of ample dimensions and strength to carry broken conveyor parts;
- (e) Conveyor drive mechanisms and power driven parts shall be guarded in accordance with the requirements in OAR Chapter 437, Division 2/O, Machine Guarding;
- (f) Input conveyors for chippers, burners, furnaces, or other dangerous machines shall be fully guarded to prevent workers from falling to the conveyor. Where a part of the guard must be omitted to permit a worker to feet the conveyor, he or she shall be provided with and shall wear a life belt tied off to an effective lifeline;
- (g) Conveyor crossovers, aisles, and passageways shall be conspicuously marked by suitable signs;
- (h) Workers shall not cross over conveyors except where suitable bridges or walkways are provided.

(19) Portable Conveyors:

- (a) Portable conveyors shall be stable at all operating ranges and shall be provided with adequate devices to prevent unintended movement;
- (b) Portable conveyors, when powered electrically, shall be grounded as required in OAR Chapter 437, Division 2/S, Electrical. Where exposed to outside weather conditions, wiring, switches, and electrical connections shall be moisture and dust proof.

(20) Riding Conveyors Prohibited. Workers shall not be permitted to ride on any conveyor not especially designed for this purpose.

(21) Ramps, Skids, Rollways:

- (a) Adequate means for slowing material being put down chutes, slides, or inclines shall be provided whenever excessive speed might create a hazard to workers;
- (b) Where the person putting material down a chute, ramp, skid, or rollway does not have a clear view of a lower landing on which workers are employed, an adequate horn, bell or other warning device which is automatic in operation shall be provided and maintained in good condition at all times;
- (c) The underside of all chutes, ramps, skids, rollways or landings shall be fenced off and marked with appropriate warning signs unless provided with other adequate means of protecting workers from falling material.

NOTE: Definitions for Aerial Cableways and Tramways are contained in OAR 437-002-0221(1).

(22) Cableway Carriage and Fall Rope Carriers:

- (a) Cableway carriage and fall rope carriers shall be so constructed that no adjustments are required while cableway is in operation and that adjustments, when made, may be locked. Fall rope carriers are used to prevent the weight of the hauling rope itself causing sufficient tension to overhaul the load carrier or fall block. On spans of 600 feet or more, where the carriage works to the center of the span or beyond, slack carriers shall be provided to support the operating ropes. A button line or equivalent device shall be provided to space the carriers at approximate intervals along the span;

(b) Carriages shall have approved mesh guards for the operating sheaves and hand grips throughout the full length of the carriage. Footwalk and toeboards, for ready access to maintenance riggers and for inspection of the operating ropes, sheaves, becketts, and structural parts of the carriage;

(c) Sheaves carrying operating ropes should be as recommended by the rope manufacturer. In no case shall the pitch diameter of sheaves be less than 42 times rope diameter for 6 x 7 rope, 30 times rope diameter for 6 x 19 rope, 18 times rope diameter for 6 x 37 rope, and 21 times rope diameter for 8 x 19 rope. The sheaves shall have "V" grooves and the radius of the groove shall be 55 percent of the rope diameter.

(23) Operating Ropes. Operating ropes shall be of wire rope construction suitable for the requirements of the cableway. End fastenings shall develop at least 89 percent of the ultimate strength of the rope. Rope ends shall be arranged for complete and easy inspection.

(24) Track Cable Systems. If the design requires that track cables be carried over saddles, care must be taken to see that the saddle radius, rope lubrication and inspection provisions conform to rope manufacturer's recommendations. Track cable connections shall be properly applied sockets using only pure zinc. Clamped ends develop only about 75 percent of the strength of the rope and therefore are not recommended. Supporting members carrying track cable tensions shall be forged steel or rolled steel carrying stress in the direction of rolling. These members shall be arranged so that loads are carried concentrically and so that no eccentric load can be applied to them or to the track cable connections by virtue of failure or non-operation of any joint bearing in the track system.

(25) Backstay. Backstay carrying track cable tensions shall be designed to support the entire load disregarding any load carrying help from side guys.

(26) Side Guys. Side guys shall be so proportioned that no more than two are regarded as acting at the same time, unless equipped with an equalizing bar, sheave, or other approved device not subject to freezing temperatures. If a hydraulic or pneumatic equalizing device is used, provisions must be made to avoid or counteract the effect of loss of fluid in the system.

(27) Anchorages:

(a) Anchorages for track cable tensions shall be proportioned so that they are stable under the ultimate strength of the track cable or backstays. Steel rods, preferably embedded in concrete or block asphalt, should be used for the portion of the backstay where the anchorage tension is carried through earth. Wire rope guys shall never be used in contact with earth. Double the ultimate strength of the backstay shall be provided, together with anticorrosion protection in the form of grease, tar, etc.;

(b) Supporting structures, fixed towers, movable towers, etc., shall be designed to withstand full known loads plus allowance for impact with due regard for the nature of the structural elements, type of structure, and the manner of application and release of loads. Ladders, platforms and handholds shall be supplied to facilitate the inspection of towers, cableways parts attached to them, and the changing of lines and other maintenance work around them.

(28) Operation and Maintenance of Cableway:

(a) The cableway supervisor and operator shall be charged with the responsibility for allowing only authorized and properly qualified parties around the cableway rig;

(b) Inspection of the complete rig (track cables, carriage, operating ropes, structures, hoisting engine, electrical apparatus, and other operating parts) shall be made by the supervising safety engineer or other designated qualified person each day if the rig is operating 24 hour a day or at such other intervals as justified by lesser operating schedules for the rig.

NOTE: These inspections, at the discretion of the supervisor, may be made while the rig is in operation.

(c) During the required safety inspection, special attention shall be paid to:

- (A) Operating ropes at the becket ends, overwraps on the drum or hoist and sheave points if pickups are made at the same point repeatedly;
- (B) Track cable for broken wires near sockets and in the span under the pickup or unloading point and for broken wires and worn or faulty track cable socket bearings;
- (C) Slack carriers for loose or broken parts, and to see that the carrier rollers turn freely and are well oiled;
- (D) Electrical system, especially for faulty connection where the current might possibly go to ground through the earth rope, traveling towers, tracks, wheels, journals and tower moving apparatus.
- (d) Operating ropes shall be re-becketed on a regular program. Re-becketing after 30 or more operating shifts is suggested. At least four rope lay lengths shall be cut off each time. Operating ropes shall be repaired or replaced in accordance with the recommendations of the wire rope manufacturer;
- (e) The recommendations of the wire rope manufacturer shall be followed in re-socketing track cables in replacing regular strand, locked coil or other armored construction track cable;
- (f) Hoist brakes and frictions shall be maintained in good condition at all times. Hoisting engine shall be located so that the operating ropes have the proper fleet angle to the nearest sheave which shall be oriented to lead to the center of the drum in the hoist. The hoist operator should be located so that he or she can see the hoist and working area of the cableway;
- (g) Hook tenders serving the cableway will be permitted to "ride the hook" if the ground does not permit other access. Proper foot stands and hand holds shall be provided for two persons on the hook, fall block, safety belts and lifelines used; otherwise a manskip must be used. Signals for the operation of the rig may be given to a signaller or to the operator. Inexperienced hook tenders shall not ride the hook alone until they have had a period of 30 working shifts with an experienced cableway hook tender;
- (h) Loads carried by cableways shall be secured by safety hooks, or shackles, in such a manner that they cannot shift or slip while suspended by the cableway. Load hooks shall be provided with safety shields to keep the load slings on the hook. Slings must be used in pairs so that the load will not untwist the lay of a single rope;
- (i) If the cableway is not in use for a 24-hour period or more, an inspection of the hoist shall be made before the cableway is started;
- (j) For use in controlling cableway operations, appropriate telephone or other signal system shall be provided;
- (k) Suitable lighting shall be provided at critical points for night operation and repairs.
- (29) Aerial Tramway Truck Cables and Hauling Ropes:
 - (a) Track cables and hauling ropes shall be of appropriate, construction and adequate capacity for the life, type and nature of the installation;
 - (b) Tail ropes shall be provided to avoid jerky operation and possible derailment;
 - (c) Suitable adjustment should be provided to maintain the original design relation of hauling rope and tail rope tensions. The vertical component of rope tensions should always be such that the rope never tends to lift out of the support sheaves;
 - (d) Carriage hauling rope grips shall be designed to supply the necessary pulling components without damage to the rope due to slippage or excessive grip pressures. Hauling rope down pull on carriers must be kept to a minimum to prevent damage to rope and to avoid damaging the bucket hangers.

(30) Aerial Tramway Drives:

(a) Tramway drives shall be equipped with a brake on the same shaft as the drive sheave. The brake system shall be adequate for stopping and holding the load at any point. The brake shall not be used for absorbing power developed by overhauling load during normal operation. Such developed power should be dissipated electrically, hydraulically or pneumatically. The main drive brake shall be applied automatically if electric power fails;

(b) The driving sheave control shall be such that reduction of velocity is automatic as the bucket(s) approaches the terminal station.

(31) Wire Rope Sockets on Aerial Tramways. Wire rope connections shall be properly applied sockets using only pure zinc or connections which provide 100 percent of the strength of the rope.

(32) Aerial Tramway Tower Saddles. Tower saddles for track cables shall have ample radii to minimize bending stress and thus prolong the life of the cables. Stationary curved saddles of long radius may be employed where the cable breakover angle exceeds that possible with a rocking saddle. The radius of the saddle shall be large enough to reduce the bearing pressure to a value which will permit the cable to slide in the saddle groove. All saddles must be lubricated at regular intervals.

(33) Aerial Tramway Supporting Structure. Supporting structures shall be designed to withstand the full known loads plus allowances for impact with due regard for the nature of the structural elements, the type of structure, and the manner of application and release of loads. Ladders, platforms and handholds shall be provided as necessary to facilitate the inspection of the structures and tramway parts.

(34) Aerial Tramway Crossing Guards. Crossing guards shall be provided where the tramways cross highway, railways, or other passageways. These guards shall be of adequate construction for the type of material being handled on the tramway.

(35) Aerial Tramway Operation and Maintenance:

(a) The tramway supervisor shall be charged with the responsibility for allowing only authorized and properly qualified parties around the tramway rig;

(b) Inspection of the complete rig, track cables, buckets, structures, drives, electrical apparatus, and other operating parts shall be made at regular intervals. Only the tramway supervisor and personnel designated by him or her shall be allowed to "ride" the buckets and then only in performance of a specific duty such as inspection of track cables;

(c) Grips on continuous tramways shall be inspected and adjusted at periodic intervals. Worn parts shall be replaced promptly;

(d) Lubrication of track cables, hauling rope bearings, rails and guides shall be performed at regular intervals.

NOTE: The lubrication of the hauling rope should preferably be continuous by means of a controlled drop feed from an oil reservoir at one or both ends of the line. This lubrication should not occur as the rope enters the driving sheave, but rather as the rope leaves the drive sheave and passes over a support sheave.

(e) Where counterweighted spans are used, the counterweight shall hang free when the cable is fully loaded. The deflection of anchored spans shall be adjusted by take-up means provided to keep the cable tension within the proper limits.

(36) Aerial Tramway Traffic Control System:

(a) There shall be at least three control systems, as the operation of an aerial tramway is dangerous without alternate communication systems.

NOTE: Recommended Communications Systems:

(1) A bell signal code and push button stations for warning of stop, start, slow speed, high speed, and reverse. Portable linesman sets should be provided for tapping along the line;

(2) An all metallic aerial wire circuit telephone with instruments at certain points along the line in addition to the terminal sets;

(3) A second telephone circuit which may be grounded if desired.

(b) Condensers for static elimination and lightning arrestors should be installed to protect instruments;

(c) Protection should be provided against short-circuiting of the telephone and bell circuits by water running down the line supports and diverting current to the towers and station steel;

(d) Suitable lighting shall be provided at critical points along the line for night operation and repairs;

(e) When vehicles are drawn up an incline by means of a cable, the cable shall be in alignment with the central line between the vehicle tread and the hoisting drum. A substantial bumper shall be installed at the foot of the incline, or if the vehicle travels beyond this point, at the end of its runway. Workers shall not ride on the vehicle nor remain in a position behind the vehicle when it is in motion.

(37) Material Hoists -- General Requirements:

(a) All material hoist towers shall be designed, built, and tested under the direction of a licensed professional engineer;

(b) The employer shall comply with the manufacturer's specifications and limitations applicable to the operation of all hoists and elevators. Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a professional engineer competent in the field;

(c) Platforms of ample size and strength with standard railings shall be built at each level where persons work. See requirement in OAR Chapter 437, Division 2/D, Walking-Working Surfaces;

(d) Standard railings shall be placed on the open sides of runways connecting the tower to the structure with a gate provided at all openings into the tower;

(e) Rated load capacities, recommended operating speeds, and special hazard warnings or instructions shall be posted on cars and platforms;

(f) Hoisting ropes shall be installed in accordance with the wire rope manufacturer's recommendations;

(g) Wire rope shall be removed from service when any of the following conditions exist:

(A) In hoisting ropes, six randomly distributed broken wires in one rope lay or three broken wires in one strand in one rope lay;

(B) Abrasion, scrubbing, flattening, or peening, causing loss of more than one-third of the original diameter of the outside wires;

(C) Evidence of any heat damage or any damage caused by contact with electrical wires;

(D) Reduction from nominal diameter of more than 3/64 inch for diameters up to and including 3/4 inch; 1/16 inch for diameters 7/8 to 1-1/8 inch; and 3/32 inch for diameters 1-1/4 to 1-1/2 inches.

(h) All welding on critically stressed members of hoisting devices shall be performed within the current standards of the American Welding Society and the welding performed by welders qualified to perform high quality welding;

(i) The installation of live booms on hoists is prohibited;

- (j) Operating rules shall be established and posted at the operator's station of the hoist. Such rules including signal system and allowable speed for various loads shall be enforced. Rules and notices shall be posted on the car frame or crossheads in a conspicuous location, including the statement "No Riders Allowed";
- (k) Hoisting machines, except those equipped with automotive controls, shall be operated by regularly assigned, trained operators;
- (l) No person shall be allowed to ride on material hoists except for the purposes of inspection and maintenance. Such rides shall be made without material aboard except that necessary for the purpose of inspection and/or maintenance;
- (m) All entrances of the hoistways shall be protected by substantial gates which shall guard the full width of the landing entrance. All hoistway entrance gates shall be painted with diagonal contrasting colors, such as black and yellow stripes;
- (n) Gates shall be of not less than 2- by 4-inch wood or the equivalent, located no less than two feet from the hoistway line. Gates shall be no less than 42 inches high;
- (o) Gates protecting the entrances to hoistways shall be equipped with a latching device;
- (p) Overhead protective covering of 2-inch planking, 3/4-inch plywood, or other solid material of equivalent strength shall be provided on the top of every material hoist cage or platform;
- (q) The operator's station of a hoisting machine shall be provided with overhead protection equivalent to tight planking not less than two inches thick. The support for the overhead protection shall be of equal or greater strength;
- (r) When using a hoist for long material, the material shall be securely fastened to the hoist so that no part of the load can fall or project beyond the sides of the hoist;
- (s) Blocking, tie-downs, or other effective means to secure loads or materials, when necessary, shall be provided at all hoist platforms;
- (t) Hoist towers may be used with or without an enclosure on all sides. However, whichever alternative is chosen, the following applicable conditions shall be met:
 - (A) When a hoist tower is enclosed, it shall be enclosed on all sides for its entire height with a screen enclosure of 1/2-inch mesh, No. 18 U.S. gauge wire or equivalent, except for landing access;
 - (B) When a hoist tower is not enclosed, the hoist platform or car shall be totally enclosed (caged) on all sides for the full height between the floor and the overhead protective covering with 1/2-inch mesh of No. 14 U.S. gauge wire or equivalent. The hoist platform enclosure shall include the required gates for loading and unloading. A six-foot high enclosure shall be provided on the unused sides of the hoist tower at ground level.
- (u) Car arresting devices shall be installed to function in case of rope failure.

(38) Automotive Hoists:

- (a) Whenever automotive hoists are elevated with a load to a position which presents a hazard to employees, the lift shall be supported by a safety device capable of preventing descent should the lift fail in any manner;
- (b) Lifts will be operated in accordance with the manufacturer's recommendations and those of ANSI B153.1-1990;
- (c) Vehicles will be placed on lifts in accordance with manufacturers recommendations and in a manner to assure stability.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 7-1974, f. 3-19-74, ef. 4-15-74; WCB 30-1974, f. 7-5-74, ef. 9-1-74; WCB 23-1976, f. 9-8-76, ef. 11-15-76; WCB 3-1977, f. 3-18-77, ef. 6-1-77; WCD 4-1979, f. 5-21-79, ef. 7-15-79; APD 12-1988, f. & ef. 7-22-88; OSHA 13-1993, f. 8-20-93, cert. ef. 11-1-93; OSHA 1-1996, f. & cert. ef. 2-16-96

437-002-0223

Oregon Rules for Commercial and Industrial Vehicles

(1) Scope and Application:

(a) This rule shall apply to all motor vehicles used in employment;

(b) All earth moving equipment such as scrapers, loaders, agricultural and industrial tractors, bulldozers, graders, and similar equipment not covered by this rule shall be covered by OAR Chapter 437, Division 3/O, 1926.602, Material Handling Equipment.

(2) Definitions:

(a) "Commercial-Type Vehicles" -- Motor vehicles designed, used or maintained primarily for the transportation of persons or material over private or public roads. Commercial-type vehicles used to transport workers shall be defined as:

(A) Class "A" vehicle -- A vehicle of the bus type designed to carry 12 or more workers; or of the "work crew" type especially built or accommodated for carrying passengers;

(B) Class "B" vehicle -- A vehicle especially built or accommodated for transporting work crews in compartments separate from space used to transport supplies, tools and equipment such as vehicles commonly used by public utilities;

(C) Class "C" vehicle -- A vehicle of the flatbed, pickup body or dump truck body type, or of similar open body construction;

(D) Class "D" vehicle -- A vehicle of the passenger car or station wagon type.

(b) "Industrial-Type Vehicles" -- Vehicles designed for non-highway usage, primarily for pulling trailers or other mobile loads, straddle trucks such as lumber carriers, power industrial trucks, and other types of vehicles especially designed for handling materials.

NOTE: When the term "vehicle" is used in this rule by itself, it is meant to include all definitions found in section (2) of this rule.

(3) Operation of Vehicles:

(a) No employee under 18 years of age shall be permitted to operate a commercial- or industrial-type vehicle, tractor, power industrial truck or other vehicles of like character;

(b) No operator shall operate any vehicle which is not in safe condition. Any unsafe condition found on any vehicle shall be corrected before the vehicle is placed in service;

(c) Only trained and authorized operators shall be permitted to operate a vehicle. Methods shall be devised to train operators in the safe operation of industrial-type vehicles;

(d) No one but the operator shall be permitted to ride on vehicles unless safe riding facilities are provided for each additional person authorized to ride;

(e) Vehicles shall not be driven up to anyone standing in front of a stationary object;

- (f) Vehicles shall not be routed across principal plant thoroughfares and plant exits while work shifts are changing unless pedestrian lanes are provided and suitably guarded;
- (g) The right-of-way shall be yielded to all emergency vehicles;
- (h) Drivers of vehicles shall be required to stop at blind crossings and corners where necessary for safe operation;
- (i) Drivers of vehicles shall not overtake and pass other vehicles at intersections, blind spots, curves, and other dangerous locations;
- (j) The operator shall be required to look in the direction of travel, and to have a clear view of the path of travel, unless guided by a signal person who has a clear view of the route;
- (k) Vehicles shall be controlled manually while being pushed or towed except when a tow bar is used. Special precautions shall be taken when pushing vehicles where view is obstructed;
- (l) No person shall be allowed to stand or pass under the elevated portion of a vehicle whether loaded or empty;
- (m) Workers shall not remain under or work under loads or units of materials being moved;
- (n) Workers riding in motor vehicles having adequate seating facilities or in vehicles not equipped with sides and end gates at least 48 inches high shall not stand while the vehicle is in motion, except as permitted in OAR 437-002-0223(11)(e). Passengers must wait for the vehicle to come to a complete stop before boarding or leaving;
- (o) No vehicle shall be loaded beyond its safe operating capacity, and all loads shall be stable and well-balanced;
- (p) Employees shall not occupy cargo space in a loaded or partially loaded vehicle while vehicle is in motion unless the load is adequately shored, braced, or otherwise secured;
- (q) No vehicle shall be driven if so loaded as to be unstable or insecure;
- (r) Wheels of vehicles being loaded shall be properly blocked, in addition to having brakes set, where this additional precaution is necessary to prevent movement of vehicles;
- (s) When vehicles are parked, the parking brake shall be set. The wheels of vehicles parked on an incline shall be blocked or chocked;
- (t) All equipment left unattended at night, adjacent to a highway in normal use, or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, to identify the location of the equipment.
- (4) Hauling of Explosives Prohibited. No explosives shall be hauled on any vehicle while it is engaged in transporting workers. This rule shall not prohibit the driver and one qualified person from riding in a vehicle in which explosives are being hauled.
- (5) Railroad Cars:
 - (a) Spotted railroad cars shall have their brakes set, or wheels blocked, to prevent cars from moving while being loaded;
 - (b) Derail or bumper blocks shall be provided on spur railroad tracks where a rolling car could contact cars being worked, or could enter a building or a work area or traffic area;
 - (c) Workers shall not crawl under or pass between railroad cars to cross tracks.
- (6) Overhead Wires -- Operating Near Power Lines: For requirements when working and/or operating vehicles around

high voltage power lines, see OAR 437-002-0322, 437-002-0323, 437-002-0324, 437-002-0325 and 1910.333(b).

(7) Vehicle Components:

- (a) A positive engine shut-off shall be provided within reach of the operator when in normal operating position;
- (b) Necessary steps, ladders, handholds, or grab bars shall be provided on vehicles in order to furnish safe access to all accessible areas. Steps shall be constructed or treated to be as slip-proof as possible;
- (c) All vehicles whose pay load is loaded by means of cranes, power shovels, loaders or similar equipment shall have a cab shield or canopy adequate to protect the operator from shifting or falling materials;
- (d) The backs of vehicle cabs which are exposed to shifting loads shall be provided with a substantial bulkhead or similar device;
- (e) Conventional steel vehicle cabs and passenger areas must be capable of withstanding potential impact to which they are exposed;
- (f) Vehicles equipped with cabs shall be provided with a door or doors. Doors provided shall open easily;
- (g) All vehicles which are equipped with roll-over protective structures, and all commercial vehicles built after 1971 shall be equipped with safety belts for the driver and for any passengers for whom space is provided;
- (h) Materials being transported shall not be carried in a manner which would prevent doors of vehicle cabs from being opened. When the load blocks the cab door on the one side of the vehicle, means for easy escape shall be provided, such as a "knock-out windshield" or an opening in rear or driver's compartment leading to rear of vehicle which is open or equipped with a door which can be opened from the inside, or similar means of emergency escape;
- (i) When materials, equipment and tools of any type are transported at the same time with workers, the workers and driver shall be protected from the hazards of such materials, equipment or tools by substantial partitions or the securing of the load.

(8) Flashing Warning Lights. Buses having a seating capacity of 12 passengers or more which are used to pick up and discharge workers passengers on the roadway shall be equipped with either a red flashing four-light system or an amber and red flashing eight-light system.

(9) Construction of Vehicles:

- (a) Class "A" and "B" vehicles shall be constructed or accommodated for transporting passengers, and shall be equipped with adequate seats and back rests firmly secured in place, and with such sides and ends as necessary to prevent persons from falling off the vehicle;
- (b) Bus type vehicles having an enclosed seating compartment capacity of 12 or more workers, unless loaded from the rear, shall be provided with an emergency exit not less than 24" wide by not less than 48" high situated at the left side or rear of the vehicle. Doors shall be provided on bus type vehicles and shall be kept closed during transit and must operate freely at all times. They must be constructed as to be easily opened from either inside or outside the vehicle.

(10) Overhead Protection Required. Class "A" and "B" vehicles shall be provided with bodies and tops of sufficient strength to support the entire weight of the fully loaded vehicle on its top or side if overturned. Adequate means of escape and proper ventilation shall be provided.

(11) Class "C" Vehicles. Flatbed trucks, dump trucks and pickups shall not be used to transport workers, except when the following conditions are complied with:

- (a) Truck beds shall be adequately secured to the truck frame;

(b) Vehicles with tilting, sliding or otherwise movable decks or bodies shall have decks or bodies secured in a manner to prevent accidental movement. Dump truck bodies shall be secured or the hoist lever locked;

(c) Flatbed vehicles, when provided with seats for the workers, shall be equipped with substantial sides not less than 42" high, secured to an end gate or the vehicle cab at the front end, and either with a 42" high end gate across the rear, secured to the vehicle sides, or with not less than three chains or ropes securely fastened across the back of the vehicle deck at the following approximate heights: The top rope or chain 42" high, the intermediate 28" high, and the bottom 14" high. Seats shall be firmly secured and no openings larger than six inches vertical shall be permitted in sides or in end gates;

(d) Flatbed vehicles not provided with seats shall be equipped with substantial sides and end gates not less than 24" high and workers shall be required to sit on the floor;

(e) If sides and end gates are not provided on flatbed vehicles, not more than four persons shall be permitted to ride behind the truck cab, and then only if substantial handholds are provided for their safety and they are required to use the handholds. Handholds may consist of:

(A) A 3/4" or larger pipe secured to cab or cab guard;

(B) The top of the cab guard;

(C) Slotted holes in cab guard; and

(D) A wooden 2" x 4" bar secured to cab or cab guard;

(E) All handholds shall be of a convenient height. Workers under 16 years of age shall not be permitted to ride in this manner.

(f) Flatbed trucks on which more than four workers are required to stand shall have substantial sides and end gates not less than 48" high with no openings larger than six inches vertical. Sides and ends shall be secured as required in subsection (c) of this section;

(g) Pickup and dump truck tailgates shall be closed and secured and workers shall sit on the floor unless seat firmly secured in place and substantial sides not less than 42" high are provided. A chain or rope shall be secured across the rear of such vehicles equipped with seats;

(h) When workers are permitted to sit on low boxes or similar equipment, side rails which will increase height of pickup and dump truck bodies to not less than 36" shall be added with no openings larger than six inches. When heavy canvas is used as a top and sides and secured to the vehicle sides, the addition of side rails will not be required.

(12) Number of Passengers -- Standees -- Passenger Compartment. All Class "A" and "B" type vehicles equipped with seats of any kind shall be provided with an aisle (or passageway between seats) at least 12" in width leading to the emergency exit. Workers shall not sit on the floor in such aisles or passageways while the vehicle is in motion. Not more than one worker per row of seats shall be permitted to stand. No workers shall be permitted to stand or sit in the driver's compartment ahead of the front row of seats. Under no circumstances shall boards be placed across an aisle to provide additional seating space. Neither shall seats of any type be placed in an aisle. Substantial handholds shall be provided for standees.

(13) Maximum Time or Distance Permissible for Standees. When workers being transported, in any class of vehicle, are required to stand during transit those persons not provided with seats shall not be permitted to stand for more than one hour, or for a greater distance than 45 miles of vehicle travel, whichever is the lesser. A rest period of not less than 15 minutes shall be required before continuing trip unless those standing are given seats.

(14) Passenger Compartments:

- (a) Floors and decks shall be suitable for safe footing;
- (b) All openings between enclosed passenger compartments and engine or exhaust at which fumes or gases may enter shall be effectively sealed;
- (c) Construction of enclosed passenger compartments shall provide a reasonably dust-proof and watertight unit;
- (d) Floors and interior of sides and ends and tops of compartments used for transporting workers shall be free of inwardly protruding nails, screws, splinters or other protruding objects which might cause injury;
- (e) Whenever necessary to protect workers from inclement weather conditions, a top and facilities for closing the sides and ends shall be provided. Tarpaulins or other such removable protective devices shall be secured in place during transit.

(15) Windshields -- Windows:

- (a) All vehicles with windshields shall be equipped with powered wipers. Vehicles operating in areas or under conditions that cause fogging or frosting, shall be equipped with operable windshield defogging or defrosting device;
- (b) Windshield and windows installed on vehicles shall be of a safety glass which will meet the requirements for safety glazing material for use anywhere in a motor vehicle as defined in the American National Standards Institute, Safety Glazing Materials for Glazing Motor Vehicles Operating on Land Highways, No. Z26.1-1950 with addenda No. Z26.1a-1964, or a material which will furnish equivalent safety;
- (c) Defective or broken glass in a vehicle which impairs the vision of the operator shall be replaced. Broken or shattered glass which could cause injury to occupants of the vehicle shall be removed and replaced;
- (d) Deposits on glass which impair the vision of the operator shall be removed.

(16) Brakes:

- (a) All vehicles shall be provided with brakes which are capable of controlling the vehicle while fully loaded on any grade over which they are to be operated;
- (b) Parking brakes shall be able to hold the loaded vehicle on any grade on which it is operated, on any surface free of ice or snow;
- (c) Brakes on all vehicles must be in safe working condition at all times and shall be tested as often as operating conditions warrant during the time said vehicle is in use.

(17) Steering. Steering or spinner knobs shall not be attached to the steering wheel unless the steering mechanism is of a type that prevents road reactions from causing the steering handwheel to spin. The steering knob shall be mounted within the periphery of the wheel.

(18) Lights:

- (a) Controlled lighting of adequate intensity shall be provided in loading areas;
- (b) Where general lighting in vehicle operating areas is less than two foot candles per square foot, vehicles shall be provided with lights which are adequate to safely illuminate the path of travel;
- (c) Vehicles which are operated at night shall have sufficient light at the operator's station to enable the operator to perform his work safely;
- (d) Whenever visibility conditions warrant additional light, all vehicles in use shall be equipped with at least two headlights and two taillights in operable condition;

(e) All vehicles, except track and site-clearing machines, shall be equipped with brake lights in operable condition regardless of light conditions.

(19) Inspection, Testing, Maintenance, and Repair:

(a) All vehicles shall be checked at the beginning of each shift to assure that they are in safe operating condition and free of apparent damage that could cause failure while in use;

(b) Any defects which are found during inspection, which materially affect the safe operation of the vehicle will be corrected before the vehicle is placed in service;

(c) Any vehicle which develops defects in parts vital to safe operation during a work shift shall be removed from service until necessary repairs are made;

(d) A safety tire rack, cage, or equivalent protection shall be provided and used when inflating or mounting tires on split rims, or rims equipped with locking rings or similar devices;

(e) Heavy machinery, equipment, or parts which are supported by slings, hoists, jacks, or other devices, shall be blocked or cribbed to prevent falling or shifting before employees are permitted to work under or between them:

(A) Bulldozer and scraper blades, end-loader, end-loader buckets, dump bodies, and similar equipment, shall be either fully lowered or blocked when being repaired or when not in use;

(B) All controls shall be in neutral with motors stopped and brakes set, unless work being performed requires otherwise.

(f) Vehicles with dump bodies shall be equipped with positive means of support, permanently attached, and capable of being locked in position to prevent accidental lowering of the body. This device shall be used to support the body when it is raised and left unattended, or while maintenance or inspection work is being done;

(g) The battery shall be disconnected prior to making repairs to a vehicle electrical system where accidental closing of the circuit could cause injury to workers;

(h) All vehicle replacement parts shall meet current safety standards;

(i) Any vehicle that emits hazardous sparks or flames from the exhaust system shall immediately be removed from service and not returned to service until the hazardous emission has been eliminated;

(j) Compartments for workers shall be kept in a clean and sanitary condition, and workers shall assist in maintaining such conditions.

(20) Guard:

(a) Wherever front or rear wheels on all types of vehicles except pneumatic-tired earth-moving equipment, are not guarded by the vehicle body and present a hazard to workers, they shall be guarded with wheel fenders, bumpers, or skirt guards. These guards shall be designed to prevent the operator, or other workers from being struck by the wheels;

(b) Vehicles with maximum speed exceeding 20 MPH shall be equipped so that the operator is not exposed to material thrown from the wheels.

(21) Fueling:

(a) Smoking within 35 feet of vehicles being fueled is prohibited;

(b) Vehicle engines, except diesel engines, shall be stopped while being fueled;

- (c) Refueling of Class "A" and "B" vehicles shall be done when vehicles are not occupied;
- (d) Fueling of vehicles within 35 feet of any open fires, flame, lights, or other sources of ignition is prohibited;
- (e) Refilling vehicle tanks using liquefied petroleum gases shall be done only out-of-doors. Maximum quantity of fuel placed in tanks shall not exceed that recommended by the manufacturer;
- (f) Any spillage of oil or fuel shall be carefully washed away or completely evaporated and the fuel tank filler cap replaced before restarting engine.

(22) Hauling of Gasoline, etc.:

- (a) Gasoline and other low flash point liquids shall not be hauled on Class "A", "B" and "D" vehicles transporting workers except when in U.L. approved, closed safety containers of not more than five gallons capacity and provided such containers are carried in a safe, suitable location outside the passenger compartment. Such containers shall be carried as far away from the passenger compartment as possible and where they will not block exit from the vehicle and shall be firmly secured to prevent shifting or placed in well-ventilated compartments or racks;
- (b) Gasoline in containers larger than five gallons may be transported in Class "C" vehicles provided all workers ride in the cab of the vehicle or in a separate compartment.

(23) Warning Devices:

- (a) All vehicles shall be equipped with an audible warning device which can be clearly heard above the surrounding noise in the vicinity of the vehicle;
- (b) Vehicles with obstructed view to the rear shall be equipped with a reverse signal alarm audible above the surrounding noise level, unless:
 - (A) The vehicle is backed only when an observer signals that it is safe to do so; or
 - (B) The vehicle operator first verifies that no person is in the path of the reverse travel, or is in position to enter it unobserved.
- (c) Where vehicular traffic is hazardous to workers, the movement of vehicles shall be controlled in conformance with the American National Standards Institute (ANSI) D6.1e 1989, Manual on Uniform Traffic Control Devices of Streets and Highways;
- (d) When traffic control devices are required to be used by 437-002-0223(23)(c), they shall be installed at the inception of the project or operations, and shall be properly maintained and operated during the time such special conditions exist;

(24) Control of Exhaust Gases:

- (a) Vehicles shall be equipped with a muffler, in good working order, of the type recommended by the vehicle manufacturer;
- (b) Exhaust pipes shall be so located as to direct the exhaust gases away from the operator and any passengers;
- (c) Any exhaust pipe which is exposed to contact shall be insulated or isolated to protect workers from contact burns.

(25) Sun Shields. All class vehicles shall be equipped with an adjustable sun visor.

(26) Heating of Vehicles. Heating units shall be guarded or covered to prevent workers from being burned by accidental contact.

(27) First Aid Kits. Class "A" and "B" commercial-type vehicles used for the transportation of workers shall carry a first

aid kit suitable for the number of passengers customarily transported. First aid kits shall be located where they are readily available to the driver or crew and shall be maintained in good order.

(28) Fire Extinguishers. Class "A" and "B" commercial-type vehicles used to transport workers shall also be equipped with a minimum two-pound type B/C fire extinguisher.

(29) Rear-View Mirrors. All commercial vehicles shall be equipped with outside-mounted rear-view mirrors on each side when the load or passengers obstruct the use of the rear-view mirror located in the cab.

(30) Safety Chains on Commercial Vehicles:

(a) Safety chains or cables shall be so connected to the towed and towing vehicles and to the tow bar as to prevent the tow bar from dropping to the ground in the event the tow bar or coupling device fails;

(b) Safety chains or cables shall have a tensile strength equivalent to the gross weight of the towed vehicle and their means of attachment to the towed and towing vehicles shall be of sufficient strength to control the towed vehicle in event the tow bar or coupling device fails;

(c) No more slack shall be left in safety chains or cables than shall be necessary to permit proper turning;

(d) Towed vehicles having a gross weight of 5,000 pounds or less shall be equipped with one or more safety chains or cables. Towed vehicles having a gross weight in excess of 5,000 pounds shall be equipped with two or more safety chains or cables;

(e) Any coupling device on any towing vehicle used as a connection for the tow bar on any towed vehicle having a gross weight in excess of 5,000 pounds shall be firmly attached to the frame or to a solid connection to the frame. This section on safety chains does not apply to a temporarily disabled vehicle being towed by another vehicle, to saddle-mount towing, or to a semi-trailer coupled to a towing vehicle with a fifth wheel and kingpin assembly so designed that the upper and lower halves may not be separated without being manually released onto a dolly without a tow bar.

(31) Coupling Device on Commercial Vehicles. Drawbar, coupling device, and other connections provided for towing of trailers shall be of sufficient strength to hold the weight of the towed vehicle upon any grade over which it may be operated. Such connections shall be properly mounted without excessive slack but with sufficient play to allow for universal action of the connections, and shall be provided with a suitable locking means to prevent accidental separation of the towed and towing vehicles.

(32) Signals:

(a) Where the vehicle operator's hand signal cannot be clearly seen, turn signal lights or other means to signal shall be provided;

(b) A red flag shall be placed on the extreme end of materials that project four feet or more beyond the vehicle body when transported during daylight hours. A red light shall be displayed at night.

(33) Controls:

(a) Operating levers controlling hoisting or dumping devices on haulage bodies shall be equipped with a latch or other device which will prevent accidental starting or tripping of the mechanism;

(b) Trip handles for tailgates of dump trucks shall be so arranged that, in dumping, the operator will be in the clear.

(34) Modifications. Modifications and additions which affect capacity and safe operation shall be performed under the direction of the manufacturer or a professional engineer. Capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly.

(35) Nameplates and Markings. All nameplates and markings shall be in place and maintained in a legible condition.

(36) Capacity Markings. The rated capacity of each power industrial truck shall be posted in plain view of the operator and be legible.

(37) Application. Roll-over protective structures (ROPS) shall be provided, installed and maintained on industrial vehicles which were manufactured after July 1, 1969. ROPS requirements apply to the following types of industrial vehicles and equipment: Rubber-tired self-propelled scrapers; front-end loaders and dozers; skid-steer equipment; wheel-type industrial tractors; crawler tractors; crawler-type loaders; and motor graders, with or without attachments, that are used in industrial work. This requirement does not apply to sideboom pipe laying tractors, or other vehicles whose structure prevents overturn, or to tractors used only in farming operations.

(38) ROPS -- General Requirements:

(a) Roll-over protective structures and their supporting attachments to industrial vehicles shall be capable of supporting twice the weight of the vehicle, applied at the point of impact;

(b) The design objective for roll-over protective structures on industrial vehicles shall be to minimize the likelihood of a complete vehicle overturn, and to minimize the possibility of the operator being crushed;

(c) A vertical clearance of at least 52 inches between the work deck and the ROPS canopy is required for ingress and egress;

(d) ROPS which have been removed for any reason, shall be remounted with equal quality, or better, bolts or welding as required for the original mounting.

(39) Defects:

(a) Defects in ROPS shall be repaired by equal quality or better materials and welding as required for the original structure;

(b) Minimum performance criteria for roll-over protective structures for designated vehicles are contained in the following Society of Automotive Engineers (SAE) standards:

(A) Prime movers, for scrapers, water wagons, bottom dump wagons, side dump wagons, rear dump wagons, towed fifth wheel attachments. (SAE-J320, September 1972);

(B) Wheeled front-end loaders and wheeled dozers. (SAE-J394a, September 1972);

(C) Track-type tractors and front-end loaders. (SAE-J395a, September 1972);

(D) Motor graders. (SAE-J4396a, September 1972);

(E) Wheel-type agriculture and industrial tractors. (SAE-J167, 1971);

(F) Falling object protective structures (FOPS). (SAE-J231, May 1971).

(40) Identification of ROPS. Each ROPS shall have the following information permanently affixed to the structure:

(a) Manufacturer or fabricator's name and address;

(b) ROPS model number, if any; and

(c) Machine make, model, or series number that the structure is designed to fit.

(41) Approved Structures. Any machine in use, equipped with roll-over protective structures, shall be deemed in

compliance with section (37) through (41) of this rule if it meets the roll-over protective structure requirements of the U.S. Army Corps of Engineers, or the Bureau of Reclamation of the U.S. Department of the Interior, in effect on April 5, 1972. The requirements in effect are:

(a) U.S. Army Corps of Engineers: General Safety Requirements, EM-385-1-1 (March 1967);

(b) Bureau of Reclamation, U.S. Department of the Interior: Safety and Health Regulations for Construction, Part II (September 1971).

(42) Roadways:

(a) Roadways shall be of sufficient width and evenness to ensure the safe operation of equipment;

(b) Sufficient turnouts shall be provided and a safe side clearance shall be maintained along roads and runways;

(c) Low clearance areas under conveyors which could present a hazard to mobile equipment operations shall be identified by a suitable means, such as signs, contrasting colors, or flags;

(d) Broken planking, deep holes, large rocks, logs or other dangerous surface defects shall be corrected before any equipment is used thereon;

(e) Obstructions to clear view at intersections or on sharp curves shall be removed or all reasonable precautions taken to relieve the hazards of these conditions;

(f) An ample supply of non-skid materials, such as coarse sand or finely crushed rock, shall be available and used on slipper surfaces;

(G) Road grades shall not be too steep for safe operation of vehicles which operate over them and shall not exceed 20 percent in any case unless an auxiliary means of lowering vehicles is provided or unless vehicles are specifically designed and approved for operation on grades in excess of 20 percent.

(43) Access Roadways, Grades:

(a) No employer shall move, or cause to be moved, vehicles upon any access roadway or grade unless the access roadway or grade is constructed and maintained to accommodate safely the movement of the equipment and vehicles involved;

(b) Every emergency access ramp and berm used by an employer shall be constructed to restrain and control runaway vehicles;

(c) Elevated bridges, runways or ramps and loading docks shall be constructed to safely support at least four times the weight of any load to which it may be subjected. Ramps shall be covered with a material which will minimize the danger of skidding;

(d) The maximum inclination of a ramp used for wheeled equipment shall not exceed 20 percent from horizontal;

(e) Elevated bridges, ramps or runways used for the travel of wheeled equipment shall have exposed sides guarded with a substantial bull rail or sheer rail of sufficient height to prevent wheeled equipment from going over the rail.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 30-1974, f. 7-5-74, ef. 9-1-74; WCB 23-1976, f. 9-8-76, ef. 11-15-76; WCB 3-1977, f. 3-18-77, ef. 6-1-77; WCD 7-1980, f. 6-20-80, ef. 7-1-80; WCD 15-1984, f. 10-25-84, ef. 11-1-84; WCD 3-1985, f. 2-22-85, ef. 3-1-85; APD 4-1988, f. & ef. 3-14-88; APD 2-1989, f. 3-1-89, ef. 3-1-89; OSHA 4-1990, f. & cert. ef. 1-23-90; OSHA 13-1993, f. 8-29-93, cert. ef. 11-1-93; OSHA 1-1996, f. & cert. ef. 2-16-96

437-002-0227

Additional Oregon Rules for Powered Industrial Trucks

(1) Overhead guards:

(a) Where a rider type lift truck operator is exposed to hoisted objects that might fall, or stacked objects that might be dislodged and fall, the truck shall be equipped with an overhead guard. The guard shall be of sufficient strength to support impact load tests as specified in **Table 1**:

Table 1

Rated Truck Capacity at 24" Load Center	Impact Test (Load x Drop Distance)	Minimum Weight of Test Load
3,000 and under	4,000 ft.-lbs.	750 lbs.
3,001 to 5,000 lbs.	8,000 ft.-lbs.	1,500 lbs.
5,001 to 8,000 lbs.	16,000 ft.-lbs.	3,000 lbs.
8,001 to 14,000 lbs.	24,000 ft.-lbs.	3,000 lbs.
14,001 to 25,000 lbs.	32,000 ft.-lbs.	3,000 lbs.
25,001 and over	36,000 ft.-lbs.	3,000 lbs.

(b) Impact load tests shall be conducted with the guard in place on a vehicle for which it is designed or on a simulated mounting. Running gear need not be in place. The load shall be dropped in free fall from an appropriate height so that the impact is centered approximately above the driver's position. Test loads shall have a length equal to or greater than the width of the guard, and shall strike the canopy at right angles to the vehicle frame;

(c) Guards of a design which has been so tested shall be identified by a metal tag permanently attached to the canopy in a position where it may be easily read from the ground. This tag shall be permanently and clearly marked with the impact test load, expressed in foot-pounds to which guards of the same design have been tested;

NOTE: Guard required by subsections (a) through (c) of this section, or by the subsections following, are not intended to withstand the impact of a capacity load falling from any height.

(d) Guards which are not of a design which has been tested in accordance with subsections (a) through (c) of this section, may be constructed of material as specified in **Table 2** or material of equivalent strength:

Table 2

Rated Truck Capacity Round Pipe Square Tube (CRS)

Standard X XX 3/16" 1/4"

Heavy Heavy Wall Wall

3,000 and under	1-1/2"	1-1/4"	1-1/4"
3,001 to 5,000	2"	1-1/2"	1-1/2"
5,001 to 8,000	2-1/2"	2"	1-1/2" 2"

8,001 to 14,000	3"	2-1/2"	2"	3"	2-1/2"
14,001 to 25,000		3-1/2"	3"	3-1/2"	3"
25,001 and over		4"		4"	3-1/2"

(e) The construction of canopy guards are built in compliance with subsection (d) of this section and shall be based on the strength of four upright members. Guards constructed with less than four upright members shall be equivalent strength:

(A) Canopy type overhead guard frames shall be braced to overhead members on each side of the frame to provide structural rigidity both longitudinally and transversely;

(B) All guard mountings or attaching brackets shall be constructed and secured to the vehicle in a manner to provide adequate support to the upright members of the canopy type overhead guard;

(C) Cantilever overhead guards shall be of equivalent strength.

(f) Guards shall be constructed in a manner that does not interfere with good visibility, but openings in the top shall not exceed six inches in one of the two dimensions, width or length. Guards shall be large enough to extend over the operator under all normal circumstances of operation, including forward tilt:

(A) Provisions shall be made so that failure of the mast-tilting mechanism will not allow the overhead guard to cause injury to the operator;

(B) Lift trucks operated by seated operators shall have not less than 39 inches of clear vertical space between the operator's seat when depressed and the underside of the guard. Lift trucks operated by standing operators shall have not less than 74 inches of clear vertical space between the platform and the underside of the guard.

NOTE: Where overall height of truck with forks in lowered position is limited by head room conditions and there is insufficient space for vertical clearance or for the operator to assume a normal driving position, normal overhead guard heights may be reduced, or the overhead guard may be omitted. The height and stability of stacks of piled material, the weight of individual units handled, and the operating space available shall be such as will provide reasonable safety for the operator if it is necessary to remove the overhead guard.

(2) Load Back Seat. Lift trucks which handle small objects or unbanded units shall be equipped with a vertical load back rest:

- (a) It shall have height, width, strength, sufficient to prevent the load or any part of it from falling toward the operator;
- (b) It shall be constructed in a manner that does not interfere with good visibility;
- (c) Size of openings shall not exceed six inches in one dimension.

(3) Shear Point Guards. Shear points on fork lift loaders and similar type vehicles shall be guarded as necessary to protect operators from hazardous exposure.

(4) Truck Operations. Whenever a lift truck is used for lifting personnel, the following precautions shall be taken for the protection of personnel being evaluated:

- (a) A work platform equipped with standard guardrails or equivalent means, and firmly secured to the lifting carriage or forks, shall be used;
- (b) The hydraulic system shall be so designed that the lift mechanism will not drop faster than 135 feet per minute in the event of a failure in any part of the system;
- (c) An operator shall attend the lift equipment while workers are on the platform;
- (d) The operator shall be in the normal operating position while raising or lowering the platform;

(e) The vehicle shall not travel from point to point with the work platform elevated at a height greater than four feet wide while workers are on the platform. When necessary at heights greater than four feet, inching may be permitted provided it is done at a very slow speed;

(f) The area between workers on the platform and the mast shall be guarded to prevent contact with chains or other shear points.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 13-1993, f. 8-20-93, cert. ef. 11-1-93

Oregon Initiated Rules for Cranes

437-002-0228

Oregon General Requirements for Cranes

(1) General Requirements:

(a) The user shall comply with the manufacturer's specifications and limitations applicable to the operation of any and all cranes and derricks;

(b) Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a qualified engineer competent in this field and such determinations will be appropriately documented and recorded;

(c) Attachments used with cranes shall not exceed the capacity, rating, or scope recommended by the manufacturer;

(d) No modifications or additions which affect the capacity or safe operation of the equipment shall be made without the manufacturer's written approval. Cranes may be modified and rerated provided such modifications and the supporting structure are checked thoroughly for the new rated load by a qualified engineer or the equipment manufacturer;

(e) If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals, shall be changed accordingly. In no case shall the original safety factor of the equipment be reduced. Only the manufacturer or other competent shop with suitable equipment and with personnel trained for the work shall be permitted to perform welding or other repair work on cranes or derricks;

(f) Rated load capacities, and recommended operating speeds, special hazard warnings, or instruction, shall be conspicuously posted on all equipment;

(g) Instructional or warning signs shall be visible to the operator while he or she is at his or her control station;

(h) The employer shall designate a competent person who shall inspect all machinery and equipment prior to each use, and during use, to make sure it is in safe operating condition;

(i) Any deficiencies shall be repaired, or defective parts replaced, before continued use;

(j) A thorough, annual inspection of all cranes shall be made by a competent person, or a government or private agency;

(k) The employer shall maintain a record of the dates and results of inspections for each hoisting machine and piece of

equipment;

(l) An unimpaired horizontal clearance of not less than three feet shall be maintained between the rotating superstructure of any crane and any adjacent object or surface. If this clearance cannot be maintained, barricades shall be installed to isolate the hazardous area;

(m) All windows in cabs shall be of safety glass, or its equivalent, that introduces no visible distortion that will interfere with the safe operation of the machine;

(n) Cranes which operate at night shall have their load hooks and working areas adequately lighted;

(o) Sufficient light shall be provided in the operator's cage or cab to enable the operator to see clearly enough to perform his or her work;

(p) An accessible fire extinguisher of 10 BC rating, or higher, shall be available at all operator stations or cabs of equipment;

(q) Belts, gears, and other reciprocating, rotating, or moving parts or equipment shall be guarded as required in OAR Chapter 437, Division 2/O, Machinery and Machine Guarding.

(2) Crane operator training requirements:

(a) The employer shall establish written procedures for the safe operation of all cranes and derricks;

(b) The employer shall see that employees who operate cranes or derricks are properly trained, have sufficient practical experience, and follow operating procedures for the safe operation of the crane or derrick;

(c) The level of training and experience received by the employee to meet OAR 437-002-0228(2)(b) above shall be recorded in writing;

(d) The employer shall maintain all written records of crane or derrick operators' training and experience, and shall make such records available for review by the Oregon Occupational Safety and Health Division (OR-OSHA) upon request.

(3) Overhead Wires - Operating Near Electric Power Lines. A warning sign, legible at 12 feet, shall be posted and maintained in plain view of the operators of each crane, derrick, or power-shovel. The sign shall read, "UNLAWFUL TO OPERATE THIS EQUIPMENT WITHIN TEN FEET OF HIGH-VOLTAGE LINES".

NOTE: For operation near overhead electric lines see Division 2/S, Electrical, 1910.333(c)(3).

(4) Signals. Class "D" citizens band radio frequencies shall not be used for signalling crane operators.

(5) Hoisting Equipment and Tackle. Blocks, Sheaves, and Drums:

(a) Blocks, sheaves and drums and all parts thereof shall not be used for heavier strains or greater speeds than that for which they have been designed and constructed;

(b) Sheave and drum diameters shall be as recommended by the wire rope manufacturer for the size rope being used;

(c) All pins, including bearing and yoke pins, of all blocks shall be secured against accidental displacement;

(d) Shaves supporting boom lines shall not be carried on overhung sheave pins unless equipped with substantial guards passing around the sheave pin and securely held from dislodgment from the pin;

(e) All blocks shall be fitted with line guards or shall be designed and set in a manner that prevents fouling;

(f) Where the slacking of cable around sheaves and idlers would result in injury to workers, line guards shall be provided;

(g) Working line blocks shall be kept in proper alignment;

(h) Snatch (gate) blocks shall be closed and hooked before being used.

(6) Drums. Ends of lines attached to drums shall be securely fastened by means of clamps, socketing, or other means furnishing equivalent strength. Not less than two wraps of line shall be maintained on drums.

(7) Chains:

(a) End fastenings shall be capable of sustaining loads up to the breaking strength of the hoisting chain with which they are used;

(b) Hoisting chains shall be repaired or removed from such service when the increase in length (stretch) of the measured section exceeds five percent; or when a link is bent, twisted, or otherwise damaged, or when raised scarfs or defective welds appear;

(c) Knots shall not be tied in chain in order to shorten its length.

(8) Hooks. When necessary to prevent lifting attachments from inadvertently lifting out of the hook, a safety type hook or other device or means shall be used.

(9) Wire Rope:

(a) Wire rope and replacement wire rope shall be of the same size, same or better grade, and same construction as originally furnished by the equipment manufacturer or contemplated in the design, unless otherwise recommended by the equipment or the wire rope manufacturer;

(b) Wire rope with an independent wire-rope center or other heat-resisting center shall be used as hoisting rope whenever exposed to excessive temperatures such as ingot-pouring, ladle cranes, and similar operations;

(c) Running wire ropes shall be guarded if within seven feet of the floor or platform;

(d) Care shall be taken to prevent friction of ropes with other objects which will cause chafing or breaking of wires;

(e) Wire rope shall be taken out of service when any of the following conditions exist:

(A) In running ropes, six randomly distributed broken wire in one lay or three broken wires in one strand in one lay;

(B) Wear of one-third the original diameter of outside individual wires. Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure;

(C) Evidence of any heat damage from any cause;

(D) Reductions from nominal diameter of more than 1/64-inch for diameters up to and including 5/16-inch, 1/32-inch for diameters 3/8-inch to and including 1/2-inch, 3/64-inch for diameters 9/16-inch to and including 3/4-inch, 1/16-inch for diameters 7/8 to 1-1/8 inches inclusive, 3/32-inch for diameters 1-1/4 to 1-1/2 inches inclusive;

(E) In standing ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection;

(F) Corroded, damaged, or improperly applied end connections.

(f) Wire rope safety factors shall be in accordance with American National Standards Institute B30.5-1989 or SAE-

J959-1966, Lifting Crane, Wire-Rope Strength Factors.

NOTE: The margin of line to be used in making a long splice shall be indicated in the following table. The full length of the splice will be twice the length "to be unraveled".

Rope Diameter	To Be Unraveled	Rope Diameter	To Be Unraveled
1/4 inch	6 feet	1-1/4 inches	25 feet
1/2 inch	8 feet	1-1/2 inches	30 feet
3/4 inch	15 feet	1-3/4 inches	35 feet
1 inch	20 feet	2 inches	40 feet

(g) All cable shall be kept lubricated as conditions of use require;

(h) When U-bolt wire rope clips are used for form eyes, the following table shall be used to determine the number and spacing of clips:

Number and Spacing of U-Bolt Wire Clips

Number of Clips

Improved Plow Steel

Rope Diameter	Drop	Other	Minimum
Inches	Forged	Material	Spacing
1/2	3	4	3"
5/8	3	4	3-3/4"
3/4	4	5	4-1/2"
7/8	4	5	5-1/4"
1	5	6	6"
1-1/8	6	6	6-3/4"
1-1/4	6	7	7-1/2"
1-3/8	7	7	8-1/4"
1-1/2	7	8	9"

- (i) When used for eye splices, the U-bolt shall be applied so that the "U" section is in contact with the dead end of the rope;
- (j) The use of cable clips or clamps may be accepted only when used in locations where they are readily accessible and subjected to frequent inspection. Clips and clamps when used shall be of the correct size and shall be properly applied. Allowance shall be made for the reduced strength of the line;
- (k) The use of cable clips or clamps for joining lines is prohibited, except where used for transferring of slack lines from one place to another.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 11-1974, f. 3-20-74, ef. 4-15-74; WCB 1-1977, f. & ef. 1-4-77; WCB 7-1977, f. 5-20-77, ef. 6-15-77; OSHA 1-1989, f. 10-12-89, ef. 8-1-90; OSHA 13-1993, f. 8-20-93, cert. ef. 11-1-93

437-002-0229

Additional Oregon Rules for Overhead and Gantry Cranes

(1) Definitions:

(a) "Authorized Person." An Authorized Person is one appointed or credentialled by a duly constituted administrative or regulatory authority;

(b) "Competent Person." A Competent Person is one who by knowledge, training and experience has demonstrated the ability to solve problems and perform functions relating to the subject matter and work;

(c) "Reach (of a cantilever gantry or bridge crane)." The maximum horizontal distance at which the hook may be operated outside the runway measured at right angles to the runway from the center of the hook or load to the center of the runway rail nearest the hook or load;

(d) "Reach (of a crane or derrick fitted with a boom)." The maximum horizontal distance the hook can be extended from the center of rotation (or if rotation is not possible) from the foot of the boom.

(2) Overhead and Gantry Cranes.

(a) Only competent personnel shall be permitted to operate a crane covered by OAR 437, Division 2/N, 1910.179.

(b) Cages of bridge cranes which are not provided with a walkway the full length of the craneway or other safe means of egress shall be provided with a knotted rope, rope ladder or equally effective means to enable the operator to reach the ground in an emergency.

(c) A fire extinguisher with a minimum rating of 10BC, or equivalent, shall be maintained in the cab.

(d) Rated Load Test. Prior to initial use all new, extensively repaired and altered cranes shall be tested by or under the direction of a competent person, confirming the load rating of the crane.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 11-1974, f. 3-20-74, ef. 4-15-74; OSHA 13-1993, f. 8-20-93, ef. 11-1-93

437-002-0230

Additional Oregon Rule for Crawler, Locomotive and Truck Cranes

(1) Definitions:

(a) An "Authorized Person" is one appointed or credentialed by a duly constituted administrative or regulatory authority;

(b) A "Competent Person" is one who by knowledge, training and experience has successfully demonstrated the ability to solve problems and perform functions relating to the subject matter and work.

(2) Load Ratings:

(a) A radius or boom angle indicator shall be provided where it is clearly visible to the operator in his or her normal operating position on cranes equipped with a movable working boom;

(b) A limiting device shall be installed and maintained to prevent the hook or other end fittings from contacting the upper sheaves.

(3) Booms. When sections of booms are added or removed, the full number of bolts or pins of the material and size recommended by the manufacturer, or bolts or pins furnishing equivalent strength, shall be used to secure the sections together.

(4) Hydraulic Cranes. Mobile hydraulic cranes shall be constructed, maintained, and used in accordance with the standard in PCSA Standard No. 2-1968, Mobile Hydraulic Crane Standards, published by the Power Crane and Shovel Association, Milwaukee, Wisconsin.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 11-1974, f. 3-20-74, ef. 4-15-74; OSHA 13-1993, f. 8-20-93, cert. ef. 11-1-93

437-002-0232

Additional Oregon Rule for Derricks

Rated Load Marking. A radius indicator or boom angle indicator, compatible with the load rating chart, shall be provided where it is clearly visible to the operator in his or her normal operating position on all derricks equipped with a movable working boom.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 11-1974, f. 3-20-74, ef. 4-15-74; OSHA 13-1993, f. 8-20-93, cert. ef. 11-1-93

437-002-0233

Oregon Rules for Hammerhead Cranes

(1) Definition. "Hammerhead Crane" - Lifting machine consisting of a tower (mast) with an upperstructure that rotates and includes a load jib (boom) with trolley extending horizontally and a counterweight jib extending in the opposite direction, neither of which is arranged for luffing. The trolley on the load jib traverses the length of the jib and contains the sheaves and accessory parts that comprise the upper load block. The lower load block is suspended from the trolley.

(2) Hammerhead Cranes - General:

(a) Adequate clearance shall be maintained between moving and rotating structures of the crane and fixed objects to allow the passage of employees without harm;

- (b) Employees required to perform duties on the horizontal boom of hammerhead tower cranes shall be protected against falling by guardrails or by safety belts and lanyards attached to lifelines in conformance with OAR Chapter 437, Division 2/I, Personal Protective Equipment;
- (c) Buffers shall be provided at both ends of travel of the trolley;
- (d) Cranes mounted on rail tracks shall be equipped with limit switches limiting the travel of the crane on the track and stops or buffers at each end of the tracks. Cranes with self-contained power plants shall be equipped with warning devices, and stops or buffers at each end of the track;
- (e) All hammerhead cranes in use shall meet the applicable requirements for design, construction, installation, testing, maintenance, inspection, and operation as prescribed by the manufacturer and to ensure compliance with the rules in this division;
- (f) The employer shall provide a wind velocity device which will give a visible or audible alarm to the crane operator at a predetermined wind velocity; and
- (g) The employer shall ensure that:
 - (A) The wind velocity device is compatible with the manufacturer's crane specifications; and
 - (B) The crane operators are fully instructed regarding the maximum permissible wind speeds during operation; and
 - (C) The load chart contains the wind velocity operating limits.
- (3) Mobile Cranes Mounted on Barges:
 - (a) When a mobile crane is mounted on a barge, the rated load of the crane shall not exceed the original capacity specified by the manufacturer;
 - (b) A load rating chart, with clearly legible letters and figures, shall be provided with each crane, and securely fixed at a location easily visible to the operator;
 - (c) When load ratings are reduced to stay within the limits for list of the barge with a crane mounted on it, a new load rating chart shall be provided;
 - (d) Mobile cranes on barges shall be positively secured.
- (4) Permanently Mounted Floating Cranes and Derricks:
 - (a) When cranes and derricks are permanently installed on a barge, the capacity and limitations of use shall be based on competent design criteria;
 - (b) A load rating chart with clearly legible letters and figures shall be provided and securely fixed at a location easily visible to the operator;
 - (c) Floating cranes and floating derricks in use shall meet the applicable requirements for design, construction, installation, testing, maintenance, and operation as prescribed by the manufacturer.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 11-1974, f. 3-20-74, ef. 4-15-74; WCD 3-1981, f. 4-20-81, ef. 6-1-81; OSHA 13-1993, f. 8-20-93, cert. ef. 11-1-93

437-002-0235

Additional Oregon Rule for Slings

Chain Slings. When using chain slings for lifting purposes only alloy steel chain slings shall be used. Chain slings made of proof coil or high test carbon steel shall not be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 11-1974, f. 3-20-74, ef. 4-15-74; WCB 16-1976, f. 7-6-76, ef. 8-1-76; WCB 1-1978, f. 2-16-78, ef. 3-15-78; WCD 8-1979, f. 10-19-79, ef. 2-1-80; OSHA 13-1993, f. 8-20-93, cert. ef. 11-1-93

Machinery and Machine Guarding

437-002-0240

Adoption by Reference

In addition to and not in lieu of any other health and safety codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

- (1) **29 CFR 1910.211** Definitions; published 6/27/74, **Federal Register**, vol. 39, pp. 23709-23712; amended 12/3/74, **FR** vol. 39, pp. 41846-41848; 3/14/88, **FR** vol. 53, p. 8353.
- (2) **29 CFR 1910.212** General requirements for all machines; published 6/27/74, **Federal Register**, vol. 39, p. 23712; amended 10/24/78, **FR** vol. 43, p. 49750.
- (3) **29 CFR 1910.213** Woodworking machines; published 6/27/74, **Federal Register**, vol. 39, pp. 23712-23716; amended 10/24/78, **FR** vol. 43, p. 49750; 2/10/84, **FR** vol. 49, p. 5323.
- (4) Reserved for **29 CFR 1910.214** Cooperage machinery.
- (5) **29 CFR 1910.215** Abrasive wheel machinery; published 6/27/74, **Federal Register**, vol. 39, pp. 23717-23723; amended 10/24/78, **FR** vol. 43, p. 49750; 2/10/84, **FR** vol. 49, p. 5323; 3/7/96, **FR** vol. 61, no. 46, p. 9240.
- (6) **29 CFR 1910.216** Mills and calendars in the rubber and plastics industries; published 6/27/74, **Federal Register**, vol. 39, p. 23723; amended 2/10/84, **FR** vol. 49, p. 5323; 3/7/96, **FR** vol. 61, no. 46, p. 9240.
- (7) **29 CFR 1910.217** Mechanical power presses; published 6/27/74, **Federal Register**, vol. 39, pp. 23723-23727; amended 12/23/74, **FR** vol. 39, p. 41846; 1/27/75, **FR** vol. 40, p. 3982; 10/24/78, **FR** vol. 43, p. 49750; 2/8/80, **FR** vol. 45, p. 8594; 4/30/84, **FR** vol. 49, p. 18295; 9/29/86, **FR** vol. 51, p. 34561; 3/14/88, **FR** vol. 53, pp. 8353-8365; 3/7/96, **FR** vol. 61, no. 46, p. 9240.
- (8) **29 CFR 1910.218** Forging machines; published 6/27/74, **Federal Register**, vol. 39, pp. 23727-23728; amended 2/10/84, **FR** vol. 49, p. 5323; 9/29/86, **FR** vol. 51, p. 34561; 3/7/96, **FR** vol. 61, no. 46, p. 9240.
- (9) **29 CFR 1910.219** Mechanical power-transmission apparatus; published 6/27/74, **Federal Register**, vol. 39, pp. 23728-23732; amended 10/24/78, **FR** vol. 43, p. 49750; 11/7/78, **FR** vol. 43, p. 51760; 2/10/84, **FR** vol. 49, p. 5323; 3/7/96, **FR** vol. 61, no. 46, p. 9240.

(10) **29 CFR 1910.220** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9240.

(11) **29 CFR 1910.221** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9240.

(12) **29 CFR 1910.222** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9240.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 22-1988, f. 12-30-88, ef. 1-1-89; OSHA 4-1997, f. & cert. ef. 4-2-97

437-002-0242

Oregon Rules for Machinery and Machine Guarding

(1) Definition of Gate or Movable Barrier:

(a) Type A gate or movable barrier - Protects the operator by enclosing the point-of-operation before a press stroke can be initiated, and maintaining this closed condition until the motion of the slide has ceased;

(b) Type B gate or movable barrier - Protects the operator by enclosing the point-of-operation before a press stroke can be initiated, so as to prevent an operation from reaching into the point-of-operation prior to die closure or prior to cessation of slide motion during the downward stroke.

(2) Reciprocating Shear Lines. Platform hoists, scissor lifts, and other reciprocating mechanisms shall be guarded or arranged so that there are no exposed shear lines.

(3) Saw Guard. Where it is possible to walk behind the saw, the saw shall be completely guarded when in its rest position.

(4) Radial Saws. Radial saws shall be equipped with upper and lower guards as follows:

(a) By device or devices, including jigs, work holders, guides, stops or other engineering controls which provide protection equal to that of the device described in 1910.213(h)(1);

(b) A stop shall be provided to prevent the leading edge of the saw from passing the front edge of the table or roll case, or the table widened to obtain equal results.

(5) Use of Gloves:

(a) If gloves are used in conjunction with a pull-out device, the gloves shall be worn outside the operator's hand attachments;

(b) If gloves are used in conjunction with a holdout or restraint device, the gloves shall be worn outside the operator's hand attachments.

(6) Effective Dates:

(a) Effective dates for amendments to 1910.211 and 1910.217 printed in the Federal Register, Vol. 53, No. 49, p. 8352-8365 on March 14, 1988, are 90 days after adoption of these rules; except Appendix C of 1910.217 becomes effective 30 days after the final adoption of these rules;

(b) All other rules are effective upon date of adoption.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 22-1988, f. 12-30-88, ef. 1-1-89; OSHA 2-1990, f. 1-19-90, cert. ef. 3-1-90; OSHA 5-1990, f. & cert. ef. 2-9-90; OSHA 6-1994, f. & cert. ef. 9-30-94; (1) Renumbered to 437-002-0256; OSHA 6-1994, f. & cert. ef. 9-30-94

437-002-0256

Oregon Rules for Refuse Collection and Compaction Equipment

(1) Definitions as used in OAR 437-002-0256(2), the following terms shall have the meaning prescribed herein unless the context clearly requires otherwise:

(a) Access covers - A cover preventing access to the interior of the compactor except for service or maintenance.

(b) Automatic cycling control - A device that initiates the operation of the compactor on demand when solid waste is loaded and continued to cycle until signaled to stop.

(c) Charging chamber - The loading area of a compactor that holds the solid waste prior to compaction.

(d) Charging hopper - An enclosure mounted to the compactor charging chamber that directs the flow of solid waste into the charging chamber.

(e) Chute - The structural enclosure connected either to the charging hopper or the charging chamber (when there is no charging hopper) which guides solid waste into the charging chamber.

(f) Collection vehicle - An engine-powered cab and chassis upon which mobile equipment is mounted or towed for the receiving, transporting, and unloading of solid waste, or for the receiving, transporting, and unloading of containers.

(g) Compaction equipment (compactor) - A stationary or self-contained powered machine which remains stationary when in operation with operating controls designed to compact solid waste.

(A) Stationary - A self-contained stationary compactor/container designed to compact refuse.

(B) Self-contained - A compacting machine which remains stationary during operation, and is designed to compact refuse into an integral container. The entire unit may be moved for placement and unloading refuse.

(h) Compactor container locking mechanism - The system that couples or secures the containers to the compactor frame.

(i) Compactor frame - The structural assembly of a compactor to which the charging chamber and ram components are secured.

(j) Container - A receptacle that receives and holds solid waste.

(k) Container lifting/dumping mechanism - Devices used for the purpose of unloading solid waste containers.

(l) Control panel - The panel that contains the controls for operating the compactor. It can be mounted on the compactor frame or located remotely at the control station or both.

(m) Cycles.

(A) Automatic cycle - Operation of the compactor in a preprogrammed manner without constant operator control.

(B) Interrupter cycle - Stopping the operation of a compactor before the completion of the specified cycle.

(C) Manual cycle - Operation of the mechanism under direct handson control of the operator.

(D) Multiple cycle - Operation of the compactor to perform more than one single cycle operation.

(E) Single cycle - Operation of compactor to perform one complete cycle.

(n) Dock ramp - The platform providing access for loading the charging chamber or charging hopper.

(o) Employee - Any individual, including a minor, whether lawfully or unlawfully employed, who engages to furnish his services for a remuneration, financial, or otherwise, subject to the director and control of an employer, and includes salaried, elected, and appointed officials of the state, state agencies, counties, cities, school districts, and other public corporations, and any individual who is provided with workers' compensation coverage as a subject worker pursuant to ORS Chapter 656, whether by operation of law or by election.

(p) Employer - Any person who has one or more employees, or any sole proprietor or member of a partnership who elects workers' compensation coverage as a subject worker pursuant to ORS 656.128.

(q) Guard - A barrier which may include gates and/or door(s) designed to protect the employee(s) from hazards.

(r) Interlock - An electrical, mechanical, or key-locked device that prevents an undesired sequence of operations.

(s) Loading door - A door that permits the loading of solid waste into a chute, charging hopper, charging chamber, or all of the above.

(t) Maintenance personnel - Employees who care for, inspect, clean, and/or maintain compaction equipment.

(u) Modification - Any change of the original equipment which alters the equipment and/or components so that the compactor functions differently from the original design, specifications, and/or use.

(v) Operator - An employee who operates the equipment in normal use (other than in the course of servicing or repair).

(w) Pinch point - Any point where it is possible to be caught between moving parts, or between moving and stationary parts, of a piece of equipment.

(x) Point-of-Operation - Point-of-operation is the area of the compactor where compaction occurs.

(y) Ram - The powered component of a compactor that moves the solid waste.

(z) Safety gate - A movable guard.

(aa) Solid waste - All putrescible and non-putrescible wastes, including but not limited to garbage, rubbish, refuse, ashes, and waste paper. The term does not include:

(A) Hazardous wastes as defined in ORS 459.410. Hazardous wastes do not include radioactive material or the radioactively contaminated containers and receptacles used in the transportation, storage, use or application thereof. Hazardous wastes do not include all of the following which are not declassified by the Commission (Commission means - the Environmental Quality Commission as defined in ORS 459.005 and 410) pursuant to ORS 459.430(3):

(i) Discarded, useless or unwanted materials or residues resulting from any substance or combination of substances intended for the purpose of defoliating plants or for the preventing, destroying, repelling or mitigating of insects, fungi,

weeds, rodents, or predatory animals, including but not limited to defoliants, desiccants, fungicides, herbicides, insecticides, nematocides, and rodenticides.

(ii) Residues resulting from any process of industry, manufacturing, trade or business or government, or from the development or recovery of any natural resources, if such residues are classified as hazardous by order of the Commission (Commission means - the Environmental Quality Commission as defined in ORS 459.005 and 410) must find that such residue, because of its quantity, concentration, or physical, chemical or infectious characteristics may:

(I) Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or

(II) Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

(iii) Discarded, useless or unwanted containers and receptacles used in the transportation, storage, use or application of the substances described in the above definitions (aa)(A)(i) and (ii).

(B) Materials used for fertilizer or for other productive purposes or which are salvageable such as materials used on land in the agricultural operations and the growing or harvesting of crops and the raising of fowls or animals.

(bb) Working surface - The treading surface (ground, floor, dock ramp, platform) on which the operator stands while loading solid waste into the chute, charging hopper, charging chamber, or all of the above.

(2) Refuse Collection and Compaction Equipment.

(a) OAR 437-002-0256(2) contains safety requirements for the identification, installation, modification, maintenance, operation of fixed-in-place (stationary) compactors, and the access only for collection vehicle, used in places of employment subject to ORS 654.001 to 654.170, the Oregon Safe Employment Act. These rules do not apply to compactors attached to mobile collection vehicles.

(b) These requirements apply to both stationary and self-contained compactor/container equipment used to compact solid waste, at a place of employment.

(c) These requirements apply to both new and existing compactors and collection equipment, except that compactors installed at places of employment prior to the date of enactment of these rules need comply only to OAR 437-002-0256(2)(e) through (i) of OAR 437-002-0256(2)(a) through (k).

(d) General Requirements.

(A) Installation. Compactor equipment shall be installed in accordance with applicable rules, and the manufacturers installation requirements.

(B) Identification. Equipment shall have permanent identification with the manufacturer's name and either the date of manufacture or a code traceable to the date of manufacture.

(C) Access for collection vehicles. The employer where the compactor is located shall provide a safe means for the collection vehicle to have access in order to load and/or dump the container.

(D) Compactor work area.

(i) The compactor shall have a work area around it for safe operation, maintenance, servicing and cleaning procedures.

(ii) All surrounding working areas shall be reasonably free from obstructions and accumulations of waste matter, grease, oil, and water.

(E) Repairing. All mechanical malfunctions or breakdowns affecting safe operation of the compactor equipment shall be

repaired before operating the compactor.

(e) Modifications and Additions. When modifications and/or additions are made which affect the capacity of the compactor or the primary function is changed, the employer shall:

(A) Obtain prior written approval of the manufacturer or follow plans and specifications prepared by a licensed engineer;

(B) Change the operation, and maintenance instruction plates, tags, or decals; and

(C) Modify the instruction manual as needed to include the new safety precautions.

(f) Periodic Inspections.

(A) The employer shall establish and follow a program of at least annual compactor inspections to ensure moving parts, structure, auxiliary equipment, and safeguards are in safe operating condition and adjustment. Compliance with the manufacturer's inspection and maintenance program shall meet the intent of this rule.

(B) Commencing with the effective date of the these rules, records required in section (1) above shall be retained for at least two years following each inspection by the employer.

(g) Training and Instruction. The employer shall:

(A) Provide operating instructions for the use, cleaning, care and maintenance of compactors;

(B) Train and instruct each employee on the safe methods of operating and/or maintaining compactors before assigning employees to operate the equipment; and

(C) Provide adequate supervision, to assure correct operating procedures are being followed;

(h) Compactor Damage or Malfunction. Within a reasonable time but in no event later than one work shift after damage to, or (n) Dock ramp - The platform providing access for loading the charging chamber or charging hopper.

(o) Employee - Any individual, including a minor, whether lawfully or unlawfully employed, who engages to furnish his services for a remuneration, financial, or otherwise, subject to the director and control of an employer, and includes salaried, elected, and appointed officials of the state, state agencies, counties, cities, school districts, and other public corporations, and any individual who is provided with workers' compensation coverage as a subject worker pursuant to ORS Chapter 656, whether by operation of law or by election.

(p) Employer - Any person who has one or more employees, or any sole proprietor or member of a partnership who elects workers' compensation coverage as a subject worker pursuant to ORS 656.128.

(q) Guard - A barrier which may include gates and/or door(s) designed to protect the employee(s) from hazards.

(r) Interlock - An electrical, mechanical, or key-locked device that prevents an undesired sequence of operations.

(s) Loading door - A door that permits the loading of solid waste into a chute, charging hopper, charging chamber, or all of the above.

(t) Maintenance personnel - Employees who care for, inspect, clean, and/or maintain compaction equipment.

(u) Modification - Any change of the original equipment which alters the equipment and/or components so that the compactor functions differently from the original design, specifications, and/or use.

(v) Operator - An employee who operates the equipment in normal use (other than in the course of servicing or repair).

(w) Pinch point - Any point where it is possible to be caught between moving parts, or between moving and stationary parts, of a piece of equipment.

(x) Point-of-Operation - Point-of-operation is the area of the compactor where compaction occurs.

(y) Ram - The powered component of a compactor that moves the solid waste.

(z) Safety gate - A movable guard.

(aa) Solid waste - All putrescible and non-putrescible wastes, including but not limited to garbage, rubbish, refuse, ashes, and waste paper. The term does not include:

(A) Hazardous wastes as defined in ORS 459.410. Hazardous wastes do not include radioactive material or the radioactively contaminated containers and receptacles used in the transportation, storage, use or application thereof. Hazardous wastes do not include all of the following which are not declassified by the Commission (Commission means - the Environmental Quality Commission as defined in ORS 459.005 and 410) pursuant to ORS 459.430(3):

(i) Discarded, useless or unwanted materials or residues resulting from any substance or combination of substances intended for the purpose of defoliating plants or for the preventing, destroying, repelling or mitigating of insects, fungi, weeds, rodents, or predatory animals, including but not limited to defoliants, desiccants, fungicides, herbicides, insecticides, nematocides, and rodenticides.

(ii) Residues resulting from any process of industry, manufacturing, trade or business or government, or from the development or recovery of any natural resources, if such residues are classified as hazardous by order of the Commission (Commission means - the Environmental Quality Commission as defined in ORS 459.005 and 410) must find that such residue, because of its quantity, concentration, or physical, chemical or infectious characteristics may:

(I) Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or

(II) Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

(iii) Discarded, useless or unwanted containers and receptacles used in the transportation, storage, use or application of the substances described in the above definitions (aa)(A)(i) and (ii).

(B) Materials used for fertilizer or for other productive purposes or which are salvageable such as materials used on land in the agricultural operations and the growing or harvesting of crops and the raising of fowls or animals.

(bb) Working surface - The treading surface (ground, floor, dock ramp, platform) on which the operator stands while loading solid waste into the chute, charging hopper, charging chamber, or all of the above.

(2) Refuse Collection and Compaction Equipment.

(a) OAR 437-002-0256(2) contains safety requirements for the identification, installation, modification, maintenance, operation of fixed-in-place (stationary) compactors, and the access only for collection vehicle, used in places of employment subject to ORS 654.001 to 654.170, the Oregon Safe Employment Act. These rules do not apply to compactors attached to mobile collection vehicles.

(b) These requirements apply to both stationary and self-contained compactor/container equipment used to compact solid waste, at a place of employment.

(c) These requirements apply to both new and existing compactors and collection equipment, except that compactors installed at places of employment prior to the date of enactment of these rules need comply only to OAR 437-002-0256(2)(e) through (i) of OAR 437-002-0256(2)(a) through (k).

(d) General Requirements.

(A) Installation. Compactor equipment shall be installed in accordance with applicable rules, and the manufacturers installation requirements.

(B) Identification. Equipment shall have permanent identification with the manufacturer's name and either the date of manufacture or a code traceable to the date of manufacture.

(C) Access for collection vehicles. The employer where the compactor is located shall provide a safe means for the collection vehicle to have access in order to load and/or dump the container.

(D) Compactor work area.

(i) The compactor shall have a work area around it for safe operation, maintenance, servicing and cleaning procedures.

(ii) All surrounding working areas shall be reasonably free from obstructions and accumulations of waste matter, grease, oil, and water.

(E) Repairing. All mechanical malfunctions or breakdowns affecting safe operation of the compactor equipment shall be repaired before operating the compactor.

(e) Modifications and Additions. When modifications and/or additions are made which affect the capacity of the compactor or the primary function is changed, the employer shall:

(A) Obtain prior written approval of the manufacturer or follow plans and specifications prepared by a licensed engineer;

(B) Change the operation, and maintenance instruction plates, tags, or decals; and

(C) Modify the instruction manual as needed to include the new safety precautions.

(f) Periodic Inspections.

(A) The employer shall establish and follow a program of at least annual compactor inspections to ensure moving parts, structure, auxiliary equipment, and safeguards are in safe operating condition and adjustment. Compliance with the manufacturer's inspection and maintenance program shall meet the intent of this rule.

(B) Commencing with the effective date of the these rules, records required in section (1) above shall be retained for at least two years following each inspection by the employer.

(g) Training and Instruction. The employer shall:

(A) Provide operating instructions for the use, cleaning, care and maintenance of compactors;

(B) Train and instruct each employee on the safe methods of operating and/or maintaining compactors before assigning employees to operate the equipment; and

(C) Provide adequate supervision, to assure correct operating procedures are being followed;

(h) Compactor Damage or Malfunction. Within a reasonable time but in no event later than one work shift after damage to, or malfunction of, compactor equipment occurs, the operator shall report such damage or malfunction of, compactor equipment occurs, the operator shall report such damage or malfunction to the employer or other responsible authority.

(i) Compaction Equipment Safeguards.

(A) The operator shall use all applicable safety features on the equipment.

(B) Access covers. Access covers shall be interlocked or secured by devices removable by hand tools only.

(C) Sustained manual pressure controls. Except when equipped with an automatic cycling control, compacting equipment shall be operated only by sustained manual pressure actuating controls located in such a way that the operator can not reach the point of operation.

(D) Automatic cycling controls. The employer shall ensure that compactors equipped with automatic cycling controls shall be used only in locations where the charging chamber is not accessible while the compactor is cycling automatically.

(E) Point-of-operation guard. A point-of-operation guard or other protective means shall prevent employees from having any part of their body in the point-of-operation during the compactor cycles. The guard:

(i) May have safety gates or doors;

(ii) Shall not create a pinch point;

(iii) Shall be interlocked in such a manner that the compactor cannot be operated if the guard or loading door is removed or opened;

(iv) Shall protect the employee from other hazards such as flying glass.

(F) Lockout. Except during maintenance testing by authorized personnel, the employer shall provide and use locks which will prevent the inadvertent application of energy or motion to equipment being repaired, serviced, or adjusted and follow the lock out procedures, as specified in 1910.147, for the repair, adjustment, servicing, cleaning, and lubricating of compaction equipment.

(G) Actuating controls. Prior to operation, the operator shall be certain that all individuals are clear of the point-of-operation and pinch-point area.

(H) Compactor, container locking mechanism. The locking mechanism shall be compatible with both the compactor and the container.

(I) Hauler key lock. During the time a container which can not be seen by the compactor operator is removed from the compactor, a key locking system shall be provided for use by the hauler to prevent the compactor from operating. The key lock shall not be overridden by any other mechanism.

(j) Container Lifting/Dumping Mechanisms.

(A) If the compactor is equipped with a container lifting/dumping mechanism, installation shall be in accordance with the manufacturer's instruction.

(B) Lifting/dumping mechanism controls shall be in clear view and outside the area of operation of the lifting/dumping mechanism and container.

(C) Prior to starting the dumping mechanism, the area of operation around the mechanism and container shall be clear of individuals and remain clear during all phases of the dumping operation.

(k) Operating Controls.

(A) Highly visible labels for the function of each control shall be provided.

(B) The design and location of all operating controls shall minimize the likelihood of unintentional activation (starting).

(C) Electric "stop" and emergency "stop" controls shall be red, distinguishable from all other controls by size and color,

and shall not be recessed.

(D) A key locking system shall be provided on all compactors for the prevention of unauthorized operation.

(E) Emergency stop control. Emergency stop control shall be provided; and

(i) Be red and distinguishable from all other controls, and NOT be recessed; and

(ii) Be readily accessible to the operator and located within three feet of the point of operation; or

(iii) If chute-fed within three feet of the loading door.

(F) Ram emergency stop controls shall be provided:

(i) In case of an emergency, to stop the movement of the ram at any point; and

(ii) Emergency ram stop control(s) shall be properly identified, operate with constant pressure, control and depict direction of ram travel.

(I) Electrical Systems. Electrical systems furnished as part of the compactor, or for the installation thereof, shall be in accordance with the manufacturer's instructions, OAR 437, Division 2/S, Electrical, and the National Electric Code as adopted and amended by the Oregon Building Codes Agency.

(m) Safety Markings and Signs.

(A) Safety markings. All safety markings shall be color coded in compliance with OAR 437, Division 2/J, Accident Prevention Signs, Symbols, and Tags, for marking physical hazards.

(B) The location and markings of warning signs shall be as follows:

(i) A sign on each chute-fed charging hopper loading door stating, DANGER - DO NOT ENTER.

(ii) A sign on/or adjacent to the loading door(s) of any compactor equipped with an automatic sensing device stating, CAUTION - THIS COMPACTOR STARTS AUTOMATICALLY.

(iii) A sign on each control panel and power unit (motor) stating, DANGER - HIGH VOLTAGE.

(iv) A sign on each access cover stating, CAUTION - DO NOT REMOVE ACCESS COVER EXCEPT FOR SERVICING. TURN CONTROL PANEL KEY SWITCH TO OFF POSITION AND REMOVE KEY.

(v) A sign on each side of the safety gates which prevents access to the charging hopper from a walk-on ramp stating, CAUTION - GATE MUST BE CLOSED BEFORE OPERATING COMPACTOR.

(vi) A sign on each charging hopper access door stating CAUTION - BEFORE OPENING DOOR, TURN CONTROL PANEL KEY SWITCH TO OFF POSITION, REMOVE KEY, AND BLOCK OFF TRASH CHUTE.

(vii) Clearly visible signs at all charging hopper access areas stating, DANGER - DO NOT ENTER.

(viii) A sign on each outside face of the charging hopper stating, DANGER - DO NOT ENTER.

(ix) On compactors where there is not a charging hopper, above the charging chamber stating, DANGER - DO NOT ENTER. This sign shall be visible from both sides.

(x) On any container lifting/dumping mechanisms a sign at the dumper controls stating, CAUTION - BEFORE OPERATING DUMPER, CLEAR DUMPING AREA OF ALL INDIVIDUALS.

(xi) On any container lifting/dumping mechanisms, a sign in clear view of the container lifting/dumping mechanisms stating, **DANGER - STAY CLEAR OF DUMPER AND DUMPING AREA.**

(xii) Clearly visible sign at the hauler key lock stating, **COMPACTOR UNIT MUST BE SWITCHED OFF PRIOR TO REMOVAL OF THE CONTAINER.**

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 22-1988, f. 12-30-88, cert. ef. 1-1-89; OSHA 6-1994, f. & cert. ef. 9-30-94; Renumbered from 437-002-0242(1)

Hand and Portable Powered Tools and Other Hand-Held Equipment

437-002-0260

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

(1) **29 CFR 1910.241** Definitions, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 10/24/78, **FR** vol. 43, p. 49750.

(2) **29 CFR 1910.242** Hand and portable powered tools and equipment, general, published 6/27/74, **Federal Register**, vol. 39, p. 23502.

(3) **29 CFR 1910.243** Guarding of portable powered tools, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 10/24/78, **FR** vol. 43, p. 49750; 2/10/84, **FR** vol. 49, p. 5323; 2/1/85, **FR** vol. 50, p. 4649; 3/7/96, **FR** vol. 61, no. 46, p. 9240.

(4) **29 CFR 1910.244** Other portable tools and equipment, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 2/10/84, **FR** vol. 49, p. 5323.

(5) **29 CFR 1910.245** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9240.

(6) **29 CFR 1910.246** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9240.

(7) **29 CFR 1910.247** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9240.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office.**]

Stat. Auth.: OAR 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1993, f. 7-29-93, cert. ef. 9-15-93; OSHA 4-1997, f. & cert. ef. 4-2-97

Additional Oregon Rules for Powered Hand Tools and Hand-Held Equipment

437-002-0262

Additional Definitions in Oregon

- (1) "Angle Control" A safety feature designed to prevent a tool from operating when tilted beyond a predetermined angle.
- (2) "Cased Power Load" A power load with the propellant contained in a closed case.
- (3) "Caseless Power Load" A power load with the propellant in solid form not requiring containment.
- (4) "Direct-Acting Tool" A tool in which the expanding gas of the power load acts directly on the fastener to be driven.
- (5) "Fixture" A special shield which provides equivalent protection where the standard shield cannot be used.
- (6) "Head" That portion of a fastener which extends above work surface after being properly driven.
- (7) "Indirect-Acting Tool" A tool in which the expanding gas of the power load acts directly on a captive piston which in turn drives the fastener.
- (8) "Misfire" A condition in which the powder load fails to ignite after the tool has been operated.
- (9) "Powder-Actuated Fastening System" A method comprising the use of a powder-actuated tool, a power load, and a fastener.
- (10) "Powder-Actuated Tool", also known as "Tool" A tool that utilizes the expanding gases from a power load to drive a fastener.
- (11) "Test Velocity" A series of deliberately free-flighted fasteners whose velocities are measured 6-1/2 feet from the muzzle end of the tool using accepted ballistic test methods.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 1-1974, f. 1-16-74, ef. 2-15-74; WCD 23-1984, f. 12-28-84, ef. 1-1-85; OSHA 10-1993, f. 7-29-93, cert. ef. 9-15-93

437-002-0264

Additional General Requirements for Hand Tools

- (1) Defective tools shall be removed from service.
- (2) When not in use, tools shall be placed where they will not create a hazard.
- (3) Flexible cords with damaged insulation or defective parts shall not be used.
- (4) Handles of all tools shall be smooth, without sharp edges or splinters, and shall be firmly attached to the tool. Wooden handles of tools shall be of firm straight grained stock.
- (5) Heads of shock tools (such as hammers, sledges, and cold chisels) shall be dressed or ground as they begin to mushroom or crack. When such tools show a tendency to chip, they shall be immediately removed from service.

- (6) The cutting edges of tools shall be maintained in a uniformly sharp condition to eliminate the additional hazard resulting from the erratic resistance of the dulled edges.
- (7) Heavy leather holsters, guards, or equivalent protection shall be used for sharp-edged or sharp-pointed tools carried on the worker's person.
- (8) Workers who use sharp-edged cutting tools shall use appropriate protective equipment such as gloves, aprons, and leg guards to protect against accidental cuts.
- (9) Hand tools provided for use in explosive or flammable atmospheres shall be of the spark-resisting type.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA WCB 12-1974, f. 4-1-74, ef. 4-30-74; 10-1993, f. 7-29-93, cert. ef. 9-15-93; OSHA 1-1996, f. & cert. ef. 2-16-96

437-002-0266

Additional Oregon Rules for Guarding Portable Powered Tools

- (1) Lower Guard. In addition to the provisions in 1910.243(a)(1)(i), the lower guard shall be equipped with a lug or lever, remote from the blade teeth, that will permit the operator to safely shift the guard for starting unusual cuts.
- (2) Power Chain Saws:
 - (a) In addition to the provisions of 1910.243(a)(2)(i), all power chain saws shall meet all applicable requirements of the ANSI B175.1-1985, Safety Code for Power Chain Saws;
 - (b) Power saws shall be inspected daily when in use and kept in good repair at all times. Saws with cracked or loose handle bars or defective vital parts shall not be used;
 - (c) Power chain saw engines shall be stopped while being fueled;
 - (d) Power chain saws shall have an operable chain brake if originally designed and equipped with a chain brake;
 - (e) Chain brakes, and other manufacturer's safety features shall remain operational at all times.
- (3) Pneumatic-Powered Tools:
 - (a) A shut-off valve shall be installed at the manifold or permanent pipe outlet of the compressed air supply;
 - (b) Workers shall not couple or uncouple hose without first shutting off the compressed air supply except when using couplers which are equipped with check valves which automatically shut off the compressed air supply;
 - (c) Workers shall remain in the clear when turning on air supply at a valve;
 - (d) Driving pistons in pneumatic tools shall be constructed so that they cannot fly out of the tool;
 - (e) Pneumatic fastener-driving tools and other power-driven fastener tools, except as allowed in subsection (f) of this section, shall be equipped with a safety device to prevent ejection of nails or staples when the tool is not in firm contact with the work;

(f) Power-driven fastener-driving tools may be used without the safety device only when using staples with a diameter of .0475 inch (18 gauge A.W.G.) or less and the tool operator and all workers within 15 feet are wearing suitable eye protection;

(g) The provisions of subsection (f) of this section do not apply to office stapling machines;

(h) Oxygen or combustible gases shall not be used to drive pneumatic tools;

(i) The exhaust from pneumatic power tools shall be deflected away from the operator.

(4) Internal Combustion Engine-Driven Tools:

(a) Internal combustion engine-driven tools shall be equipped with a positive on and off ignition switch that will remain in either position;

(b) Internal combustion engine-driven tools shall be equipped with effective means to control power except those which are designed to operate at constant speed. Throttle controls shall return the engine to idling speed when released;

(c) Internal combustion engine-driven tools shall be equipped with a self-rewinding starting device, or be designed to furnish equivalent safety;

(d) Exhaust ports on internal combustion engine-driven tools shall be equipped with mufflers and shall be constructed and maintained to deflect exhaust fumes away from the operator when the tool is being used in its normal starting position;

(e) Internal combustion engine-driven tools shall be stopped while being fueled;

(f) Sling-carried tools which are powered by attached portable internal combustion engines shall be capable of quick removal;

(g) The fuel system of sling-carried tools shall be inspected before each use, and any defect shall be repaired immediately.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 1-1974, f. 1-16-74, ef. 2-15-74; WCD 23-1984, f. 12-28-84, ef. 1-1-85; OSHA 10-1993, f. 7-29-93, cert. ef. 9-15-93

437-002-0268

Oregon Rules for Hand-Powered Equipment

(1) Hand Powered Equipment:

(a) Each hand-powered hoist shall be equipped with an effective brake of equivalent and in addition shall be equipped with a ratchet and pawl of sufficient strength to hold the maximum load in any position;

(b) Means shall be provided to prevent hand crank handles from working loose from the drive shaft.

(2) Wheelbarrows, Hand Trucks, Dollies, Pallet Jacks:

- (a) Wheelbarrows, hand trucks, floor trucks, dollies, and pallet jacks shall be selected for the specific work to be done and shall not be loaded beyond safe capacity. Bodies and frames shall be made of metal or strong wood and rigidly constructed and braced to withstand severe handling and the loads to be carried;
- (b) Wheelbarrows, hand trucks, floor trucks, dollies, and pallet jacks shall be kept in good repair at all times;
- (c) Wheelbarrows, hand trucks, floor trucks, dollies, and pallet jacks when not in use, must be properly stored and shall not be left in such a position that they can tip, fall or roll.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 1-1974, f. 1-16-74, ef. 2-15-74; WCB 7-1974, f. 3-19-74, ef. 4-15-74; OSHA 10-1993, f. 7-29-93, cert. ef. 9-15-93

Welding, Cutting and Brazing

437-002-0280

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

- (1) **29 CFR 1910.251** Definitions, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 4/12/88, **FR** vol. 53, p. 12122; amended 4/11/90, **FR** vol. 55, no. 70, p. 13696; 3/7/96, **FR** vol. 61, no. 46, p. 9240.
- (2) **29 CFR 1910.252** General Requirements, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 5/28/75, **FR** vol. 40, p. 23073; 10/24/78, **FR** vol. 43, p. 49750; 2/10/84, **FR** vol. 49, p. 5323; 9/29/86, **FR** vol. 51, p. 34562; 4/11/90, **FR** vol. 55, no. 70, pp. 13696-13701; 3/7/96, **FR** vol. 61, no. 46, p. 9240.
- (3) **29 CFR 1910.253** Oxygen-Fuel Gas Welding and Cutting, published 4/11/90, **Federal Register**, vol. 55, no. 70, pp. 13701-13709; 3/7/96, **FR** vol. 61, no. 46, p. 9241.
- (4) **29 CFR 1910.254** Arc Welding and Cutting, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 4/28/75, **FR** vol. 40, p. 18426; 4/11/90, **FR** vol. 55, no. 70, pp. 13709-13710; 3/7/96, **FR** vol. 61, no. 46, p. 9241.
- (5) **29 CFR 1910.255** Resistance Welding, published 4/11/90, **Federal Register**, vol. 55, no. 70, pp. 13710-13711.
- (6) **29 CFR 1910.256** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9241.
- (7) **29 CFR 1910.257** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9241.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90; OSHA 4-1997, f. & cert. ef. 4-2-97

Oregon-Initiated Rules

437-002-0282

Job Planning and Layout

- (1) Before operations are started, portable equipment shall be securely blocked to prevent accidental movement.
- (2) Tanks, boilers, drums and similar containers shall be equipped with ladders for the welders and other workers whenever conditions require their use for safe access and egress.
- (3) No welding equipment shall be allowed on elevated structures unless such structure is designed and built to support all loads imposed on the structure.
- (4) Work areas shall be designed, laid-out and operated in a manner to prevent welding hose and cable from creating a tripping hazard.
- (5) When welding or cutting is being performed in any confined space, the gas cylinders and/or welding machines shall be left on the outside.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0283

Eye Protection and Protective Clothing

- (1) Easily ignited, highly flammable clothing, such as is made from synthetic materials, shall not be worn.
- (2) Flash goggles with side shields (Shade No. 2, Style Nos. 2 or 3) shall be worn under the welding helmet or hand shield.
- (3) The skin shall be covered completely, by a double layer of clothing or equivalent, to prevent burns or other damage by ultraviolet light.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0284

Specifications for Protectors

- (1) Where the "lift front" welder's helmet is used, there shall be a stationary safety glass on the inside of the frame next

to the eyes to protect welder against flying particles when the front is lifted. Where lens containers will not permit use of such safety glass, safety goggles shall be worn.

(2) Where the "lift front" helmet with three glasses is not used, or the flat type helmet is used, the welders shall wear other spectacle-type safety goggles in addition to the filter lens and cover glass.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0285

Special Precautions

Before welding or cutting on walls, floors or ceilings, an inspection shall be made to see that no combustible material is present on the hidden side.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0286

Preservative Coatings

(1) Before welding, cutting or heating is commenced on any surface covered by a preservative coating whose flammability is not known, a test shall be made by a competent person to determine its flammability.

(2) Precautions shall be taken to prevent ignition of highly flammable hardened preservative coatings. When coatings are determined to be highly flammable, they shall be stripped from the area to be heated to prevent ignition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0287

Toxic Preservative Coatings

(1) In enclosed spaces, all surfaces covered with toxic preservative shall be stripped of all toxic coatings for a distance of at least four inches from the area of heat application, or the employees shall be protected by a respirator against hazards from breathing toxic vapors in accordance with occupational health regulations.

(2) The preservative coatings shall be removed a sufficient distance from the area to be heated to ensure that the temperature of the unstripped metal will not be appreciably raised. Artificial cooling of the metal surrounding the heated area may be used to limit the size of the area required to be cleaned.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0288

Health Protection and Ventilation -- General

- (1) When welding or cutting operations are being performed on the following materials (Table 1), the protective measures indicated are required unless atmospheric samples taken in e welder's breathing zone indicate that the concentration does not exceed the Threshold Limit Value (TLV) specified in the Oregon Occupational Safety and Health rules.
- (2) Nearby workers shall be afforded equivalent, effective, protection from these dangerous fumes.

[ED. NOTE: The Table(s) referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90; OSHA 6-1994, f. & cert. ef. 9-30-94

437-002-0289

Precautionary Labels

Brazing (welding) filler metals containing zinc in significant amounts shall carry the following notice on tags, boxes or other containers:

WARNING

Contains Zinc

Poisonous Fumes May be Formed on Heating

Do not breathe fumes. Use only with adequate ventilation

such as fume collectors, exhaust ventilators or air-supplied respirators. If chest pain, cough or fever develops after use, call physician immediately.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0290

Blowpipes/Torches

- (1) Approved backflow or flashback preventers shall be installed between the blowpipe or torch and the hoses.
- (2) Torches shall be ignited using only friction lighters, stationary pilot flames or other recognized sources of ignition. The use of matches and other hand held open flames is prohibited.
- (3) When welding or cutting is stopped for an extended period of time, for example, during the lunch break, overnight or longer:
 - (a) The oxygen and fuel-gas cylinder or manifold valves shall be closed;
 - (b) Torch valves shall be opened momentarily to release all gas pressure from the hoses and then closed;
 - (c) The regulator pressure adjusting screws shall be released; and
 - (d) When the welding or cutting has stopped for a few minutes, the closure of torch valves only is allowed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0291

Oxygen-Fuel Gas -- General

- (1) Acetylene gas shall not be allowed to contact unalloyed copper except in a blowpipe or torch.
- (2) Oxygen is prohibited for use in pneumatic tools, in oil preheating burners, to start internal-combustion engines, to blow out pipelines, to "dust" clothing or work, to create pressure, or for ventilation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0292

Oxygen-Fuel Gas -- Operating Procedures

- (1) After connecting welding or cutting apparatus to oxygen and fuel-gas cylinders, or when starting to reuse the

apparatus after an interval of a half hour or more, each gas shall be allowed to flow through its respective hose separately for a few seconds to purge the hose of any mixture of gases.

(2) Operators shall follow the procedure outlined by the manufacturer of the apparatus as they deal with the sequence of operations in lighting, adjusting, and extinguishing blowpipe flames and connecting the apparatus to the sources of gas supply.

(3) Operators shall never put down a torch unless the oxygen and fuel-gas have been completely shut off at the torch.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0293

Cylinder Storage

(1) Unless connected to a manifold, oxygen from a cylinder shall not be used without first attaching an oxygen regulator to the cylinder valve.

(2) Before connecting the regulator to the cylinder valve, the valve shall be opened 1/4 of a turn and closed immediately.

(3) A suitable cylinder truck, chain or steadying device shall be used to keep cylinders from being knocked over while in use.

(4) Cylinders shall be securely lashed in place when necessary to prevent them from falling.

(5) Signs shall be conspicuously posted in such fuel-gas storage areas reading, "DANGER -- No Smoking, Matches or Open Lights", or equivalent wording.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0294

Pressure-Reducing Regulators

(1) Pressure-adjusting screws on regulators shall always be fully released before the regulator is attached to a cylinder and the cylinder valve opened.

(2) Pressure-reducing regulators shall be kept in good repair. Cracked, broken or otherwise defective parts (including gauge glasses) shall be replaced.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0295

Hoses

Hoses shall be protected from damage by physical hazards, hot objects or kinking. Damaged hoses shall not be repaired with tape.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

437-002-0296

Hose Connections

Connections for the oxygen hose shall be of sufficiently different dimension or pattern from that for fuel-gas to prevent intermixing in making connections, or hose connections shall be marked for identification to avoid interchange of fuel-gas and oxygen hoses.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

Note: §1910.252(a)(3)(i) was not adopted by the Department. In Oregon 437-002-0297 applies:

437-002-0297

Welding or Cutting Containers

(1) No welding, torch or abrasive cutting, or other hot work shall be performed on drums, barrels, tanks or other containers until they have been cleaned so thoroughly as to make absolutely certain that there are no flammable materials present or any substances such as greases, tars, acids, surface coatings or other materials which when subjected to heat, might produce flammable or toxic vapors. Any pipe lines or connections to the drum or vessel shall be disconnected or blanked.

(2) In order to meet the "absolutely certain" test required in section (1) of this rule, appropriate testing equipment shall be used prior to and frequently during the welding, torch or abrasive cutting or other hot work operation to insure that the container is free and remains free of flammable or toxic vapors.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

Note: §1910.252(c)(4)(iii) was not adopted by the Department. In Oregon OAR 437-002-0298 applies:

437-002-0298

Self-Contained Units

In areas immediately hazardous to life, self-contained breathing equipment shall be used. The breathing equipment shall be approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 232-1990, f. 9-28-90, cert. ef. 12-1-90

Special Processes

437-002-0300

AAoption by Reference

In addition to and not in lieu of any other health and safety codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

(1) Reserved for **29 CFR 1910.261** Pulp, Paper, and Paperboard Mills

(2) **29 CFR 1910.262** Textiles, published 6/27/74, **Federal Register** vol. 39, p. 23502; amended 5/28/75, **FR** vol. 40, p. 23073; 2/10/84, **FR** vol. 49, p. 5324; 3/7/96, **FR** vol. 61, no. 46, p. 9241.

(3) **29 CFR 1910.263** Bakery Equipment, published 6/27/74, **Federal Register** vol. 39, p. 23502; amended 10/24/78, **FR** vol. 43, p. 49765; 11/7/78, **FR** vol. 43, p. 51760; 3/7/96, **FR** vol. 61, no. 46, p. 9241.

(4) **29 CFR 1910.264** Laundry Machinery and Operations, published 6/27/74, **Federal Register** vol. 39, p. 23502; amended 10/24 /78, **FR** vol. 43, p. 49765; 11/7/78, **FR** vol. 43, p. 51760.

(5) **29 CFR 1910.265** Sawmills, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 5/28/75, **FR** vol. 40, p. 23073; 10/24/78, **FR** vol. 43, p. 49751; 11/7/78, **FR** vol. 43, p. 51760; 4/12/88, **FR** vol. 53, p. 12123; 8/6/90, **FR** vol. 55, p. 32015; 3/7/96, **FR** vol. 61, no. 46, p. 9241.

(6) Reserved for **29 CFR 1910.266** Pulpwood Logging. (**NOTE:** In Oregon, Pulpwood Logging rules are Oregon-initiated rules provided in Division 6, Forest Activities.)

(7) Reserved for **29 CFR 1910.267** Agricultural Operations

(8) **29 CFR 1910.268** Telecommunications, published 3/26/75, **Federal Register**, vol. 40, p. 13441; amended 10/24/78, **FR** vol. 43, p. 49751; 4/6/82, **FR** vol. 47, p. 14706; 9/28/87, **FR** vol. 52, p. 36387; 6/7/89, **FR** vol. 54, p. 24334; 3/7/96, **FR** vol. 61, no. 46, p. 9242.

(9) **29 CFR 1910.269** Electric power generation, transmission and distribution, published 1/31/94, **Federal Register**, vol. 59, no. 20, pp. 4435-4476; amended 6/30/94, **FR** vol. 59, no. 125, pp. 33658-33664.

(10) **29 CFR 1910.272** Grain Handling Facilities, and Appendices A, B and C, published 12/31/87, **Federal Register** vol. 52, no. 251, p. 49625; amended 5/18/88, **FR** vol. 53, no. 96, p. 17695; 6/7/84, **FR** vol. 54, p. 24334; 6/20/90, **FR** vol. 55, no. 119, p. 25093; 3/7/96, **FR** vol. 61, no. 46, p. 9242.

(11) **29 CFR 1910.274** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9242.

(12) **29 CFR 1910.275** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9242.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 10-1988, f. & ef. 7-7-88; OSHA 23-1990, f. 9-28-90, ef. 12-1-90; OSHA 27-1990, f. 12-12-90, ef. 2-1-91; OSHA 14-1991, f. 10-10-91, cert. ef. 11-1-91; OSHA 7-1993, f. 6-8-93, cert. ef. 8-1-93; OSHA 11-1993, f. 8-4-93, cert. ef. 10-1-93; OSHA 3-1994, f. & cert. ef. 8-1-94; OSHA 6-1995, f. 4-18-95, cert. ef. 6-1-95; OSHA 3-1996, f. & cert. ef. 7-22-96; OSHA 4-1997, f. & cert. ef. 4-2-97

Oregon Rules for Tree and Shrub Services

437-002-0301

Scope and Application

(1) These rules set minimum safety requirements for tree and shrub trimming, pruning, bracing, removal, and surgery. These rules shall apply to all tree and shrub services.

(2) These rules do not apply to agricultural crops or crop services, or to tree trimming operations within 10 feet of any high voltage (600v) power lines or equipment. Tree trimming operations around power lines are covered under 1910.269 in Division 2/R.

(3) If a specific type of equipment, process or practice is not limited to the tree and shrub service industry, the provisions contained in other divisions of OAR 437, Oregon Occupational Safety and Health Code, shall apply.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91; OSHA 3-1994, f. & cert. ef. 8-1-94; OSHA 1-1996, f. & cert. ef. 2-16-96

437-002-0302

Definitions

"Qualified Tree Worker" -- A worker who through related training and on-the-job experience is familiar with the techniques and hazards of tree pruning, trimming, repairing, or removal, and the equipment used in such operations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91; OSHA 1-1996, f. & cert. ef. 2-16-96

437-002-0303

Training and Work Planning

Employers shall instruct their employees in the proper use of all equipment provided for them and shall require that safe working practices be observed. A job safety briefing with all crew members shall be held and all work procedures and assignments shall be worked out carefully before any tree job is begun.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91; OSHA 1-1996, f. & cert. ef. 2-16-96

437-002-0304

First Aid Requirements

- (1) First aid care and supplies shall be provided as required by OAR 437-002-0161, in Division 2/K, Medical Services and First Aid;
- (2) Personnel shall be able to render cardio-pulmonary resuscitation (CPR); and
- (3) Be trained in tree top rescue.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91

437-002-0305

Traffic Control

Effective means for control of pedestrian and vehicular traffic shall be instituted on every jobsite on or adjacent to a highway, street or railway. Traffic controls shall conform to the American National Standards Institute (ANSI) D6.1e-1989, Manual on Uniform Traffic Control Devices for Streets and Highways.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91

437-002-0306

Electrical Hazards

(1) General:

(a) The employer shall ensure that a close inspection is made by the employee and by the foreman or supervisor in charge before climbing, entering or working around any tree, to determine whether an electrical power conductor passes through the tree, or passes within reaching distance of an employee working in the tree. If any of these conditions exist either directly or indirectly, an electrical hazard shall be considered to exist unless the system operator/owner has caused the hazard to be removed by deenergizing the lines, or installing protective equipment;

(2) Unqualified persons. When an unqualified person is working near overhead lines, the location shall be such that the person and the longest conductive object he or she may contact cannot come closer to any unguarded, energized overhead line than the following distances:

(a) For voltages to ground 50kV or below-10 ft. (305 cm);

(b) For voltages to ground over 50kV-10 ft. (305 cm) plus 4 in. (10 cm) for every 10kV over 50kV.

(3) Electrical Safety-Related Work Practices. The employer shall assure that 29 CFR 1910.331 through 1910.335, Electrical Safety-Related Work Practices, in Division 2/S, are complied with for all electrical hazards, EXCEPT as provided for in 29 CFR 1910.331(c).

(4) Notification to Power Company. The power company shall be notified when working within ten (10) feet of a power line or when a tree may fall within ten (10) feet of a power line.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91; OSHA 1-1996, f. & cert. ef. 2-16-96

437-002-0307

Personal Protective Equipment

(1) Personal protective equipment shall be provided and used as required by OAR 437, Division 2/I, Personal Protective Equipment.

(2) Safety belts or tree-trimming saddle belts shall conform to ANSI A10.14-1975, Requirements for Safety Belts, Harnesses, Lanyards, Lifelines, and Drop Lines for Construction and Industrial Use. Safety belts, tree trimming saddles, or a saddle formed by a double bowline shall be worn to protect workers when working aloft.

(3) Saddle belts or safety belts used for climbing operations shall have forged support rings. Snaps used in climbing ropes or in safety straps, for attachment to the forged support ring, shall be of a self-closing safety type. Forged support rings shall be designed so that the snaps will not become disengaged (roll off) accidentally.

(4) Saddle belts or safety belts shall not be spliced or weakened by punching extra holes in them.

- (5) All employees using chain saws shall wear flexible ballistic nylon pads or other equivalent protection sewn or otherwise fastened to the trousers, which will protect the legs from the thigh to below the knee.
- (6) Eye or face protection shall be provided and used where chips, sawdust or flying particles present a hazard.
- (7) When operating chain saws or other noise producing equipment, employees shall wear hearing protection unless the equipment operators are monitored under typical conditions and found to be exposed to a noise level of less than 85 db. Hearing protection shall be in accordance with Division 2/G, Occupational Noise Exposure.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91; OSHA 1-1996, f. & cert. ef. 2-16-96

437-002-0308

Portable Power Tools

- (1) Electric tools. All portable electric hand tools shall:
 - (a) Be equipped with three-wire cord having the ground wire permanently connected to the tool frame and means for grounding the other end; or
 - (b) Be of the double insulated type and permanently labeled as "Double Insulated";
 - (c) Extension cords shall be maintained in safe condition. Exposed metal sockets shall not be used;
 - (d) Tool operators shall:
 - (A) Use electric hand tools in accordance with the manufacturer's instructions;
 - (B) Prevent cords from becoming entangled, damaged, or cut by blades and bits;
 - (C) Avoid laying extension cord in water;
 - (D) Support an electrical tool and its power supply cord by a line, independent of the worker when the tool is used aloft.
- (2) Gasoline-Driven Power Saws:
 - (a) Power saws shall not be used when employees are supported by a single climbing belt or rope;
 - (b) When working aloft using power saws, employees shall be supported by their climbing belt or rope and by a safety line to a crotch in the tree higher than the climber's waistline. The safety line shall be secured to a separate point on the climber's body belt and kept snug at all times;
 - (c) The manufacturer's operating and safety instructions shall be followed unless modified by this rule;
 - (d) Power saws weighing more than 15 pounds (service weight) used in trees shall be supported by a separate line, except when used from an aerial-lift device;
 - (e) Where there are no lateral branches on which to crotch a separate line for power saws weighing over 15 pounds, a

false crotch shall be used. A false crotch is one that can hold power-saw lines without slipping or coming untied;

(f) The operator shall have secure footing when starting the saw. Power saws weighing less than 15 pounds (service weight) may be drop started. Drop starting of saws over 15 pounds is permitted outside of the basket of an aerial lift only after ensuring that the area below the aerial lift is clear of personnel;

(g) The engine shall be started and operated only when all other workers are clear of the saw;

(h) The engine shall be stopped when power saws are being carried. The saw need not be stopped between cuts during consecutive felling, bucking, or limbing or cutting operations on reasonably level ground. The chain shall not be turning and the operator's hand shall be off the throttle lever while moving between work locations. Single person saws shall be carried by the worker on his/her side with the guide bar of the saw pointed to the rear;

(i) The engine shall be stopped for all cleaning, refueling, adjustments, and repairs to the motor;

(j) The saw muffler shall be maintained in good condition;

(k) The saw shall be clean of sawdust and flammable material;

(l) Power chain saws shall be equipped with an automatic throttle control which will return the engine to idling speed upon release of the throttle. "Idling" is when the chain is not moving while the engine is running;

(m) Power saws shall meet all applicable requirements of ANSI B175.1-1985, Safety Requirements for Gasoline-Powered Chain Saws.

(3) Backpack power units:

(a) The manufacturer's operating safety instructions shall be followed unless modified by these rules;

(b) No one except the operator shall be within ten feet of the cutting head of a brush saw;

(c) The power unit shall be equipped with a quick shutoff switch readily accessible to the operator;

(d) The operator shall observe the position of all personnel while the unit is running;

(e) The engine shall be stopped for all cleaning, refueling, adjustments, and repair to the saw or motor where practical, except where manufacturer's procedures require otherwise.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91

437-002-0309

Hand Tools

(1) General:

(a) The correct tool shall be selected for the job;

(b) Tools that have been made unsafe by damager or defect shall not be used;

(c) When climbing a tree, workers shall not carry tools in their hands other than tools that are used to assist them in

climbing;

(d) Workers shall maintain a safe working distance from other workers when using hand tools;

(e) Tools shall be properly stored or placed in plain sight out of the immediate work area when not in use;

(f) Workers shall not throw or drop tools from trees unless warning has been given and the ground area is clear, and the act of dropping will not endanger personnel.

(2) Pruners and hand saws:

(a) Pole pruners, pole saws, and other similar tools shall be equipped with wood or nonmetallic poles. Actuating cord shall be of nonconducting material;

(b) When inserting a blade in a bow-saw frame, workers shall keep their hands and fingers in the clear when the tension lever snaps into or against the saw frame. When removing a bow-saw blade from the frame, the operator shall stay clear of the blade.

(3) Chopping tools -- Axes, brush hooks, machetes, and others:

(a) Chopping tools that have loose or cracked heads or splintered handles shall not be used;

(b) Chopping tools shall never be used while working aloft;

(c) Chopping tools shall be swung away from the feet, legs, and body, using the minimum power practical for control;

(d) Chopping tools shall not be driven as wedges or used to drive metal wedges.

(4) Injector tools for applying herbicides:

(a) The bit of injector tools shall be covered with a shield when not in use;

(b) Injectors shall be laid flat on the ground when not in use;

(c) The injector shall not be carried on the shoulders but shall be carried by the loop handle on the downhill side, with the bit properly shielded and facing to the rear.

(5) Grub hoes, mattocks and picks:

(a) The blade eye shall be tight-fitting and wedged so that it cannot slide down the handle;

(b) When swinging grub hoes, mattocks, and picks, the worker shall have a secure grip and firm footing.

(6) Cant hooks, cant dogs, longs, and carrying bars:

(a) Hooks shall be firmly set before applying pressure;

(b) Tools with cracked, splintered, or weakened handles shall not be used;

(c) Workers shall be warned and shall be in the clear before logs are moved;

(d) The points of hooks shall be at least two inches long and kept sharp;

(e) Workers shall stand to the rear and uphill when rolling logs.

(7) Wedges, chisels, and gouges:

- (a) Wedges, chisels, and gouges shall be inspected for cracks and flaws before use;
 - (b) Wedges and chisels shall be properly pointed and tempered. Tools with mushroomed heads shall not be used;
 - (c) Only wood, plastic, or soft-metal wedges shall be used with power saws;
 - (d) Wood-handled chisels shall be protected with a ferrule on the striking end.
- (8) Hammers, mauls, and sledges. Wood, rubber or high-impact plastic mauls, sledges, or hammers shall be used when striking wood-handled chisels or gouges.
- (9) Ropes:
- (a) Climbing ropes shall be used when working aloft in trees. Climbing ropes shall have a minimum diameter of 1/2-inch and be a three- or four-strand first-grade manila with a nominal breaking strength of 2,385 pounds or its equivalent in strength and durability. Synthetic rope shall have a maximum elasticity of not more than seven percent;
 - (b) Rope made unsafe by damage or defect, or for any other reason, shall not be used;
 - (c) Rope shall be stored away from all cutting edges and sharp tools. Corrosive chemicals, gas, and oil shall be kept away from rope;
 - (d) Climbing ropes and safety lines shall not be used to lower limbs or other parts of trees or to raise or lower equipment;
 - (e) When stored, rope shall be coiled and piled, or suspended, so that air can circulate through the coils;
 - (f) Rope ends shall be secured to prevent unraveling;
 - (g) Climbing and safety rope shall not be spliced to effect repair;
 - (h) Safety snaps shall be rotated from one end of the rope to the other, as needed, and the worn end cut off;
 - (i) A handline shall be used for raising or lowering tools and limbs.
- (10) Tackle blocks and pulleys. Tackle blocks and pulleys shall be inspected immediately before use and shall be condemned if defective, in accordance with procedures given in ANSI/ASME B30.9-1984, B30.9a-1985, and B30.9b-1987, Safety Standard for Slings.
- (11) Ladders:
- (a) When using portable ladders to climb trees, the ladder shall be tied to the tree or supported by another worker. When working from a ladder during cutting operations, the ladder shall be securely tied or braced, and the worker tied in as required by OAR 437-002-0310(1)(a);
 - (b) Ladders, platforms, and aerial devices, including insulated aerial devices, shall not be placed in a position where they could contact an electrical conductor. Reliance shall not be placed on their dielectric capabilities;
 - (c) Ladders made of metal or other conductive material shall not be used where an electrical hazard exists. Only approved wood ladders (constructed in accordance with ANSI A14.1-1982, Safety Requirements for Portable Wood Ladders, or nonconductive ladders made of synthetic material equal to or exceeding the strength of approved wood ladders, shall be used;
 - (d) Metal ladders used where no electrical hazard exists shall conform to ANSI A14.2-1982, Safety Requirements for Portable Metal Ladders;

- (e) All ladders shall be inspected daily before use. Unsafe ladders shall not be used;
- (f) The attaching of cleats, metal points, and safety feet; lashing; or other effective means of securing the ladder shall be used if there is danger of its slipping;
- (g) Ladders shall be supported while in storage so they will not sag. Except when on mobile equipment, ladders shall be stored under suitable cover, protected from the weather, and kept in a dry location away from excessive heat;
- (h) Ladders shall not be used as bridges or inclined planes to load or handle logs or other material.
- (12) Climbing spurs. Climbing spurs shall be of the tree-climbing type and have gaffs suitable for the tree being climbed.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91; OSHA 1-1996, f. & cert. ef. 2-16-96

437-002-0310

Work Procedures

(1) Climbing:

- (a) A tree worker shall be tied in with an approved type of climbing rope and safety saddle when working ten feet above the ground. The climbing rope shall always be used even when working from a ladder or scaffold and the employee is ten feet or more above the adjacent ground line. A safety strap or rope with snaps may be used for additional protection;
- (b) Limbs shall be inspected, while climbing, before applying weight. The climber shall not trust the capability of a dead branch to support his/her weight. Dead branches shall be broken off on the way up, if possible. Hands and feet shall be placed on separate limbs, if possible;
- (c) The climbing rope shall be passed around the trunk of the tree as high as possible using branches with a wide crotch to prevent any binding of the safety rope. The crotch selected for tying in shall be over the work area as much as possible, but located in such a way that a slip or fall would swing the worker away from any electrical conductor. The rope shall also be passed around the main leader or an upright branch, using the limb as a stop. Feet, hands, and ropes shall be kept out of tight V-shaped crotches;
- (d) The location of all electrical conductors shall be noted in relation work procedures. The worker shall climb on the side of the tree that is away from electrical conductors, if possible;
- (e) A figure-eight knot shall be tied in the end of the rope, particularly in the case of high trees. This will prevent pulling the rope accidentally through the taut line-hitch and possible serious injury from a fall;
- (f) The climbing line shall be crotched as soon as practical after the worker is aloft, and a taut line-hitch tied and checked;
- (g) The worker shall be completely secured with the climbing line before starting operations;
- (h) The worker shall remain tied in until the work is completed and the worker has returned to the ground. If it is necessary to recrotch the rope in the tree, the worker shall retie the rope or use the safety strap before releasing the

previous tie.

(2) Pruning and Trimming.

- (a) Pole pruners and pole saws shall be hung securely in a vertical position to prevent dislodging. Pole pruners or pole saws shall not be hung on utility wires or cables, or left in the tree overnight. Pole saws shall be hung so that the sharp edge is away from the worker.
- (b) A scabbard or sheath shall be hooked to the belt or safety saddle to carry the handsaw when not in use.
- (c) Warnings, when necessary, shall be given by the worker in the tree before a limb is dropped.
- (d) A separate line shall be attached to limbs which cannot be dropped or are too heavy to be controlled by hand. The line shall be held by workers on the ground end of the rope. Use of the same crotch for both safety rope and work rope shall be avoided.
- (e) Cut branches shall not be left in trees overnight.
- (f) A climbing rope shall never be left in a tree overnight. A service line shall be put up for overnight or longer.
- (g) The climber shall inspect the rope for cuts or abrasions before starting work. If any cuts or serious abrasions are found, the rope shall be discarded, used for some other purpose, or the defective section cut off.
- (h) During all tree working operations aloft, there shall be a second worker in the vicinity. This shall not apply to utility workers engaged in tree trimming incidental to their normal occupation, or to one-man service crews.

(3) Cabling:

- (a) In cabling operations, branches which are to be cabled shall be brought together to the proper distance by means of a block and tackle, a hand winch, a rope, or a rope with a come-along;
- (b) Not more than two persons shall be in the tree working at opposite ends during cabling installation;
- (c) When releasing the block and tackle, workers in trees shall be off to one side in case the lag hooks pull out under strain;
- (d) Ground workers shall not stand under the tree when cable is being installed;
- (e) Tools used for cabling, bark tracing, cavity work, etc., shall be carried in a bag or belt designed to hold tools, not put in the pocket or stuck in the top of a boot.

(4) Topping:

- (a) Workers doing topping shall make sure the trees are able to stand the strain of a topping procedure. If not, some other means of lowering the branches shall be provided, such as a tree crane;
- (b) If large limbs are lowered in sections, the worker in the tree shall be above the limb being lowered;
- (c) Guidelines, handlines, or tag lines shall be used when conditions warrant their use.

(5) Felling:

- (a) Before beginning any felling operation, a safety plan shall be developed which shall consider:
 - (A) The tree and the surrounding area for anything that may create a hazard when the tree falls;

- (B) The shape of the tree;
 - (C) The lean of the tree;
 - (D) Wind force and direction;
 - (E) Decayed or other weak spots; and
 - (F) The location of other persons or structures.
- (b) The work area shall be cleared to permit safe working conditions, and an escape route shall be planned before any cutting is started;
- (c) Each tree worker shall be instructed as to exactly what is to be done during the felling operation. All workers not directly involved shall be at least two tree lengths away from the tree being felled;
- (d) A notch and blackcut shall be used in felling trees over five inches diameter breast high. No tree shall be felled by "ripping" or "slicing" cuts;
- (e) The depth or penetration of the notch shall be approximately 1/3 the diameter of the tree;
- (f) The opening or height of the notch shall be approximately 2-1/2 inches for each foot in diameter of the tree;
- (g) The backcut shall be made higher than the point or apex of the notch to prevent kickback;
- (h) Just before the tree is ready to fall, an audible warning shall be given to those in the area;
- (i) If there is danger that the tree being felled may fall the wrong way or damage property; wedges, block and tackle, rope, or wire cable (except where an electrical hazard exists) shall be used. All limbs shall be removed from trees to a height and width sufficient to allow the tree to fall clear of any wires and other objects in the vicinity;
- (j) Special precautions in roping rotten or split trees shall be taken to prevent the tree from falling in an unexpected direction even though the cut is made on the proper side;
- (k) The faller shall retreat to a safe location when a tree is committed to fall.
- (6) Chipper equipment and brush removal:
- (a) Chipper equipment shall be provided with a substantial housing which will be capable of effectively retaining broken chipper knives or foreign material;
- (b) Chipper tables shall be of sufficient length or guarded to prevent reaching chipper blades;
- (c) Any chipper equipment to be repaired or adjusted shall be shut down and shall be provided with a positive means to prevent accidental starting as required by OAR Chapter 437, Division 2, Subdivision J, 29 CFR 1910.147, Lockout/Tagout;
- (d) Guard shall be installed over exposed adjacent blades when replacing chipper blades;
- (e) When chipper is in operation, at least one worker in addition to the operator shall be in the immediate vicinity;
- (f) Eye protection equipment shall be worn by the chipper operator at all times during chipper operations;
- (g) Care shall be taken that no foreign objects are fed into the chipper blades;
- (h) Brush chippers shall be fed from the side of the centerline, and the operator shall immediately turn away from the

feed table when the brush is taken into the rotor. Chippers shall be fed from the curbside whenever practical;

(i) The chipper chute shall not be raised or removed while the rotor is turning. The chipper shall not be used unless an exhaust chute of sufficient length or design to prevent contact with the blade is in place;

(j) Loose clothing, gauntlet-type gloves, rings, and watches shall not be worn by workers feeding the chipper;

(k) The feed chute or feed table of a chipper shall have sufficient height on its side members to prevent operator contact with the blades or knives during normal operation;

(l) Chipper operators shall be instructed as to the manufacturer's operating instructions, maintenance and safe work practices;

(m) Access panels for maintenance and adjustment shall be closed and secured prior to operation of brush clippers;

(n) Each rotary drum tree or brush chipper or disk-type tree or brush chipper not equipped with a mechanical infeed system shall be equipped with an infeed hopper not less than 85 inches, measured from the blades or knives to ground level over the centerline of the hopper, and shall have sufficient height on its side members so as to prevent personnel from contacting the blades or knives of the machine during normal operations;

(o) Each rotary drum tree or brush chipper or disk-type tree or brush chipper not equipped with a mechanical infeed system shall have a flexible anti-kickback device installed in the infeed hopper for the purpose of protecting the operator and other persons in the machine area from the hazards of flying chips and debris;

(p) Each disk-type tree or brush chipper equipped with a mechanical infeed system shall have a quick stop and reversing device on the infeed. The activating lever for the quick stop and reversing device shall be located across the tope, along each side of, and as close to the feed end of the infeed hopper as practicable and within easy reach of the operator;

(q) Trailer chippers detached from trucks shall be chocked or otherwise secured;

(r) When in tow position, the chipper safety chains shall be crossed under the tongue of the chipper and affixed securely to the towing vehicle.

(7) Limbing and bucking:

(a) The tree worker shall work on the side opposite the side on which the limb is being cut;

(b) The tree worker shall stand on the uphill side of the work;

(c) Branches bent under tension shall be considered hazardous;

(d) The tree worker shall block the log to prevent rolling, when necessary;

(e) When bucking up trunks of trees, wedges shall be used as necessary to prevent binding of the guide bar or chain.

(8) Storm work and emergency conditions:

(a) Since storm work and emergency conditions create special hazards, only authorized representatives of the electric utility system operator/owner may perform tree work in these situations where energized electrical power conductors are involved;

(b) When an emergency condition develops due to tree operations, work shall be suspended and the system operator/owner shall be notified immediately.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91

437-002-0311

Mobile Equipment

- (1) All vehicles shall comply with OAR 437-002-0223 in Division 2/N, Material Handling and Storage.
- (2) All aerial lifts shall comply with Division 2/F, 1910.67, Vehicle-Mounted Elevating and Rotating Work Platforms.
- (3) When an aerial lift device contacts an electrical conductor, the truck supporting the aerial lift device shall be considered as energized.
- (4) Sprayers and related equipment:
 - (a) Working and walking surfaces of all sprayers and related equipment shall be covered with slip-resistant material;
 - (b) Equipment on which workers stand and spray while the vehicle is in motion shall be equipped with guardrailing around the working area. The guardrailings shall be constructed in accordance with OAR 437-002-1910.23(e), Railing, Toeboards, and Cover Specifications in Division 2/D.
- (5) Stump cutters:
 - (a) Stump cutters shall be equipped with enclosures or guards that effectively protect the operator;
 - (b) The operator and workers in the immediate area shall wear eye protection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91

437-002-0312

Oregon Rules for Pulp, Paper and Paperboard Mills

- (1) General Requirements.
 - (a) Application. This section applies to establishments where pulp, paper, and paperboard are manufactured or converted. This section does not apply to logging and the transportation of logs to pulp, paper, and paperboard mills.
 - (b) Standards incorporated by reference. Standards covering issues of occupational safety and health which have general application without regard to any specific industry are incorporated by reference in sections (2) through (14) of this rule and in subsections (c) and (d) of this rule and made applicable under this rule. Such standards shall be construed according to the rules set forth in §1910.5, Applicability of Standards, in Subdivision A.
 - (c) General incorporation of standards. Establishments subject to this section shall comply with the following standards of the American National Standards Institute:
 - (A) Safety Requirements for Floor and Wall Openings, Railings, and Toe Boards, A10.18-1983.

- (B) Scheme for the Identification of Piping Systems, A13.1-1981 (R1993).
- (C) Safety Code for Portable Wood Ladders, A14.-1990.
- (D) Safety Code for Portable Metal Ladders, A14.2-1990.
- (E) Safety Code for Fixed Ladders, A14.3-1990.
- (F) Safety Code for Cranes, Derricks, and Hoists, B30.2-1990.
- (G) Overhead and Gantry Cranes, B30.17-1992.
- (H) Crawler, Locomotive, and Truck Cranes, B30.8-1993.
- (I) Safety Code for Woodworking Machinery, ANSI O1.1-1992.
- (J) Method of Measurement of Real-Ear Protection of Hearing Protectors - Physical Attenuation of Ear Muffs, ANSI S3.19-1974 (R1990).
- (K) Practice for Occupational and Educational Eye and Face Protection, ANSI Z87.1-1989
- (L) Requirements for Sanitation in Places of Employment, ANSI Z4.1-1986.
- (M) Fundamentals Governing the Design and Operation of Local Exhaust Systems, Z9.2-1979 (R 1991).
- (N) Practices for Respiratory Protection, ANSI Z88.2-1992.
- (O) Safety Requirements for Industrial Head Protection, ANSI Z89.1-1986.
- (P) Safety Color Code, ANSI Z535.1-1991.
- (Q) Practice for the Inspection of Elevators (Inspector's Manual), ANSI/ASME A17.2-1988.
- (R) Safety Code for Elevators, Dumbwaiters, and Moving Walks, ANSI/ASME A17.1-1990.
- (S) Safety Code for Mechanical Power-Transmission Apparatus, ANSI/ASME B15.1-1992.
- (T) Safety Code for Conveyors, Cableways, and Related Equipment, ANSI/ASME B20.1-1993.
- (U) Power Piping, ANSI/ASME B31.1-1992.
- (V) Safety Code for Powered Industrial Trucks, ANSI/ASME B56.1.
- (W) Practice for Industrial Lighting, ANSI/IES RP-1990.
- (X) Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, ANSI/NFPA 91-1992.
- (Y) Fire Department Self-Contained Breathing Apparatus Program, ANSI/NFPA 1404-1989.
- (Z) Safety Code for Ventilation and Operation of Open-Surface Tanks, ANSI/UL 641-1985.
- (d) Other standards. The following standards shall be considered standards under this section:
 - (A) ASME Boiler and Pressure Vessel Code, Section VIII, Unfired Pressure Vessels 1992, including addenda.

(B) Building Exits Code for Life Safety from Fire, NFPA 101-1991.

(C) NFPA Code for Prevention of Sulfur Fires and Explosions, NFPA 655-1993.

(D) Safety in the Transportation, Storage, Handling and Use of Explosives, IME Pamphlet No. 17, March 1987, Institute of Makers of Explosives.

(2) Employee Training.

(a) Employees shall not be permitted to operate any machine or equipment until they have received proper training and are familiar with safe operating procedures.

(b) Employees shall be trained in proper lifting or moving techniques and methods. Mechanical devices should be used or employees should ask for assistance in lifting or moving heavy objects.

(c) In each area where hazardous substances may be encountered, personnel shall be trained to cope with emergencies arising from breaks, ruptures, or spills which would create a hazardous condition.

(d) Any faulty equipment or hazardous condition shall be promptly reported to the person in charge.

(e) When an employee is assigned to work alone in a remote or isolated area, a system shall be instituted whereby such employee reports to someone or a designated person shall check on his or her safety. The procedure shall designate the method of contact and the frequency. All persons will be trained on the procedures.

(3) Safe Practices.

(a) Guards. All driving mechanisms, power transmission apparatus, and prime movers shall be constructed, guarded, and used in conformity with Subdivision O, Machinery and Machine Guarding.

(b) Inspection of controls and safety devices. Brakes, back stops, antirunaway devices, overload releases, and other safety devices shall be inspected and tested frequently to insure that all are operative and maintained in good repair.

(c) Personal protective clothing and equipment. Personal protective clothing and equipment shall be provided and worn in accordance with Subdivision I, Personal Protective Equipment.

(d) Floors and platforms. Floors, platforms, and work surfaces shall be guarded and maintained in accordance with §1910.23, in Subdivision D, Walking Working Surfaces.

(e) Lockouts. Lockout/tagout shall be in accordance with the requirements of §1910.147, in Subdivision J, with the exception that:

(A) There will be no tagouts allowed in lieu of lockout for that which can be locked out. Tags are provided for identification and information purposes only.

(B) Persons engaged in repair, inspection, maintenance, or clean-up shall lockout the affected equipment, retain possession of the keys to the locks, and personally remove the lock and tag upon completion of the work.

(C) Group lockout. (See **Appendices A and B.**)

(i) When servicing and/or maintenance is performed by a crew, craft, department or other group, they shall utilize a procedure which affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout device.

(ii) Group lockout devices shall be used in accordance with the procedures required by §1910.147(c)(4) including, but not necessarily limited to, the following specific requirements.

(I) Primary responsibility is vested in an authorized employee for a set number of employees working under the protection of a group lockout device (such as an operations lock);

(II) Provision for the authorized employee to ascertain the exposure status of individual group members with regard to the lockout of the machine or equipment; and

(III) When more than one crew, craft, department, etc. is involved, assignment or overall job-associated lockout control responsibility to an authorized employee designated to coordinate affected work forces and ensure continuity of protection; and

(IV) Each authorized employee shall affix a personal lockout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained; and

(V) Any person involved in the lockout process shall have the right to place their own lock at each lockout location where group lockout procedures have been allowed.

(f) Confined space entry. Confined space entry shall be in accordance with §1910.146, Permit-Required Confined Spaces, in Subdivision J.

(g) Industrial power trucks.

(A) All industrial power trucks and operations shall conform to §1910.178, Powered Industrial Trucks, Subdivision N, Material Handling and Storage. All forklift trucks shall be provided with overhead guards. Design requirements shall provide protection for the liquid petroleum gas tank. All guards shall be designed in compliance with §1910.178, Powered Industrial Trucks, in Subdivision N.

(B) Mirrors or other methods to ensure visibility shall be installed at blind corners or intersections which will allow operators to observe oncoming traffic.

(C) Every power truck operated from an end platform or standing position shall be equipped with a platform extending beyond the operator's position, strong enough to withstand a compression load equal to the weight of the loaded vehicle applied along the longitudinal axis of the truck with the outermost projection of the platform against the flat vertical surface.

(D) Pushing of vehicles or rail cars with the forks or clamps of a lift truck is prohibited.

(h) Emergency lighting.

(A) Emergency lighting shall be provided wherever it is necessary for employees to remain at their machines or stations to shut down equipment in case of power failure. Emergency lighting shall be provided at stairways and passageways or aiseways used by employees for emergency exit in case of power failure. Emergency lighting shall be provided in all plant first aid and medical facilities.

(B) Emergency lighting shall be maintained in accordance with the manufacturer or engineering specifications, and shall be checked at least every 30 days for defects.

(i) Electrical equipment. All electrical installations and electrical utilization equipment shall comply with the National Electrical Code requirements and the provisions of Subdivision S, Electrical.

(4) Handling and Storage of Pulpwood and Pulp Chips.

(a) Handling pulpwood with forklift trucks. Where large forklift trucks, or lift trucks with clam-jaws, are used in the yard, the operator's enclosed cab shall be provided with an escape hatch, whenever the hydraulic arm blocks escape through the side doors.

(b) Handling pulpwood with cranes or stackers.

(A) Where locomotive cranes are used for loading or unloading pulpwood, the pulpwood shall be piled so as to allow a clearance of not less than 24 inches between the pile and the end of the cab of any locomotive crane in use, when the cab is turned in any working position.

(B) The minimum distance of the pulpwood pile from the centerline of a standard-gage track shall be maintained at not less than 8-1/2 feet.

(C) Logs shall be piled in an orderly and stable manner, with no projection into walkways or roadways.

(D) Rail cars shall not be spotted on tracks adjacent to the locomotive cranes unless a 24-inch clearance is maintained, as required in section (4)(b)(A) of this rule.

(E) The handling and storage of other materials shall conform to sections (4)(b)(A) and (B) of this rule with respect to clearance.

(F) Equipment and practices shall conform to American National Standards B30.2-1990 and B30.2.0-1967.

(G) Personal protective equipment for such uses as foot, head, and eye protection shall be required for workers on a job basis.

(H) No person shall be permitted to walk beneath a suspended load, bucket, or hook.

(c) Pulpwood storage and handling.

(A) Unauthorized vehicles and unauthorized foot traffic shall not be allowed in any active sorting, storing, loading, or unloading areas.

(B) Unloading lines shall be so arranged that it is not necessary for the workers to attach them on the pond or dump side of the load.

(C) Jackets or vests of fluorescent or other high visibility material shall be worn by persons working on dry land log storage.

(D) Wire rope doglines used for towing or rafting shall not be used when:

(i) They acquire jagers to the extent that they present a hazard to the workers handling them; or

(ii) When they are weakened to the extent that they are hazardous.

(E) Boom sticks shall be capable of safely supporting the weight imposed upon them.

(F) Stiff booms shall be made by fastening not less than two boom sticks together. The width of the stiff boom shall be not less than 36 inches measured from outside to outside of the outer logs. The boom sticks shall be fastened together with not less than 4-inch by 6-inch cross ties or cable lashing properly recessed into notches in the boom sticks and secured.

(G) Pike poles shall be kept in good repair. Conductive pike poles shall not be used where it is possible that they may come in contact with electrical conductors.

(H) All log dumps shall be periodically cleared of bark and other debris.

(I) When cutting bands on bundled logs, workers shall position themselves in a safe location. Double-bitted axes shall not be used for cutting bands. Caution shall be used to prevent being struck by ends of bands being cut and, if needed, personal protective equipment shall be worn.

(J) Storing or sorting on water, or any boom work other than boom boat operations, shall require a minimum of two persons.

(d) Handling pulpwood from ships.

(A) Ladders and gangplanks with railings to boat docks shall meet the requirements of American National Standards A10.18-1983, A14.1-1990, A14.2-1990, and A14.3-1990, and shall be securely fastened in place.

(B) The hatch tender shall be required to signal the hoisting engineer to move the load only after the employees working in the hold are in the clear.

(C) The air in the ship's hold, tanks, or closed vessels shall be tested for oxygen deficiency and for toxic, explosive and combustible gases and vapors.

(e) Handling pulpwood from flatcars and all other rail cars.

(A) Railroad flatcars for the conveyance of pulpwood loaded parallel to the length of the car shall be equipped with safety-stake pockets.

(B) Where pulpwood is loaded crosswise on a flatcar sufficient stakes of sizes not smaller than 4 by 4 inches shall be used to prevent the load from shifting.

(C) When it is necessary to cut stakes, those on the unloading side should be partially cut through first, and then the binder wires cut on the opposite side. Wire cutters equipped with long extension handles shall be used. No person shall be permitted along the dumping side of the car after the stakes have been cut.

(D) When steel straps without stakes are used, the steel straps shall be cut from a safe area to prevent employees from being struck by the falling logs.

(E) Flatcars and all other cars shall be chocked during unloading. Where equipment is not provided with hand brakes, rail clamping chocks shall be used.

(F) A derail shall be used to prevent movement of other rail equipment into cars where persons are working.

(f) Handling pulpwood from trucks.

(A) Cutting of stakes and binder wires shall be done in accordance with section (4)(e)(C) of this rule.

(B) Where binder chain and steel stakes are used, the binder chains shall be released and the stakes tripped from the opposite side of the load spillage.

(C) Where binder chains and crane slings are used, the crane slings shall be attached and taut before the binder chains are released. The hooker shall see that the helper is clear before signaling for the movement of the load.

(D) The truck driver shall leave the truck cab and be in the clear, in a designated area, and shall be in clear view of the unloading equipment operator while the unloader is approaching the loaded truck.

(E) The truck driver shall remain outside the cab and clear of the load while logs are being unloaded except that, after a complete load is lifted as a unit and held stationary, the driver may enter the cab and drive forward from under the suspended load.

(F) Log unloaders shall not be moved about the premises with loads raised higher than absolutely necessary.

(g) Handling pulp chips from rail cars.

(A) All cars shall be securely fastened in place and all employees in the clear before dumping is started.

(B) Personal protective equipment for such uses as foot, head, and eye protection shall be provided, and employees shall wear the equipment when working in the woodyard. Ear protection shall be provided when the noise level may be harmful.

(C) When a rollover-type unloading device is used for removing chips from cars, the cars shall be properly secured in place, and all employees shall be in the clear before dumping operation is started.

(h) Handling pulp chips and hog fuel from trucks and trailers.

(A) All trucks and trailers shall be secure and all employees in the clear before dumping is started.

(B) Personal protective equipment necessary to protect workers from hazards shall be provided and worn.

(C) Elevating platform-type or cable-lift type unloading devices shall have adequate back bumper stops.

(D) Side rails or other positive means to prevent the truck and/or trailer from falling shall be used while unloading the single trailer units.

(E) All persons shall be clear of all hoisting or elevating mechanisms before dumping commences.

(F) No person shall remain in any truck while the truck is being elevated.

(G) A safe area and suitable device shall be provided for the chip tester to use while taking chip samples.

(H) Rolled chip nets shall not be positioned where they cover the ladders on rail cars or trucks.

(I) Chip and hog fuel storage.

(i) When mobile equipment is used on top of hog fuel or chip piles, a roll-over protection system shall be installed on the equipment. If the cab is of the enclosed type, windshield wipers shall be installed.

(ii) Hog fuel bins shall be provided with standard railed platform or walkways near the top or other equally effective means shall be provided for use by employees engaged in dislodging hog fuel.

(iii) Extreme care shall be taken to prevent chips or hog fuel from creating an overhang or bridging.

(iv) Employees shall be prohibited from working under overhangs or bridges.

(J) Chip and sawdust bins. Steam or compressed-air lances, or other facilities, shall be used for breaking down the arches caused by jamming in chip lofts. No worker shall be permitted to enter a bin unless done in accordance with §1910.146, Permit-Required Confined Spaces, in Subdivision J.

(i) Crane operations.

(A) Crane boom and load capacities as specified by the manufacturer shall be posted in the cab of the crane in accordance with §1910.180, Crawler, Locomotive and Truck Cranes, in Subdivision N, Material Handling and Storage.

(B) A safety device such as a heavy chain or cable at least equal in strength to the lifting cables shall be fastened to the boom and to the frame of the boom crane (if it is other than locomotive) at the base. Alternatively, a telescoping safety device shall be fastened to the boom and to the cab frame, so as to prevent the boom from snapping back over the cab in the event of lifting cable breakage.

(C) A crane shall not be operated where any part thereof may come within 10 feet of overhead powerlines (or other overhead obstructions) unless the powerlines have been deenergized, or clearances are maintained as specified in

§1910.303, General Requirements, in Subdivision S, Electrical.

(D) Standard signals for the operation of cranes shall be established for all movements of the crane, in accordance with American National Standards B30.2-1990 and B30.8-1988.

(E) Only one member of the crew shall be authorized to give signals to the crane operator.

(F) All cranes shall be equipped with a suitable warning device such as a horn or whistle.

(G) A sheave guard shall be provided beneath the head sheave of the boom.

(H) Grapples, tongs, and buckets shall not be left suspended when not in use.

(j) Traffic warning signs or signals.

(A) A flagger shall direct the movement of cranes or locomotives being moved across railroad tracks or roads, and at any points where the vision of the operator is restricted. The flagger must always remain in sight of the operator when the crane or locomotive is in motion. The blue flag policy shall be used to mark stationary cars day and night. This policy shall include marking the track in advance of the spotted cars (flag for daytime, light for darkness).

(B) After cars are spotted for loading or unloading, warning flags or signs shall be placed in the center of the track at least 50 feet away from the cars and a derail set to protect workers in or on the car.

(C) With respect to cranes, this subsection (j) applies to rail mounted cranes.

(k) Rail car operations and railroad warning devices.

(A) On a dead end spur, a blue signal may be displayed adjacent to the switch opening while cars are being loaded or unloaded. When such warning devices are displayed, the equipment shall not be coupled to or moved.

(B) Equipment which would obscure the blue signal shall not be placed on the track.

(C) Each maintenance crew shall display and remove its own set of blue signals.

(D) A flashing warning light or other device shall be installed near any opening which leads to a passageway crossing railroad tracks adjacent to the building. Such light or device shall be activated prior to any switching or movement of railroad equipment to warn workers of the dangerous condition in the area.

(E) Workers shall not crawl under or pass between coupled rail cars to cross tracks.

(F) An audible whistle, horn, or bell shall be sounded by the locomotive engineer to give adequate warning prior to switching across any road crossing.

(G) When switching railroad equipment in congested areas or across roadways or walkways, "flying switches" shall be prohibited.

(H) All freight car doors shall be inspected before workers open or close them. A safe method shall be used to open or close the door.

(I) Illumination. Artificial illumination shall be provided when loading or unloading is performed after dark, in accordance with American National Standard ANSI/IES-RP-1990, Practice for Industrial Lighting.

(m) Bridge or dock plates.

(A) The construction and use of bridge or dock plates shall conform to requirements of §1910.30(a), Walking-Working Surfaces, in Subdivision D.

- (B) The sides of bridge or dock plates shall have an upturn or lip of at least 4 inches covering the area between the edge of the loading dock and edge of car or truck floor whenever the distance exceeds 18 inches to prevent wheeled equipment from running off the sides.
- (C) Bridge or dock plates shall have at least 6 inches bearing surface on the loading dock.
- (D) Bridge or dock plates intended to be moved by mechanized equipment shall be designed for this purpose or attachments for safe handling shall be used.
- (n) Hand tools. Handles of wood hooks shall be locked to the shank to prevent them from rotating.
- (o) Removal of pulpwood.
- (A) The ends of a woodpile shall be properly sloped and cross-tiered into the pile. Upright poles shall not be used at the ends of woodpiles. To knock down wood from the woodpile, mechanical equipment shall be used to permit employees to keep in the clear of loosened wood.
- (B) If dynamite is used to loosen the pile, only authorized personnel shall be permitted to handle and discharge the explosive. An electric detonator is preferable for firing; if a fuse is used, it shall be an approved safety fuse with a burning rate of not less than 120 seconds per yard and a minimum length of 3 feet, in accordance with "Safety in the Transportation, Storage, Handling and Use of Explosives", IME Pamphlet No. 17, March 1987.
- (p) Log hauls, slips and carriages.
- (A) Controls shall be arranged to operate from a position where the operator will at all times be in the clear of logs, machinery, lines, and rigging.
- (B) Controls shall be marked to indicate their function.
- (C) An effective method of disengaging the head rig saws from the power unit shall be installed on all head rigs where the power unit is not directly controlled by the sawyer. The saws shall be disengaged from the source of power which shall be locked out before repairs or changes are made.
- (D) When needed for protection of personnel, an automatic stop or interlocking device shall be installed on log hauls or slips.
- (E) A barricade or other positive stop of adequate strength shall be provided to protect the sawyer from rolling logs.
- (F) A guard shall be provided to prevent logs from rolling off the log deck into the well.
- (G) The sawyer shall be safeguarded either by his or her location or by use of substantial screens or approved safety glass.
- (H) A substantial stop or bumper shall be installed at each end of the carriage run.
- (I) Canting gear or other equipment shall not be allowed to hang over the log deck in such a manner as to endanger employees.
- (J) Canting gear controls shall be marked to indicate their function.
- (K) The sawyer shall be primarily responsible for the safety of the carriage crew and offbearers. He or she shall exercise due care in the operation of the carriage and log turning devices.
- (L) A control device shall be provided so that the sawyer may stop the head rig section of the mill without leaving his or her stand.

(M) The feed control lever of friction or belt-driven carriage feed works shall be designed to operate away from the saws or carriage track.

(N) Feed works and log turning control levers shall be so arranged that they may be secured when not in use and shall be adequately guarded against accidental activation.

(O) Carriages upon which persons are required to work shall be solidly decked over and the employees properly protected.

(P) Substantial sweeps shall be installed in front of each carriage wheel. Such sweeps shall extend to within 1/4 inch of the rails.

(Q) Where power-operated log turners are used, carriage knees shall be provided with goosenecks or other substantial means of protecting the carriage crew.

(q) Belt conveyors.

(A) The sides of the conveyor shall be constructed so that the pulpwood will not fall off.

(B) Where conveyors cross passageways or roadways, a horizontal platform shall be provided under the conveyor extending out from the sides of the conveyor a distance equal to 1-1/2 times the length of the wood handled. The platform shall extend the width of the road plus 2 feet on each side and shall be kept free of wood and rubbish. The edges of the platform shall be provided with toeboards or other protection to prevent wood from falling, in accordance with American National Standard A10.18-1983.

(C) All conveyors for pulpwood shall have the inrunning nips between chain and sprockets guarded; also, turning drums shall be guarded.

(D) Every belt conveyor shall have an emergency stop cable extending the length of the conveyor so that it may be stopped from any location along the line, or conveniently located stop buttons within 10 feet of each work station, in accordance with American National Standard ANSI/ASME B20.1-1993.

(r) Signs. Where conveyors cross walkways or roadways in the yards, signs reading "Danger - Overhead Conveyor" or an equivalent warning shall be erected, in accordance with American National Standard for Safety Color Code, ANSI Z535.1-1991.

(5) Handling and Storage of Raw Materials Other Than Pulpwood or Pulp Chips.

(a) Personal protective equipment.

(A) Whenever possible, all dust, fumes, and gases incident to handling materials shall be controlled at the source, in accordance with OAR 437-002-0382, Oregon Rules for Air Contaminants, in Subdivision Z. Where control at the source is not possible, respirators with goggles or protective masks shall be provided, and employees shall wear them when handling alum, clay, soda ash, lime, bleach powder, sulfur, chlorine, and similar materials, and when opening rag bales.

(B) When handling liquid acid or alkali, workers shall be provided with approved eye and face protection and protective clothing, in accordance with Subdivision I, Personal Protective Equipment.

(b) Clearance.

(A) When materials are being piled inside a building and upon platforms, an aisle clearance at least 3 feet greater than the widest truck in use shall be provided.

(B) Baled paper and rags stored inside a building shall not be piled closer than 18 inches to walls, partitions, or sprinkler

heads.

(c) Piling and unpling pulp.

(A) Piles of wet lap pulp (unless palletized) shall be stepped back one-half the width of the sheet for each 8 feet of pile height. Sheets of pulp shall be interlapped to make the pile secure. Pulp shall not be piled over pipelines to jeopardize pipes, or so as to cause overloading of floors, or to within 18 inches below sprinkler heads.

(B) Piles of pulp shall not be undermined when being unpiled.

(C) Floor capacities shall be clearly marked on all floors.

(d) Chocking rolls.

(A) Where rolls are pyramided two or more high, chocks shall be installed between each roll on the floor and at every row. Where pulp and paper rolls are stored on smooth floors in processing areas, rubber chocks with wooden core shall be used.

(B) When rolls are decked two or more high, the bottom rolls shall be chocked on each side to prevent shifting in either direction.

(6) Preparing Pulpwood.

(a) Gang and slasher saws. A guard shall be provided in front of all gang and slasher saws to protect workers from wood thrown by saws. A guard shall be placed over tail sprockets.

(b) Slasher tables. Saws shall be stopped and power switches shall be locked out and tagged whenever it is necessary for any person to be on the slasher table.

(c) Slasher drive belts, pulleys, and shafts. All belts, pulleys, and shafts shall be guarded in accordance with American National Standard ANSI/ASME B15.1-1992

(d) Runway to the jack ladder. The runway from the pond or unloading dock to the table shall be protected with standard handrails and toeboards. Inclined portions shall have cleats or equivalent nonslip surfacing, in accordance with Subdivision D, Walking-Working Surfaces. Protective equipment shall be provided for persons working over water.

(e) Guards below table. Where not protected by the frame of the machine, the underside of the slasher saws shall be enclosed with guards.

(f) Conveyors. The requirements of section (4)(q) of this rule shall apply.

(g) Circular saws (not slasher saws). Saws shall be provided with standard guards, in accordance with American National Standard ANSI O1.1-1992.

(h) Fixed chain saws, circular cut-off saws, drag and swing saws.

(A) Saws shall be so arranged that they will not project into any passageway when in an idle or working position. When existing conditions do not leave clear passage the saws shall be fenced off in order to make it impossible for anyone to walk into them.

(B) Drag saws and fixed chain saws shall be equipped with a device that will safely lock them in an "UP" position.

(C) All persons shall be in the clear before starting operations of a drag, chain, or swing saw.

(D) Log decks shall be equipped with a device to hold the material stable while being cut.

- (i) Barker feed. Each barker shall be equipped with a feed and turnover device which will make it unnecessary for the operator to hold a bolt or log by hand during the barking operation. Eye, ear, and head protection shall be provided for the operator, in accordance with section (3)(c) of this rule.
- (j) Guards. A guard shall be installed around barkers to confine flying particles, in accordance with ANSI/ASME B15.1-1992.
- (k) Stops. All control devices shall be locked out and tagged when knives are being changed.
- (l) Speed governor. Water wheels, when directly connected to barker disks or grinders, shall be provided with speed governors, if operated with gate wide open.
- (m) Continuous barking drums.
 - (A) When platforms or floors allow access to the sides of the drums, a standard railing shall be constructed around the drums. When two or more drums are arranged side by side, proper walkways with standard handrails shall be provided between each set, in accordance with section (3)(d) of this rule.
 - (B) Sprockets and chains, gears, and trunnions shall have standard guards, in accordance with section (3)(a) of this rule.
 - (C) Whenever it becomes necessary for a worker to go within a drum, the driving mechanism shall be locked and tagged, at the main disconnect switch, in accordance with section (3)(e) of this rule.
 - (D) This subsection (m) also applies to barking drums employed in the yard.
- (n) Intermittent barking drums. In addition to motor switch, clutch, belt shifter, or other power disconnecting device, intermittent barking drums shall be equipped with a device which may be locked to prevent the drum from moving while it is being emptied or filled.
- (o) Hydraulic barkers.
 - (A) Hydraulic barkers shall be enclosed with strong baffles at the inlet and the outlet. The operator shall be protected by at least five-ply laminated glass.
 - (B) The high pressure hoses of hydraulic barkers shall be secured in such a manner that the hose connection ends will be restrained if a hose connection fails.
- (p) Splitter block. The block upon or against which the wood is rested shall have a corrugated surface or other means provided that the wood will not slip. Wood to be split, and also the splitting block, shall be free of ice, snow, or chips. The operator shall be provided with eye and foot protection. A clear and unobstructed view shall be maintained between equipment and workers around the block and the workers' help area.
- (q) Power control. Power for the operation of the splitter shall be controlled by a clutch or equivalent device.
- (r) Knot cleaners. The operators of knot cleaners of the woodpecker type shall wear eye protection equipment.
- (s) Chipper spout. The feed system to the chipper spout shall be arranged in such a way that the operator does not stand in a direct line with the chipper spout. All chipper spouts shall be enclosed to a height of at least 42 inches from the floor or operator's platform. When other protection is not sufficient, the operator shall be protected from falling into the chipper by the use of a safety belt and lanyard. Ear protection equipment shall be worn by the operator and others in the immediate area if there is any possibility that the noise level may be harmful (see §1910.95, Occupational Noise Exposure, in Subdivision G).
- (t) Feeding material/clearing jams in machines. Appropriate safety belts and lanyards and face protection shall be used by employees who manually feed material or clear jams in machines unless other provisions are made which will

protect the employees.

(u) Carriers for knives. Carriers shall be provided and used for transportation of knives.

(7) Rag and Old Paper Preparation.

(a) Ripping and trimming tools.

(A) Hand knives and scissors shall have blunt points, shall be fastened to the table with chain or thong, and shall not be carried on the person but placed safely in racks or sheaths when not in use.

(B) Hand knives and sharpening steels shall be provided with guards at the junction of the handle and the blade. Utility knives with blade exposure of 2-1/2 inches or less are exempted from this requirement.

(b) Shredders, cutters, and dusters.

(A) Rotating heads or cylinders shall be completely enclosed except for an opening at the feed side sufficient to permit only the entry of stock. The enclosure shall extend over the top of the feed rolls. It shall be constructed either of solid material or with mesh or openings not exceeding one-half inch and substantial enough to contain flying particles and prevent accidental contact with moving parts. The enclosure shall be bolted or locked into place.

(B) A smooth-pivoted idler roll resting on the stock or feed table shall be provided in front of feed rolls except when arrangements prevent the operator from standing closer than 36 inches to any part of the feed rolls.

(C) Any manually fed cutter, shredder, or duster shall be provided with an idler roll as per section (7)(b)(B) of this rule or the operator shall use special handfeeding tools.

(D) Hoods of cutters, shredders, and dusters shall have exhaust ventilation, in accordance with §1910.94, Ventilation, in Subdivision G.

(c) Blowers.

(A) Blowers used for transporting rags shall be provided with feed hoppers having outer edges located not less than 48 inches from the fan.

(B) The arrangement of the blower discharge outlets and work areas shall be such as to prevent material from falling on workers.

(d) Conveyors. Conveyors and conveyor drive belts and pulleys shall be fully enclosed or, if open and within 7 feet of the floor, shall be constructed and guarded in accordance with section (4)(q) of this rule, and Subdivision N, Material Handling and Storage.

(e) Guarding requirements.

(A) Traveling sections of conveyors and other equipment with wheels which run on rails or guides shall be guarded by sweep guards, installed in front of the traveling wheels in all areas where workers may be exposed to contact. Sweep guards shall have not greater than 1/4 inch clearance above the rail or guide.

(B) When using mechanical equipment to elevate the front end of the chip containers for dumping into a hopper, the shear area between the floor and the elevated section shall be safeguarded.

(f) Dust. Measures for the control of dust shall be provided, in accordance with American National Standard ANSI/NFPA 91-1992 and Subdivision I, Personal Protective Equipment.

(g) Rag cookers.

(A) When cleaning, inspection, or other work requires that persons enter rag cookers, all steam and water valves, or other control devices, shall be locked and tagged in the closed or "off" position. Blank flanging of pipelines is acceptable in place of closed and locked valves.

(B) When cleaning, inspection, or other work requires that persons must enter the cooker, one person shall be stationed outside in a position to observe and assist in case of emergency, in accordance with section (3)(f) of this rule.

(C) Rag cookers shall be provided with safety valves in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII, Unfired Pressure Vessels-1992.

(8) Chemical Processes of Making Pulp.

(a) Industrial kiln guns and ammunition. Management shall develop written instructions, including safety procedures, for storing and operating industrial kiln guns and ammunition. All persons working with this equipment shall be instructed in these procedures and shall follow them.

(b) Sulfur burners.

(A) Sulfur-burner houses shall be safely and adequately ventilated, and every precaution shall be taken to guard against dust explosion hazards and fires, in accordance with American National Standard Z9.2-1979 (R1991), and NFPA 655-1993.

(B) Nonsparking tools and equipment shall be used in handling dry sulfur.

(C) Sulfur storage bins shall be kept free of sulfur dust accumulation, in accordance with American National Standard ANSI Z9.2-1979 (R1991).

(D) Electric equipment shall be of the explosion-proof type, in accordance with the requirements of Subdivision S, Electrical.

(E) Sulfur-melting equipment shall not be located in the burner room.

(c) Protection for employees (acid plants).

(A) Gas masks, fitted with canisters containing absorbents for the particular acids, gases, or mists involved, shall be provided for employees of the acid department.

(B) Supplied air respirators shall be strategically located for emergency and rescue use.

(C) During inspection, repairs, or maintenance of acid towers, the worker shall be provided with eye protection, a supplied air respirator, a safety belt, and an attached lifeline. The line shall be extended to an attendant stationed outside the tower opening.

(d) Acid tower structure. Outside elevators shall be inspected daily during winter months when ice materially affects safety. Elevators, runways, stairs, etc., for the acid tower shall be inspected monthly for defects that may occur because of exposure to acid or corrosive gases.

(e) Tanks (acid). Entering acid tanks shall be in accordance with §1910.146, Permit-Required Confined Spaces, in Subdivision J.

(f) Clothing. Where lime slaking takes place, employees shall be provided with rubber boots, rubber gloves, protective aprons, and eye protection. A deluge shower and eye fountain shall be provided to flush the skin and eyes to counteract lime or acid burns.

(g) Lead burning. When lead burning is being done within tanks, fresh air shall be forced into the tanks so that fresh air will reach the face of the worker first and the direction of the current will never be from the source of the fumes toward

the face of the workers. Supplied air respirators (constant-flow type) shall be provided.

NOTE: (For specifics refer to Subdivision Q, Welding, Cutting and Brazing; and §1910.1025, Lead, in Subdivision Z.)

(h) Hoops for acid storage tanks. Hoops of tanks shall be made of rods rather than flat strips and shall be safely maintained by scheduled inspections.

(i) Quicklime stoppages. Water shall not be used to unplug quicklime stops or plugs in pipes or confined spaces.

(j) Digester building exits. At least one unobstructed exit at each end of the room shall be provided on each floor of a digester building.

(k) Digester building escape respirators. Escape respirators shall be available for escape purposes only. These respirators shall meet the requirements of §1910.134 in Subdivision I, including the requirement to be inspected at frequent intervals, not to exceed one month.

(l) Elevators.

(A) Elevators shall be constructed in accordance with American National Standard A17.1-1990.

(B) Elevators shall be equipped with escape respirators for the maximum number of passengers.

(C) Elevators shall be equipped with an alarm system to advise of failure.

(m) Blowoff valves and piping.

(A) The blowoff valve of a digester shall be arranged so as to be operated from another room, remote from safety valves.

(B) All fasteners used to secure digester piping shall conform to ANSI/ASME B31.1-1992.

(C) Digester blow valves shall be pinned or locked in closed position throughout the entire cooking period. This rule applies only to manually operated valves in batch digestors.

(n) Blow lines.

(A) When blow lines from more than one digester lead into one pipe, the cock or valve of the blow line from the tank being inspected or repaired shall be locked and tagged out, or the line shall be disconnected and blocked off.

(B) Test holes in piping systems. Test holes in blowlines of piping systems shall not be covered with insulation or other materials

(o) Inspection and repair of tanks. All piping leading to tanks shall be blanked off or valved and locked in accordance with §1910.147, Lockout/Tagout, in Subdivision J.

(p) Blow pits and blow tanks.

(A) Blow-pit openings shall be preferably on the side of the pit instead of on top. When located on top, openings shall be as small as possible and shall be provided with railings, in accordance with Subdivision D, Walking-Working Surfaces.

(B) Entrance into blow pits must be done in accordance with §1910.146, Subdivision J.

(C) A signaling device shall be installed in the digester and blow-pit rooms and chip bins to be operated as a warning before and while digesters are being blown.

(D) Blow-pit hoops shall be maintained in a safe condition.

(q) Blowing batch digester.

(A) Blowoff valves shall be opened slowly.

(B) After the digester has started to be blown, the blowoff valve shall be left open, and the hand plate shall not be removed until the digester cook signals the blow-pit person that the blow is completed. Whenever it becomes necessary to remove the hand plate to clear stock, operators shall wear eye protection equipment and protective clothing to guard against burns from hot stock.

(C) Means shall be provided whereby the digester cook shall signal the person in the chip bin before starting to load the digester.

(r) Inspecting and repairing digester.

(A) Valves controlling lines leading into a digester shall be locked out and tagged in accordance with §1910.147, Lockout/ Tagout, in Subdivision J.

(B) Sources of energy associated with a digester shall be isolated in accordance with §1910.147, Lockout/Tagout, in Subdivision J.

(C) Entry into the digester shall be in accordance with §1910.146, Permit Required Confined Spaces, in Subdivision J.

(D) The concentration of lead in the air shall not exceed the limits specified in §1910.1025, Lead, Subdivision Z.

(E) All employees entering digesters for inspection or repair work shall be provided with protective headgear.

(F) Eye protection and dust respirators shall be provided to workers while the old brick lining is being removed, in accordance with Subdivision I, Personal Protective Equipment.

(G) Sanitary facilities shall be provided as specified in §1910.141, Sanitation, in Subdivision J.

(s) Pressure tanks-accumulators (acid).

(A) Safety regulations governing inspection and repairing of pressure tanks-accumulators (acid) shall be the same as those specified in section (8)(t) of this rule.

(B) The pressure tanks-accumulators shall be inspected twice annually and more frequently if required by the manufacturer or engineer's recommendations. (Refer to Boiler and Pressure Vessel Safety Laws of the State Building Codes Division, Department of Consumer and Business Services.)

(t) Pressure vessels (safety devices).

(A) Each unfired pressure vessel shall have a pressure relieving device or devices installed and operated in accordance with ASME Boiler and Pressure Vessel Code, Section VIII (Unfired Pressure Vessels - 1992). In the case of batch digesters with safety pressure relieving devices installed directly to the pressure vessel, means shall be devised to verify regularly that the safety devices have not become plugged or corroded to the point of being inoperative.

(B) All safety devices shall conform to Paragraph U-2 in the ASME Boiler and Pressure Vessel Code, Section VIII, Unfired Pressure Vessels-1992.

(u) Miscellaneous. Insofar as the processes of the sulfate and soda operations are similar to those of the sulfite processes, sections (8)(a) through (t) of this rule shall apply.

(A) Quick operating showers, bubblers, etc., shall be available for emergency use in case of caustic soda burns.

(B) Rotary tenders, smelter operators, and those cleaning smelt spouts shall be provided with eye protection equipment (fitted with lenses that filter out the harmful rays emanating from the light source) when actively engaged in their duties, in accordance with §1910.132, in Subdivision I.

(C) Piping, valves and fittings between the digester, blowpit, and blow tanks shall be in accordance with ANSI/ASME B31.1-1992. These shall be inspected at least semi-annually to determine the degree of deterioration and repaired or replaced when necessary, in accordance with American National Standards ANSI/ASME B31.1-1992.

(v) Welding. Welding on blow tanks, accumulator tanks, or any other vessels where turpentine vapor or other combustible vapor could gather shall be done only after the vessel has been completely purged of fumes. Fresh air shall be supplied workers inside of vessels.

NOTE: See Subdivision Q, Welding, Cutting and Brazing, for additional welding requirements.

(w) Turpentine systems and storage tanks. Nonsparking tools and ground hose shall be used when pumping out the tank. The tank shall be surrounded by a berm or moat.

(x) Recovery furnace area.

(A) An audible warning system shall be installed in kraft and soda base sulfite recovery furnace areas and shall be activated whenever an emergency exists.

(B) All personnel working in recovery furnace areas shall be instructed on procedures to be followed when emergency warning systems are activated.

(C) Emergency warning systems in the recovery furnace areas shall be kept in proper working condition and shall be tested or checked weekly.

(D) Workers shall stand to the side while opening a furnace or boiler firebox door.

(E) Smelt-dissolving tanks shall be covered and the cover kept closed, except when samples are being taken.

(F) Smelt tanks shall be provided with vent stacks and explosion doors, in accordance with American National Standard ANSI/UL 641-1985.

(G) An emergency shutdown procedure as currently recommended by the boiler manufacturer shall be implemented and used when an emergency shutdown is required. Both normal and emergency shutdown procedures shall be posted.

(H) Recovery furnaces and power boilers are to be constructed, maintained, and serviced as required by the State Building Codes Division of the Department of Consumer and Business Services.

(I) Open pipes shall not be used as punch bars if the use would create a hazard.

(J) Furnace room. Exhaust ventilation shall be provided where niter cake is fed into a rotary furnace and shall be so designed and maintained as to keep the concentration of hydrogen sulfide gas below the limits listed in OAR 437-002-0382, Oregon Rules for Air Contaminants, in Subdivision Z.

(9) Bleaching.

(a) Bleaching containers. Bleaching containers, such as cells, towers (bleaching engines), etc., except the Bellmer type, shall be completely covered on the top, with the exception of one small opening large enough to allow filling but too small to admit a person. Platforms leading from one engine to another shall have standard guardrails, in accordance with Subdivision D, Walking-Working Surfaces.

(b) Bleach plant alarm system. An audible alarm system shall be installed and it shall be activated whenever a serious

leak or break develops in the bleach plant area which creates a health or fire hazard.

(c) Bleach mixing rooms.

(A) Areas where dry bleach powder is mixed shall be provided with adequate exhaust ventilation, located at the floor level, in accordance with ANSI/UL 6411985.

(B) Respiratory protection shall be provided for emergency use, in accordance with American National Standards ANSI/NFPA 1404-1989, and Z88.2-1980.

(C) For emergency and rescue work, self-contained air masks or supplied air equipment shall be provided in accordance with American National Standards Z88.2-1980.

(d) Liquid chlorine.

(A) Tanks of liquid chlorine shall be stored in an adequately ventilated unoccupied room, where their possible leakage cannot affect workers.

(B) Gas masks capable of absorbing chlorine shall be supplied, conveniently placed, and regularly inspected, and workers who may be exposed to chlorine gas shall be instructed in their use.

(C) For emergency and rescue work, independent self-contained breathing apparatus or supplied air equipment shall be provided.

(D) At least two exits, remote from each other, shall be provided for all rooms in which chlorine is stored.

(E) Spur tracks upon which tank cars containing chlorine and caustic are spotted and connected to pipelines shall be protected by means of a derail in front of the cars.

(F) All chlorine, caustic, and acid lines shall be marked for positive identification, in accordance with American National Standard A13.1-1981 (R 1985).

(e) Handling chlorine dioxide.

(A) Chlorine dioxide generating and storage facilities shall be placed in areas which are adequately ventilated and are easily kept clean of wood, paper, pulp, etc., to avoid contamination which might cause a reaction. This can be accomplished by placing these facilities in a separate room or in a designated outside space.

(B) Safety showers and/or jump tanks and eyewash fountains shall be provided for persons working around sodium chlorate and the other hazardous chemicals involved in this process.

(C) Water hoses for flushing spills shall be adequate in size and located where needed.

(D) The generating area shall have signs in accordance with Subdivision J, General Environmental Controls, warning of the hazard and restricting entrance to authorized personnel only.

(E) Facilities handling sodium chlorate and chlorine dioxide shall be declared "No Smoking" areas and shall have signs posted accordingly.

(F) All equipment involved in the chlorine dioxide process where pressure may be generated shall be provided with adequate pressure relief devices.

(G) Respiratory protective equipment approved for use in exposures to chlorine and chlorine dioxide gases shall be provided.

(H) Management shall be responsible for developing written instructions including safety procedures for operating and

maintaining the generator and associated equipment. All personnel working on this equipment shall be thoroughly trained in these procedures and shall follow them.

(I) Only authorized personnel shall be allowed in close proximity to the chlorine dioxide generating equipment.

(J) When reasonably possible, the sample station should be located on the outside of the generating room. Goggles must be worn when taking samples.

(K) Welding or burning shall not be performed on the generator system while it is operating. Immediately before maintenance can be performed on the inside of any of this equipment, it shall be thoroughly flushed with water and purged of hazardous gases.

(L) Chlorine and chlorine dioxide gas shall be carried away from the work place and breathing area by an exhaust system. The gas shall be rendered neutral or harmless before being discharged into the atmosphere. The requirements of American National Standard Z9.2-1979 (R1991) shall apply to this subdivision.

(f) Handling sodium chlorate.

(A) Workers handling and working with sodium chlorate shall be thoroughly trained in precautions to be used in handling and special work habits.

(B) Workers exposed to direct contact with sodium chlorate shall wear appropriate personal protective equipment.

(C) Facilities for storage and handling of sodium chlorate shall be constructed so as to eliminate possible contact of dry or evaporated sodium chlorate with wood or other material which could cause a fire or explosion.

(D) Chlorine gas shall be carried away from the work place and breathing area by an exhaust system. The gas shall be rendered neutral or harmless before being discharged into the atmosphere. The requirements of American National Standard Z9.2-1979 (R1991) shall apply to this subdivision.

(E) Sodium chlorate facilities shall be constructed with a minimum of packing glands, stuffing boxes, etc.

(g) Bagged or drummed chemicals. Bagged or drummed chemicals require efficient handling to prevent damage and spillage. Certain oxidizing chemicals used in bleaching pulp and also in some sanitizing work require added precautions for safety in storage and handling. In storage, these chemicals shall be isolated from combustible materials and other chemicals with which they will react such as acids. They shall also be kept dry, clean and uncontaminated.

(10) Mechanical Pulp Process.

(a) Pulp grinders.

(A) Water wheels directly connected to pulp grinders shall be provided with speed governors limiting the peripheral speed of the grinder to that recommended by the manufacturer.

(B) Doors of pocket grinders shall be arranged so as to keep them from closing accidentally.

(b) Butting saws. Hood guards shall be provided on butting saws, in accordance with American National Standard ANSI O1.1-1992.

(c) Floors and platforms. The requirements of section (3)(d) of this rule shall apply.

(d) Personal protection. Persons exposed to falling material shall wear eye, head, foot, and shin protection equipment, in accordance with Subdivision I, Personal Protective Equipment.

(11) Stock Preparation.

(a) Pulp shredders.

(A) Cutting heads shall be completely enclosed except for an opening at the feed side sufficient to permit only entry of stock. The enclosure shall be bolted or locked in place. The enclosure shall be of solid material or with mesh or other openings not exceeding one-half inch.

(B) Either a slanting feed table with its outer edge not less than 36 inches from the cutting head or an automatic feeding device shall be provided.

(C) Repairs for cleaning of blockage shall be done only when the shredder is shutdown and control devices locked.

(D) All power-driven mechanisms shall be guarded in accordance with section (3)(a) of this rule.

(b) Pulp conveyors. Pulp conveyors and conveyor drive belts and pulleys shall be fully enclosed, or if open and within 7 feet of the floor, shall be constructed and guarded in accordance with Subdivision N, Material Handling and Storage, and Subdivision O, Machinery and Machine Guarding.

(c) Floors, steps, and platforms. The requirements of section (3)(d) of this rule shall apply.

(d) Beaters.

(A) Beater rolls shall be provided with covers.

(B) Guardrails 42 inches high shall be provided around beaters where tub tops are less than 42 inches from the floor, in accordance with section (3)(d) of this rule and Subdivision D, Walking-Working Surfaces.

(C) When cleaning, inspecting, or other work requires that persons enter the beaters, all control devices shall be locked and tagged out, in accordance with §1910.147, Lockout, in Subdivision J.

(D) When beaters are fed from the floor above, the chute opening, if less than 42 inches from the floor, shall be provided with a complete rail or other enclosure. Openings for manual feeding shall be sufficient only for entry of stock and shall be provided with at least two permanently secured crossrails, in accordance with Subdivision D, Walking-Working Surfaces.

(E) Floors around beaters shall be provided with sufficient drainage to remove wastes.

(e) Pulpers.

(A) All pulpers having the top or any other opening of the vessel less than 42 inches from the floor or work platform shall have such openings guarded by railed or other enclosures. For manual charging, openings shall be sufficient only to permit the entry of stock and shall be provided with at least two permanently secured crossrails, in accordance with §1910.23, Guarding Floor and Wall Openings and Holes, in Subdivision D.

(B) When cleaning, inspecting or other work requires persons to enter the pulpers it shall be in accordance with §1910.146, Permit-Required Confined Spaces, in Subdivision J. All power mechanisms shall be guarded as required in Subdivision O, Machinery and Machine Guarding.

(C) Cleaning or inspecting pulpers or other work, including work above the pulper in a dangerous position, shall be in accordance with §1910.147, Lockout, in Subdivision J.

(D) All power mechanisms shall be guarded in accordance with Subdivision O, Machinery and Machine Guarding.

(f) Pulping devices.

(A) Emergency stop controls shall be provided at the feed point when pulping devices are fed manually from the floor above.

(g) Guillotine-type roll splitters. Rolls shall be centered and in a horizontal position directly below the guillotine-type blade while being split. No part of the body shall be under the guillotine-type blade.

(h) Stock chests and tanks.

(A) All control devices shall be locked when persons enter stock chests, in accordance with §1910.147, Lockout/Tagout, in Subdivision J.

(B) All power mechanisms shall be guarded in accordance with Subdivision O, Machinery and Machine Guarding.

(C) When cleaning, inspecting, or other work requires that persons enter stock chests, they shall be provided with a low-voltage extension light.

(12) Machine Room.

(a) Controls and safety devices.

(A) Electrically or manually operated power disconnecting devices for all power-operated equipment shall be provided within easy reach of the operator while in his or her normal operating position. If necessary for safety of the operation, the machine shall be so equipped that retarding or braking action can be applied at the time of or after the source of power is deactivated.

(B) Pulp and paper machines shall be equipped with stopping devices. The devices shall be located where they can be used readily to stop the machines or sections of the machine. Power disconnect devices and retarding or braking controls provided for in section (12)(a)(A) of this rule are required for the safe operation of a pulp and paper machine.

(C) Brakes, back stops, antirunaway devices, overload releases, and other safety devices shall be inspected and tested frequently to insure that all are operative and maintained in good repair.

(D) An audible alarm shall be sounded prior to starting up any section of a pulp or paper machine. Sufficient time shall be allowed between activation of the alarm system and start-up of the equipment to allow any persons to clear the hazardous area.

(E) In starting up a dryer section, dryers shall be preheated and steam for heating the drums shall be introduced slowly, while the drums are revolving.

(F) Employees shall not attempt to remove a broken carrier rope from a dryer while the section is running at operating speed.

(G) Employees shall not feed a stack with any hand-held device which is capable of going through the nip.

(H) Employees shall stop dryer to remove a wrap except in cases where it can be safely removed by using air or other safe means.

(I) Special protective gloves shall be provided and shall be worn by employees when filing or handling sharp-edged doctor blades.

(J) Employees shall not place their hands between the sharp edge of an unloaded doctor blade and the roll while cleaning the doctor blade.

(K) The crane operator shall ascertain that reels are properly seated at winder stand or at reel arms before he or she disengages the hooks.

(L) Shaftless winders shall be provided with a barrier guard of sufficient strength and size to confine the rolls in the event they become dislodged while running.

(M) Employees shall keep clear of hazardous areas around the lowerator, especially all lowerator openings in a floor and where roll is being discharged.

(N) If a powered roll ejector is used it should be interlocked to prevent accidental actuation until the receiving platform or roll lowering table is in position to receive the roll.

(O) Provision shall be made to hold the rider roll when in a raised position unless counterbalancing eliminates the hazard.

(b) Drives.

(A) All drives, pulleys, couplings, and shafts on equipment requiring service while operating shall have standard guards in accordance with section (3)(a) of this rule.

(B) All drives shall be provided with lockout devices at the power switch which interrupts the flow of current to the unit.

(C) All ends of rotating shafts including dryer drum shafts shall be completely guarded.

(D) All accessible disengaged doctor blades should be covered.

(E) All exposed shafts shall be guarded. Crossovers shall be provided.

(F) Oil cups and grease fittings shall be placed in a safe area remote from nip and heat hazards.

(c) Protective equipment. Face shields, aprons and rubber gloves shall be provided for workers handling acids in accordance with sections (3)(c) and (5)(a) of this rule.

(d) Walkways. Steps and footwalks along the fourdrinier and press section shall have nonslip surfacing and be complete with standard handrails, when practical, in accordance with §1910.23, in Subdivision D, Walking-Working Surfaces.

(e) Steps. Steps of uniform rise and tread with nonslip surfaces shall be provided at each press in accordance with Subdivision D, Walking-Working Surfaces.

(f) Plank walkways. A removable plank shall be provided along each press, with standard guardrails installed. The planks shall have nonslip surfaces in accordance with Subdivision D, Walking-Working Surfaces.

(g) Dryer lubrication. If a gear bearing must be oiled while the machine is in operation, an automatic oiling device to protect the oiler shall be provided, or oil cups and grease fittings shall be placed along the walkways out of reach of hot pipes and dryer gears.

(h) Levers. All levers carrying weights shall be constructed so that weights will not slip or fall off.

(i) First dryer. Either a permanent guardrail or apron guard or both shall be installed in front of the first dryer in each section in accordance with Subdivision O, Machinery and Machine Guarding.

(j) Steam and hot-water pipes. All exposed steam and hot-water pipes within 7 feet of the floor or working platform or within 15 inches measured horizontally from stairways, ramps, or fixed ladders shall be covered with an insulating material, or guarded in such manner as to prevent contact.

(k) Dryer gears. Dryer gears shall be guarded except where the oilers' walkway is removed out of reach of the gears' nips and spokes and hot pipes in accordance with Subdivision O, Machinery and Machine Guarding.

(l) Broke hole.

- (A) A guardrail shall be provided at broke holes in accordance with Subdivision D, Walking-Working Surfaces.
- (B) Where pulpers are located directly below the broke hole on a paper machine and where the broke hole opening is large enough to permit a worker to fall through, any employee pushing broke down the hole shall wear a safety belt and lanyard. The lanyard shall be fastened in such a manner that it is impossible for the person to fall into the pulper.
- (C) An alarm bell or a flashing light shall be actuated before dropping material through the broke hole.
- (m) Feeder belt. A feeder belt or other effective device shall be provided for starting paper through the calender stack.
- (n) Steps. Steps or ladders of uniform rise and tread with nonslip surfaces shall be provided at each calender stack. Handrails and hand grips shall be provided at each calender stack in accordance with Subdivision D, Walking-Working Surfaces.
- (o) Grounding. All calender stacks and spreader bars shall be grounded in accordance with Subdivision S, Electrical, as protection against shock induced by static electricity.
- (p) Sole plates. All exposed sole plates between dryers, calenders, reels, and rewinders shall have a nonskid surface.
- (q) Nip points. The hazard of the nip points on all calender rolls shall be eliminated or minimized by means of an effective barrier device, or by feeding the paper into the rolls by means of a rope carrier, air jets, or hand feeding devices.
- (r) Scrapers. Alloy steel scrapers with pullthrough blades approximately 3 by 5 inches in size shall be used to remove "scabs" from calender rolls.
- (s) Illumination. Permanent lighting shall be installed in all areas where employees are required to make machine adjustments and sheet transfers in accordance with American National Standard ANSI/IES RP-1990.
- (t) Control panels. All control panel handles and buttons shall be protected from accidental contact.
- (u) Lifting reels.
- (A) The reels shall stop rotating before being lifted from bearings.
- (B) All lifting equipment (clamps, cables, and slings) shall be maintained in a safe condition and inspected regularly.
- (C) Reel shafts with square block ends shall be guarded.
- (v) Feeder belts. Feeder belts, carrier ropes, air carriage, or other equally effective means shall be provided for starting paper into the nip or drum-type reels.
- (w) Inrunning nip.
- (A) Where the nipping points of all drum winders and rewinders is on the operator's side, it shall be guarded by barrier guards interlocked with the drive mechanism.
- (B) A zero speed switch or locking device shall be installed to prevent the guard from being raised, lowered, or removed while the roll is turning.
- (x) Core collars. Set screws for securing core collars to winding and unwinding shafts shall not protrude above the face of the collar. All edges of the collar with which an operator's hand comes in contact shall be beveled to remove all sharp corners.
- (y) Slitter knives. Slitter knives shall be guarded so as to prevent accidental contact. Carriers shall be provided and used for transportation of slitter knives.

- (z) Winder shaft. The winder shall have a guide rail to align the shaft for easy entrance into the opened rewind shaft bearing housings.
- (aa) Handling rolls, winders and core shafts. Mechanical handling equipment shall be provided for handling rolls, winder shafts, and core shafts that are too heavy for safe manual handling based on the NIOSH Work Practice Guide for Manual Lifting - 1981.
- (bb) Winder area. A nonskid surface shall be provided in front of the winder to prevent accidental slipping.
- (cc) Radiation. Special standards regarding the use of radiation equipment shall be posted and followed as required by §1910.96, Ionizing Radiation, in Subdivision G.
- (13) Finishing Room.
 - (a) Cleaning rolls. Rolls shall be cleaned only on the outrunning side.
 - (b) Emergency stops. Electrically or manually operated quick power disconnecting devices, interlocked with braking action, shall be provided on all operating sides of the machine within easy reach of all employees. These devices shall be tested by making use of them when stopping the machine.
 - (c) Core collars. The requirements of section (12)(x) of this rule, and the requirements in Subdivision O, Machinery and Machine Guarding, shall apply.
 - (d) Elevators. These shall be in accordance with American National Standard ANSI/ASME A17.1-1990.
 - (e) Control panels. The requirements of section (12)(t) of this rule shall apply.
 - (f) Guillotine-type cutters.
 - (A) Each guillotine-type cutter shall be equipped with a control which requires the operator and helper, if any, to use both hands to engage the clutch when operated from within reach of blade.
 - (B) Each guillotine-type cutter shall be equipped with a nonrepeat device.
 - (C) Carriers shall be provided and used for transportation of guillotinetype cutter knives.
 - (g) Rotary cutter.
 - (A) On single-knife machines a guard shall be provided at a point of contact to the knife.
 - (B) On duplex cutters the protection required for single-knife machines shall be provided for the first knife, and a hood shall be provided for the second knife.
 - (C) Safe access shall be provided to the knives of a rotary cutter by means of catwalks with nonslip surfaces, railings, and toeboards in accordance with Subdivision D, Walking-Working Surfaces.
 - (D) A guard shall be provided for the spreader or squeeze roll at the nip side on sheet cutters.
 - (E) Electrically or manually operated quick power disconnecting devices with adequate braking action shall be provided on all operating sides of the machine within easy reach of all operators.
 - (F) The outside slitters shall be guarded.
 - (h) Platers.

(A) A guard shall be arranged across the face of the rolls to serve as a warning that the operator's hand is approaching the danger zone.

(B) A quick power disconnecting device shall be installed on each machine within easy reach of the operator.

(i) Finishing room rewinders.

(A) The nipping points of all drum winders and rewinders located on the operator's side shall be guarded by either automatic or manually operated barrier guards of sufficient height to protect fully anyone working around them. The barrier guard shall be interlocked with the drive mechanism to prevent operating above jog speed without the guard in place. A zero speed switch should be installed to prevent the guard from being raised while the roll is turning.

(B) A nonskid surface shall be provided in front of the rewinder to prevent an employee from slipping in accordance with section (3)(d) of this rule.

(C) Mechanical lifting devices shall be provided for placing and removing rolls from the machine.

(j) Control panels. The requirements of section (12)(t) of this rule shall apply.

(k) Roll-type embosser. The nipping point located on the operator's side shall be guarded by either automatic or manually operated barrier guards interlocked with the drive.

(l) Converting machines.

(A) When using a crane or hoist to place rolls into a backstand and the operator cannot see both ends of the backstand, appropriate means will be implemented to eliminate hazards involved. The operator shall ascertain that rolls are properly seated at winder stand or at roll arms before he or she disengages the hooks.

(B) All power closing sections shall be equipped with an audible warning system which will be activated when closing the sections.

(C) Slitters, slotters, and scorers not in use shall be properly stored so as not to create a hazard.

(D) Mechanical handling equipment shall be provided for handling rolls or devices that are too heavy for safe manual handling based on the NIOSH Work Practice Guide for Manual Lifting - 1981.

(E) Shear and pinch points. Shear and pinch points at the feed mechanism shall be color-coded orange and/or identified by signs in accordance with Subdivision J, General Environmental Controls.

(m) Sorting and counting tables.

(A) Tables shall be smooth and free from splinters, with edges and corners rounded.

(B) Paddles shall be smooth and free from splinters.

(n) Roll splitters. The nip point and cutter knife shall be guarded by either automatic or manually operated barrier guards.

(o) Corrugators.

(A) Rails of rail-mounted devices such as roll stands shall be flush with the adjacent floor, and so installed to provide a minimum of 18 inches clearance between the equipment and walls or other fixed objects.

(B) All corrugating and pressure rolls shall be equipped with appropriately designed and installed threading guides so as to prevent contact with the in-feed nip of the various rolls by the operator.

(C) Lower elevating conveyor belt rolls on the single facer bridge shall have a minimum nip clearance of 4 inches.

(D) Web shears at the discharge end of the double facer shall be equipped with barrier-type guards.

(E) Slitter stations not in use shall be disconnected from the power source by positive means.

(F) The adhesive system shall be so designed and installed as to keep fumes and airborne dust within limits in accordance with OAR 437-002-0382, Oregon Rules for Air Contaminants, in Subdivision Z.

(14) Materials Handling.

(a) Hand trucks. No person shall be permitted to ride on a powered hand truck unless it is so designed by the manufacturer. A limit switch shall be on operating handle - 30 degrees each way from a 45-degree angle up and down.

(b) Power trucks. Power trucks shall comply with Subdivision N, Material Handling and Storage. Adequate ventilation shall be provided and the trucks properly maintained, so that dangerous concentrations of carbon monoxide cannot be generated, especially in warehouses or other isolated areas of a plant.

(c) Carton-stitching machine. The carton-stitching machine shall be guarded to prevent the operator from coming in contact with the stitching head.

(d) Banding of skids, cartons, cases, etc. Banders and helpers shall wear eye protection equipment in accordance with section (3)(c) of this rule.

(e) Unloading cars or trucks.

(A) Loading and unloading materials. Platforms with ladders or stairways shall be installed or alternative methods made available when needed so that workers may safely gain access to and perform work on the top of rail cars or trucks when ladders are not installed on such equipment.

(B) Where steel bands or wires are used in boxcars or trucks, all loaders and helpers shall wear eye protection in accordance with Subdivision I, Personal Protective Equipment.

(C) The construction and use of bridge or dock plates shall conform to the requirements of American National Standard B56.1-1988.

(D) Flag signals, derails, or other protective devices shall be used to protect workers during switching operations. The blue flag policy shall be invoked according to section (4)(j) of this rule.

NOTE: Federal rule 1910.265(a)(1), which exempted plywood, cooperage and veneer manufacturing, was NOT adopted by OR-OSHA. In Oregon, OAR 437-002-0313(1) allows the application of sections (c) and (d) of 1910.265 to those industries.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 7-1994, f. & cert. ef. 11-4-94

APPENDIX A

(Non-Mandatory)

A. Group Lockout/Tagout.

The group lockout/tagout procedures described in the Pulp and Paper standard require each authorized employee to be in control of potentially hazardous energy release during their servicing/maintenance work assignments. Under most circumstances, where servicing/maintenance is to be conducted during only one shift by an individual or a small number of persons working together, the installation of each individual's lockout/tagout device upon each energy isolating device would not be a burdensome procedure. However, when many energy sources or many persons are involved, and/or the procedure is to extend over more than one shift, (possibly several days, or weeks) consideration must be given to the implementation of a lockout/tagout procedure that will ensure the safety of the employees involved and will provide for each individual's control of the energy hazards. The following procedures are presented as examples to illustrate the implementation of a group lockout/tagout procedure involving many energy isolating devices and/or many servicing/ maintenance personnel. They illustrate several alternatives for having authorized employees affix personal lockout/tagout devices in a group lockout/tagout setting. These examples are not intended to represent the only acceptable procedures for conducting group operations.

1. Definitions. Various terms used in the examples are defined below.

a. **PRIMARY AUTHORIZED EMPLOYEE** is the authorized employee who exercises overall responsibility for adherence to the company lockout/tagout procedure. (See §1910.147(f)(3)(ii) (A).)

b. **PRINCIPAL AUTHORIZED EMPLOYEE** is an authorized employee who oversees or leads a group of servicing/ maintenance workers (e.g., plumbers, carpenters, electricians, metal workers, mechanics).

c. **JOB-LOCK** is a device used to ensure the continuity of energy isolation during a multi-shift operation. It is placed upon a lock-box. A key to the job-lock is controlled by each assigned primary authorized employee from each shift.

d. **JOB-TAG with TAB** is a special tag for tagout of energy isolating devices during group lockout/tagout procedures. The tab of the tag is removed for insertion into the lock-box. The company procedure would require that the tagout job-tag cannot be removed until the tab is rejoined to it.

e. **MASTER LOCKBOX** is the lockbox into which all keys and tabs from the lockout or tagout devices securing the machine or equipment are inserted and which would be secured by a "job-lock" during multishift operations.

f. **SATELLITE LOCKBOX** is a secondary lockbox or lock-boxes to which each authorized employee affixes his/her personal lock or tag.

g. **MASTER TAG** is a document used as an administrative control and accountability device.

h. **WORK PERMIT** is a control document which authorizes specific tasks and procedures to be accomplished.

2. Organization. A group lockout/tagout procedure might provide the following basic organizational structure:

- a. A primary authorized employee would be designated. This employee would exercise primary responsibility for implementation and coordination of the lockout/tagout of hazardous energy sources, for the equipment to be serviced.
- b. The primary authorized employee would coordinate with equipment operators before and after completion of servicing and maintenance operations which require lockout/tagout.
- c. A verification system would be implemented to ensure the continued isolation and deenergization of hazardous energy sources during maintenance and servicing operations.
- d. Each authorized employee would be assured of his/her right to verify individually that the hazardous energy has been isolated and/or deenergized.
- e. When more than one crew, craft, department, etc., is involved, each separate group of servicing/maintenance personnel would be accounted for by a principal authorized employee from each group. Each principal employee is responsible to the primary authorized employee for maintaining accountability of each worker in that specific group in conformance with the company procedure. No person may sign on or sign off for another person, or attach or remove another person's lockout/tagout device, unless the provisions of the exception to §1910.147(e)(3) are met.

3. Examples of Procedures for Group Lockout/Tagout. Examples are presented for the various methods of lockout/tagout using lockbox procedures. An example of an applicable method for complex process equipment is also presented.

a. The following procedures address circumstances ranging from a small group of servicing/maintenance employees during a one-shift operation to a comprehensive operation involving many workers over a longer period.

(1) Type A. Each authorized employee places his/her personal lock upon each energy isolating device and removes it upon departure from that assignment. Each authorized employee verifies or observes the deenergization of the equipment.

(2) Type B. Under a lockbox procedure, a lock is placed upon each energy isolation device after deenergization. The key(s) are then placed into a lockbox. Each authorized employee assigned to the job then affixes his/her personal lock to the lockbox. As a member of a group, each assigned authorized employee verifies that all hazardous energy has been rendered safe. The lockout/tagout devices cannot be removed or the energy isolating device turned on until the

appropriate key is matched to its lock.

(3) Type C. After each energy isolating device is locked/ tagged out and the keys placed into a master lockbox, each servicing/maintenance group "principal" authorized employee places his/her personal lock upon the master lockbox. Then each principal authorized employee inserts his/her key into a satellite lockbox to which each authorized employee in that specific group affixes his/her personal lock. As a member of a group, each assigned authorized employee verifies that all hazardous energy has been rendered safe. Only after the servicing/ maintenance functions of the specific subgroup have been concluded and the personal locks of the respective employees have been removed from the satellite lockbox can the principal authorized employee remove his/her lock from the master lockbox.

(4) Type D. During operations to be conducted over more than one shift (or even many days or weeks) a system such as described here might be used. Single locks/tags are affixed upon a lockbox by each authorized employee as described at Type B or Type C above. The master lockbox is first secured with a job-lock before subsequent locks by the principal authorized employees are put in place on the master lockbox. The job-lock may have multiple keys if they are in the sole possession of the various primary authorized employees (one on each shift). As a member of a group, each assigned authorized employee verifies that all hazardous energy has been rendered safe. In this manner, the security provisions of the energy control system are maintained across shift changes while permitting reenergization of the equipment at any appropriate time or shift.

APPENDIX B

(Non-Mandatory)

LOCKOUT/TAGOUT PERMIT PROCEDURE

Model Procedure

I. POLICY

It is the policy of to provide a safe and healthful work environment. All individuals performing work where they may be exposed to the unexpected or unwanted start-up of equipment or the release of hazardous energy, are required to be adequately trained and protected from such hazards.

This permit lockout/tagout procedure applies to all individuals or groups requiring lockout/tagout protection while performing work on specific equipment for which there is no established written procedure available. Each Department Manager is responsible for implementing and enforcing these procedures for all areas and equipment under his/her control.

II. PURPOSE

The purpose of this permit procedure is to ensure that all appropriate steps are taken to control hazardous energies in the absence of a formal written procedure. The intent is to prevent injury or death from exposure to hazardous energies.

III. DEFINITIONS

Affected Employees are operators and others who need to be notified of work being performed, equipment being locked out, or energy being restored in their work area or area of responsibility, but who have not locked out.

Authorized Employees are employees assigned to perform work that requires protection under the lockout/tagout policy, and who have locked out.

Hazardous Energy means any level of energy present that can cause unexpected or unwanted movement, activation, flow, or exposure that could result in injury. Sources may include:

- 1) ELECTRICAL: Alternating and direct current sources, static electricity or stored electrical energy in devices such as capacitors.
- 2) CHEMICAL: Energy released through direct contact or by combining chemical substances.
- 3) THERMAL: Heat generated from electrical, combustion, chemical, mechanical (friction), or nuclear sources.
- 4) PNEUMATIC: Gaseous systems operating at positive (compressed) or negative (vacuum) pressures.
- 5) RADIATION: Ionizing sources including alpha, beta, neutron, gamma, and x-ray. Non-ionizing sources including ultraviolet, infrared, microwave and visible light.
- 6) HYDRAULIC: Fluids pressurized to perform work.
- 7) MECHANICAL POTENTIAL: Movement of a body or an object by gravity, spring or striking force.

Lockout Overseer means the qualified person designated by the company to verify compliance with requirements of the lockout procedure.

Lock Box means the device used to secure the primary lock key(s) used in a group lockout procedure.

Personal Lock means the locking device used by an employee to secure potentially hazardous energy for his/her personal protection.

Primary Lock (Lock Box Lock) means the locking device used to lock out each energy source in a group lockout procedure.

Responsible Person means an employee thoroughly knowledgeable with the equipment to be locked out, and designated by the company to place primary locks on energy sources for group lockout.

Secondary Lock means a personal lock used to secure a lock box in a group lockout procedure.

Transfer of Custody means the transfer of responsibility from one Responsible Person and/or Lockout Overseer to another at the end of his/her work period.

IV. GENERAL REQUIREMENTS

The lockout/tagout rule requires procedures be developed, documented and utilized for the control of potentially hazardous energy. The lockout/tagout permit procedure provides employees the means to develop and document energy control procedures as they are needed. By following the steps outlined in this policy, all requirements for utilizing a written energy control procedure will be met.

Exception: The procedure need not be documented for a particular machine or equipment, when all of the following elements exist:

- 1) The machine or equipment has no potential for stored or residual energy or reaccumulation of stored energy after shut down which could endanger employees;
- 2) The machine or equipment has a single energy source which can be readily identified and isolated;

- 3) The isolation and locking out of that energy source will completely deenergize and deactivate the machine or equipment;
 - 4) The machine or equipment is isolated from that energy source and locked out during servicing or maintenance;
 - 5) A single lockout device will achieve a locked-out condition;
 - 6) The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance;
 - 7) The servicing or maintenance does not create hazards for other employees; and
 - 8) The employer, in utilizing this exception, has had no accidents involving the unexpected activation or reenergization of the machine or equipment during servicing or maintenance.
-
- A. If a written procedure is required but not available, the employees will not start work until a lockout permit is completed and approved.
 - B. The department where the work is to be performed is responsible for assigning a Lockout Overseer to verify compliance with the permit procedure requirements.
 - C. One person, thoroughly knowledgeable with the equipment and the hazardous energies involved will be designated as the Responsible Person.
 - D. The Lockout Overseer will accompany the Responsible Person while completing the permit requirements.
 - E. Each personal lock shall be labeled identifying the worker.
 - F. The completed permit will be available at the job site or at the group lockout device while employees are working on the equipment.

V. ADDITIONAL REQUIREMENTS FOR

GROUP LOCKOUT

- A. The Responsible Person will place the first "secondary lock" on the lock box.
- B. The Lockout Overseer will place the second "secondary lock" on the lock box.
- C. Each individual has the right to verify the lockout of all energy sources and/or to place his/her own personal lock on each lockout point.
- D. Each authorized employee must have his or her personal lock on the lock box while working on the affected equipment.
- E. Whenever there is a transfer of custody, the replacement(s) will verify that the primary locks are properly placed.
- F. When the work is complete and all other secondary locks are removed, the Responsible Person will verify that the area is clear before removing his/her secondary lock and primary locks.
- G. When contractors use a lock box, the contractor supervisor will be a Lockout Overseer.
- H. Lock Box Locks are to be unique primary locks and so identified.

VI. PERMIT PROCEDURE

The LOCKOUT PERMIT (see attachment A) is completed in the following steps:

- A. Determine the type of lockout to be performed (group lockout or individual lockout) and check the appropriate box on the permit. When group lockout is used the Responsible Person and Lockout Overseer, in addition to developing the lockout procedure, will also place the primary locks and verify energy isolation.
- B. Fill in the date that the permit is issued.

C. Name or describe the equipment or system to be locked out.

D. Determine the scope of the work to be done, and indicate this on the permit. (For example: To replace carbon rings on dryer cans #1 through #25.)

E. Name the Lockout Overseer and Responsible Person on the permit. (Please Print)

F. Identify the affected employees to be notified before the lockout begins and those to be notified before energy is restored.

G. If equipment is being locked out at this time, verify the equipment has been shut down using proper shutdown procedures. List any special procedures to be used for shutdown or start up.

H. Indicate the type(s) of potential hazardous energy which may be present.

I. Identify each energy source, equipment identification, lockout location and proper status. See example below.

J. Identify how energy isolation is verified, and perform test. (i.e. start test, drain valve, pressure gauge, voltage check).

K. If the LOCKOUT PERMIT is used to perform a group lockout, the initials of the Lockout Overseer and Responsible Person are required to indicate each isolation point has been properly locked out and energy isolation verified.

L. If the LOCKOUT PERMIT is used for personal lockout, each Authorized Employee shall initial the identified energy sources after each has been locked/tagged and energy isolation verified.

M. Each Authorized Employee will sign-on after they place their locks on the equipment or group lockout device, and sign-off after they remove their locks.

N. Return To Service steps are checked after each is completed. (Work Area Inspected, Affected Employees Notified, Locks Removed, Energy Restored, Control Returned to Operator.)

O. The name of the person the permit is returned to.

P. Permits shall be held by the company for a minimum of six months from the date of issue.

[ED NOTE: The Lockout Permit referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

437-002-0313

Additional Oregon Rules for Sawmills

(1) Application. This section includes safety requirements for sawmill operations including, but not limited to, log and lumber handling, sawing, trimming, and planing; waste disposal; operation of dry kilns; finishing; shipping; storage; yard and yard equipment; and for power tools and affiliated equipment used in connection with such operations.

(2) Conveyors. Feed conveyors for chippers, hogs, burners, and other dangerous machines shall be fully guarded to prevent workers from falling into the conveyor. Where a part of the guard must be omitted to permit workers to feed the conveyor, they shall be provided with and shall wear a safety belt and lanyard tied off to a life line.

(3) Unloading Equipment:

(a) The tile and overarm grapple of all hydraulically operated log handling machines shall be equipped with a means for preventing the release of the tilt and/or grapple devices in case of a failure in the hydraulic system;

(b) A-frames and similar log unloading devices shall be guyed and braced to provide stability and prevent tipping.

NOTE: Pond Boats. Small pond boats which are not designed to transport more than one person are exempt from the life-ring requirement.

(4) Transfers and Tracks:

(a) Guardrails and handrails shall be installed on and about transfers and transfer tracks wherever necessary for the safety of workers;

(b) Cars shall not be moved while workers are in the bight of tow lines;

(c) Tracks shall be clear of obstructions before rail cars are moved.

(5) Green Chains and Sorting Tables:

(a) Green chains and similar equipment shall be provided with a stopping device which is readily accessible to one or more persons working on the chain;

(b) A toe board not less than six inches in height of nominal two by six inch material shall be installed on the vertical face of all green chain and sorting tables;

(c) The flow of lumber or other materials on sorting tables and green chain shall be regulated as evenly as possible.

(d) Rollers or other devices shall be provided for removing heavy material from the chain or table.

(e) Workers shall not cross over operating conveyors, rolls, or belts unless elevated cross-overs are provided for this purpose.

(6) Transfer Rolls:

- (a) Power driven rolls shall be operated in a manner to prevent end collisions;
- (b) The space between live rolls, for a distance of at least one roll on either side of cross-overs or walkways, shall be filled in with substantial material;
- (c) Live roll sprockets, chains, gears and drive shafts shall be guarded wherever exposed to contact;
- (d) Live rolls shall be replaced when a hole (sufficient to impair its strength, or catch clothing) has developed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 7-1993, f. 6-8-93, cert. ef. 8-1-93; OSHA 3-1996, f. & cert. ef. 7-22-96

437-002-0314

Veneer and Plywood Machinery

NOTE: 1910.265(c) and (d) also apply to Veneer and Plywood Machinery. (See OAR 437-002-0313(1).

(1) Purpose. The purpose of this rule is to prescribe minimum requirements for veneer and plywood operations.

(2) Veneer Lathe:

- (a) A mechanical lock shall be provided to prevent the back-up roll from closing until activated by the operator;
- (b) A guard or positive interlock and necessary hydraulic or air controls shall be provided to prevent forward movement of the charger, if such movement may be hazardous;
- (c) Positive means shall be provided to hold the head in the open position while servicing the knife;
- (d) A protective device for the knife edge shall be provided for use when transporting the knife;
- (e) Where there is a hazard from "exploding" logs, both lathe operator's and charger operator's stations shall be protected against flying slabs and chips;
- (f) Means shall be provided in the knife grinding area to drain cleaning or cooling liquids from the work station;
- (g) Knives and other cutting equipment shall be stored in planned storage areas;
- (h) The area under the elevating ramp (tipple) from the lathe to the stock trays shall be guarded to prevent entrance while the lathe is in operation.

(3) Veneer Slicer. The veneer slicer knife shall be guarded at front and rear to prevent accidental contact with the knife edge.

(4) Veneer Clipper:

- (a) Clippers shall be provided with a guard on both in-feed and out-feed sides to protect the employees;
- (b) Each operating treadle for veneer clippers shall be covered by a device which is adequate to avoid accidental activation or tripping.

(5) Veneer Cutter:

(a) Power-driven guillotine veneer cutters (except continuous feed trimmers) shall be equipped with the following:

(A) A starting device which requires the simultaneous action of both hands to start the cutting motion, and at least one hand on a control during the complete stroke of the knife; or

(B) An automatic device which will remove the hands of the operator from the danger zone at every descent of the blade used in conjunction with one-hand starting devices which require two distinct movements of the device to start the cutting motion.

(b) All power-driven veneer cutters shall be so designed that the knife positively returns to the starting position after each complete cycle of the knife;

(c) Where two or more workers are employed at the same time on the same power-driven guillotine veneer cutter equipped with two-hand control, the device shall be so arranged that each worker shall be required to use both hands simultaneously on the controls to start the cutting motion, and at least one hand on a control to complete the cut.

NOTE: The controls should be of a type that cannot be defeated by tying down one of them.

(d) In addition to the brake or other stopping mechanism, a nonrepeat device shall be provided which will prevent the machine from operating in the event of a mechanical failure;

(e) Where no other device serves as protection, a guard running the length of the knife shall be installed on the in-feed side;

(f) A protective device, such as side shields, shall be provided on the out-feed side;

(g) A protective device for the knife edge shall be provided for use when transporting the knife;

(h) Positive means of opening and locking the control circuit and supporting the mechanism in the "up" position shall be provided for use during knife changes;

(i) When the hold-down clamp and knife are in their uppermost positions, the knife edge shall not extend below the lower edge of the hold-down clamp.

(6) Tray System:

(a) The tray system shall be equipped with controls at each end so that the system cannot be operated unless both switches are in the "on" position;

(b) A walkway shall be constructed the entire length of the trays so that the top tray can be reached in the event of a "plug-up" without having to climb up the frames.

(7) Veneer Dryer:

(a) A standard stairway and catwalk across the tray lines shall be constructed to provide safe access in the event of a "plug-up" and dryer feed controls, including a positive lock out, shall be provided at the feeders' station;

(b) Steam lines outside the dryer which may be contacted by personnel shall be insulated or enclosed;

(c) Suitable gloves and aprons shall be worn by workers off-bearing veneer from chain or table;

(d) Where a band saw is used to trim panel core, it shall be guarded in accordance with 1910.265(e)(2)(ii)(c).

(8) Hot Press or Veneer Press:

- (a) Steam lines which may be contacted by personnel shall be insulated or enclosed;
- (b) Standard guard rails shall be provided on the ends of loading and unloading elevators or hoist platforms or both. (See OAR Chapter 437, Division 2/D, 1910.23(e)(1));
- (c) Hot-press hoists shall be provided with a braking and holding mechanism which will operate automatically in case of failure of lifting chains or cables;
- (d) On a hot-press equipped with an automatic charger, an electrically interlocked gate or chain shall be provided across the opening between the charger and the press which, when opened, will open the circuit to prevent the charger from moving;
- (e) Where two workers are employed in loading the press, closing control devices shall be provided within reach of each work station, so interconnected as to require activation of both controls to operate the press, and a quick opening device shall be provided at each station on the press hoist platform;
- (f) Floor openings on non-working sides of press and pit shall be protected with standard guard rails. (See OAR Chapter 437, Division 2/D 1910.23 (a)(8));
- (g) Means shall be provided for safe access into the press pit, the top of the press, and each side, and a positive means of blocking up the hoist platform.

(9) Stripsaw and Patch Machine:

- (a) An anti-kickback device and hood guard shall be provided on the veneer stripsaw;
- (b) The patch machine shall be guarded to prevent operator's hands from entering the punch area, and the foot treadle shall be guarded.

(10) Veneer Chipper and Hogs:

- (a) The top feed roll shall be equipped with a guard and a shield or panel shall be provided on the operator's side to prevent operator from reaching the roll;
- (b) Chippers and hogs shall be guarded in accordance with 1910.265(c)(20)(i) through (c)(21)(ii)(c). Feed conveyors to chippers and hogs shall be guarded in accordance with OAR 437-002-0313(1).

(11) Electronic Laminating Press and Edge Gluer:

- (a) Interlocked gates shall be provided on in-feed and out-feed sides of batch-type presses which are interlocked to prevent power being activated until gates are completely lowered;
- (b) Shielding shall be provided to protect against harmful exposure to radiation that may be emitted;
- (c) All screens and filters shall be equipped with interlocks which will shut off all power in the event they are removed.

(12) Edge Gluer Jointer:

- (a) A barrier shall be installed at the end of the travel of the head to prevent flying splinters from injuring personnel;
- (b) A gate shall be installed to prevent access between the edge gluer jointer and the grasshopper, so arranged that when the gate is opened, all electricity, air, and hydraulic lines will be shut off and the cylinders bled;
- (c) A device should be positioned across the front of the in-feed nip point, so arranged as to shut off the equipment if contact is made with it.

(13) **Wide Belt Sanders.** Wide-belt sanders shall be equipped with non-kickback fingers and a barrier at the in-feed side adjusted to prevent more than one panel entering the sander at a time.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 7-1993, f. 6-8-93, cert. ef. 8-1-93

437-002-0315

Shake and Shingle Machinery

NOTE: 1910.265(c) and (d) also apply to Shake and Shingle Machinery. (See OAR 437-002-0313(1).)

(1) **Purpose.** The purpose of this rule is to prescribe minimum requirements for shake and shingle manufacturing operations.

(2) **Definitions applicable to shake and shingle machinery:**

(a) "Blocks" shall mean those sections of a log cut in various lengths;

(b) "Blocks" and "Bolts" may be considered to be synonymous;

(c) "Clipper Saw" shall mean a circular saw used to trim manufactured shingles;

(d) "Groover" shall mean a cylinder-type knife (knives) similar to a planer knife (knives), used to cut grooves into the face surface on the side edge of shakes or shingles;

(f) "Johnson Bar" shall mean a shaft used to control the feed of the carriage;

(g) "Knee Bolter Circular Saw" shall mean a stationary circular saw used to trim and debark blocks (the blocks are manually maneuvered onto a carriage and fed into a saw);

(h) "Log Haul" shall mean a power conveyor used to move logs into position to cut into blocks;

(i) "Packers" shall mean employees who pack the manufactured shakes or shingles into bundles;

(j) "Pantograph Power Splitter" shall mean a hydraulically operated wedge, manually positioned into place, used to split blocks;

(k) "Power Saw Splitter" shall mean a stationary circular saw used to split (saw) blocks, (the blocks are manually maneuvered onto a carriage and fed into the saw);

(l) "Set Works" shall mean a component of the shingle machine, located on the machine frame, used to control the thickness of each shingle being manufactured;

(m) "Shake Machine" shall mean a band saw used to cut shake blanks into manufactured shakes;

(n) "Shake Splitter" shall mean a stationary hydraulically operated wedge, manually controlled, used to split shake blocks into shake blanks;

(o) "Shim Saw" shall mean a circular saw used to re-cut manufactured shingles into narrow widths;

(p) "Shingle Machine" shall mean a machine used to manufacture shingles; composed of a feed, set works, and carriage

system, all functioning in relation to a circular saw;

(q) "Shingle Saw" shall mean a circular saw used to cut shingles from blocks;

(r) "Spault" shall mean the first and last section(s) of block as it is cut into shingles;

(s) "Spault Catcher" shall mean a device located on the shingle machine next to the solid feed rolls, used to hold the last section of each block being cut (called a spault), in place;

(t) "Track or Swing Cut Off Saw" shall mean a circular saw used to cut blocks from a log.

(3) Track or Swing Cut Off Circular Saw:

(a) A power operated track or swing cut off circular saw shall have controls so arranged that operators are not positioned directly in front of the saw while making a cut;

(b) All track or swing cut off circular saws shall be completely encased or guarded when the saw is in the retract position, except for that portion of the guard that must be left open for the operation of the saw;

(c) Track or swing cut off circular saw guards shall be constructed of sheet metal not less than 1/8-inch thick, or a wood guard of not less than nominal two-inch thick wood material, or equivalent;

NOTE: Hinged or removable doors or gates will be permitted where necessary to permit adjusting and oiling.

(d) The driving belts on the track or swing cut off circular saw shall be guarded;

(e) A safety catch shall be provided to prevent the track cut off saw from leaving the track.

(4) Overhead Deck Splitter -- Pantograph:

(a) Pantograph splitters shall have a shroud incorporated on the upper pressure plate to eliminate the possibility of the splitter moving from the operating are. This shroud shall be constructed of substantial design with a minimum width of three inches and a minimum thickness of 3/8-inch;

(b) Mechanically operated overhead splitters shall have handles moving opposite the stroke of the piston;

(c) When the leading edge of the pantograph splitter is completely extended, the minimum clearance from the deck to the splitting edge shall be two inches.

(5) Power Splitter Saw. Power splitters shall have spreaders behind the saw to prevent materials from squeezing the saw or being thrown back on the operator. The top of the saw shall be completely covered.

(6) Knee Bolter Circular Saw:

(a) A safety catch shall be provided to prevent the bolter carriage from leaving the track;

(b) Bolter saws shall be provided with a canopy guard of sheet metal not less than 1/8-inch thick, or cast iron guard not less than 3/16-inch thick or a wood guard of not less than nominal two-inch thick wood material or equivalent:

(A) Such guard shall completely enclose the rear portion of the saw;

(B) It shall be so arranged and adjusted as to cover the front of the saw; not to exceed 20 inches from the top of the carriage to the bottom of the guard on 16-inch and 18-inch blocks and 26 inches on 24-inch blocks, or the material being cut.

(c) Knee bolter saws shall be provided with wipers of belting or other suitable material. These wipers shall be installed

on both sides of the saw in such a manner as to deflect knots, chips, slivers, etc., that are carried by the saw;

(d) A positive device shall be provided and used to manually lock and hold the feed table of knee bolter saws in the neutral position when not in use;

(e) That portion of all saws which is below and behind the saw table shall be effectively guarded by the exhaust hood of other device;

(f) Hinged or removable doors or gates will be permitted where necessary to permit adjusting and oiling.

(7) Shake Machinery:

(a) Shake Splitters:

(A) A positive de-energizing device shall be provided within ready reach of each shake splitter operator;

(B) Each shake splitter shall be provided with an adjustable stroke limiter to eliminate the splitting blade from striking the table;

(C) All splitters shall have a minimum clearance of four inches, from the splitting edge to the table surface, when the splitter is in the extended position;

(D) All splitter tables shall have a friction surface to reduce kick out of the material being split;

(E) Shake splitters shall not be operated at a speed that would cause chunks to be thrown in such a manner as to create a hazard to the operator;

(F) The use of foot pedal (treadle) mechanisms shall be provided with protection to prevent unintended operation from falling or moving objects or by accidental stepping onto the pedal:

(i) The pedal shall have a nonslip surface;

(ii) The pedal return spring shall be of the compression type, operating on a rod or guided within a hole or tube, or designed to prevent interleaving of spring coils in event of breakage;

(iii) If pedal counterweights are provided, the path of the travel of the weight shall be enclosed.

(b) Shake Saw Guards:

(A) Every shake band saw shall be equipped with a saw guard on both sides of the blade down to the top side of the guide;

(B) The outside saw guard shall extend a minimum of 3-1/2 inches below the bottom edge of the saw guide;

(C) The maximum opening between the saw guide and table rolls shall be 15 inches.

(c) Shake Saw Band Wheel Guards:

(A) The band wheels on all shake band saws shall be completely encased or guarded on both sides;

(B) The guards shall be constructed of not less than No. 14 U.S. gauge metal or material equal in strength;

(C) The metal doors, on such guards, shall have a wood liner of a minimum thickness of 1/2 inch.

(d) Shake Saw Band Wheels Speed and Maintenance:

- (A) No band wheel shall be run at a peripheral speed in excess of that recommended by the manufacturer;
- (B) Each band wheel shall be carefully inspected at least once a month by management;
- (C) Any band wheel in which a crack is found in the rim or in a spoke shall be immediately discontinued from service until properly repaired;
- (D) Each band saw frame shall be provided with a tension indicator.

(8) Upright Shingle Machine:

(a) Upright Shingle Saw Guards:

(A) Every shingle machine carriage shall be equipped with a hand guard which:

- (i) Projects at least one inch beyond the cutting edge of the saw;
- (ii) Shall be located not more than 1/2-inch from the side of the saw blade.

(B) Shingle saw guards shall have a rim guard so designed and installed as to prevent chips and knots from flying from the saws. Such guards shall cover the edge of the saw to at least the depth of the teeth, except such part of the cutting edge as is essential for sawing the material;

(C) Saws, arbors, and couplings shall be guarded;

(D) Every part of a clipper saw, except that part which is exposed to trim shingles, shall be enclosed by a guard, so designed and installed to prevent contact with the clipper saw. An additional guard shall be installed not more than four inches above the clipper board and not more than 1/2-inch from the vertical plane of the saw;

(E) The underside of clipper saw boards shall be equipped with a substantial finger guard to effectively protect the operator's fingers. The guard shall be a minimum of five inches long and 1-1/4 inches deep.

(b) Upright Carriage Guards:

(A) Automatic revolving cam set works and rocker arms, on machine frame, shall be guarded where exposed to contact;

(B) The spault catchers shall be not less than 3/16-inch thick and kept sharp at all times. Missing teeth shall be replaced.

(c) Carriage Feed Works:

(A) The pinion gear, bull wheel and Johnson bar operating the same carriage, shall be guarded where exposed to contact;

(B) Each shingle machine clutch treadle shall be arranged so that it is necessary to manually operate the treadle to start the machine:

- (i) The use of devices to permit the automatic starting of the machine when the jaw treadle is released is prohibited;
- (ii) The carriage shall have a brake to hold it in a neutral position.

(C) Carriage speed shall not exceed 34 strokes per minute.

(9) Related Shake and Shingle Sawing Machinery:

(a) Flat or Taper Saw. A wood or metal guard or its equivalent shall be secured to the sliding table at the side nearest the sawyer to protect him/her from contact with the cutting edge of the saw when a block is not in the cut;

(b) Hip and Ridge Saws:

(A) The hip and ridge saws shall be guarded with a hood-like device;

(B) This guard shall cover that portion of the saw not needed to cut the material, located above the cutting table;

(C) The remaining portion of the saw, located below the table, shall be effectively guarded.

NOTE: The above subsection is applicable to both shake and shingle hip and ridge saws.

(c) Shim Stock Saws. The top ends and sides of the shim stock saws shall be guarded;

(d) Shake or Shingle Groover. The top ends and sides of the groover, to include the press rolls, shall be guarded;

(e) Mechanical Power Transmission Machinery. All mechanical power transmission equipment shall be guarded in accordance with the requirements of Division 2, Subdivision O, Machinery and Machine Guarding.

(10) Circular Saws, Speeds, and Repairs:

(a) Maximum Allowable Speeds:

(A) No circular saw shall be run at a speed in excess of that recommended by the manufacturer;

(B) The manufacturer's recommended speed shall be etched or otherwise permanently marked on the blade, and that speed shall not be exceeded.

(b) Repairs and Reconditioning:

(A) Shingle saws when reduced in size to less than 40 inches in diameter shall be discontinued from service as shingle saws on upright or vertical machines;

(B) Shingle saws may be reconditioned for use as clipper saws, provided the surfaces are reground and the proper balance attained;

(C) Shingle saws may be used to no less than 36 inches on flat or taper saw machines.

(c) Operations:

(A) Workers shall not leave shingle machines unattended while the carriage is in motion:

(i) Chunks may be placed horizontally one tier high on top of shingle blocks;

(ii) Shingle blocks shall be piled in a stable manner, not more than 72 inches high, within the immediate working area of the shingle sawyer or the area shall be barricaded.

(B) Provisions shall be made to prevent blocks from falling into the packing area;

(C) On each machine operated by electric motors, positive means shall be provided for rendering such controls or devices inoperative while repairs or adjustments are being made to the machines they control;

(D) Workers shall not stand on top of blocks while in the process of splitting such blocks into bolts.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 7-1993, f. 6-8-93, cert. ef. 8-1-93

NOTE: Federal rule 1910.268(a)(1), was NOT adopted by OR-OSHA. Instead, OAR 437-002-0316(1) applies:

437-002-0316

Oregon Rules for Telecommunications

Application. This rule sets forth safety and health standards that apply to the work conditions, practices, means, methods, operations, installations, and processes performed at telephone, TV cable, and other signaling equipment centers and installations, and at field installations used to transmit or control communication or other signals of the service supplier and may be located outdoors or in building spaces used for such field installations. "Center" work includes the installation, operation, maintenance, rearrangement, and removal of communications equipment and other associated equipment in telecommunications switching centers. "Field" work includes the installation, operation, maintenance, rearrangement, and removal of conductors and other equipment used for signal or communication service, and of their supporting or containing structures, overhead or underground on public or private rights of way, including buildings or other structures.

NOTES:

-1- Federal rule 1910.268(b)(3), was NOT adopted by OR-OSHA. Instead, OAR 437, Division 2/K, OAR 437-002-0161, Medical Services and First Aid, applies.

-2- See OAR 437, Division 2/K, Rule 437-002-0161, for Medical Services and First Aid requirements.

-3- Federal rule 1910.268(d)(1), was NOT adopted by OR-OSHA. Instead, OAR 437-002-0316(2)(a) applies:

(2) Employee protection in public work areas:

(a) Before work is begun in the vicinity of vehicular or pedestrian traffic which may endanger employees, pedestrian and traffic control devices shall be provided for all operations on or adjacent to streets, alleys and walkways. The traffic control shall conform to the American National Standards Institute (ANSI) D6.1e-1989 Manual on Uniform Traffic Control Devices for Streets and Highways and the Oregon Department of Transportation's Short Term Work Zones Manual. Where further protection is needed, barriers shall be utilized. At night, warning lights shall be prominently displayed, and excavated areas shall be enclosed with protective barricades;

(b) Once a work area has been established, it shall be the employer's responsibility to provide adequate supervision and periodic surveillance to assure that the above requirements are met.

(3) Before work is performed on overhead lines, underground (such as in manholes), or in buried plants, the employer or designated representative shall make a complete evaluation of the work location to determine if a hazard exists or could be created in the performance of the work. The employer or designated representative shall determine from this evaluation, a safe procedure for performing the work and those means or methods shall be implemented before the work proceeds. Examples of possible worksite conditions that may be hazardous include, but are not limited to:

(a) Manhole, pit, and pole locations, street intersections, alleys and isolated areas;

(b) Weather and road conditions (such as ice, snow, and rain);

(c) Visibility;

(d) Time of day;

(e) Manhole atmosphere conditions (such as explosive gases, exhaust fumes, and oxygen deficiency);

(f) Jointly occupied manholes with foreign utilities; and

(g) Power hazards.

(4) All equipment, tools, and safety devices shall be installed, used and operated in accordance with the manufacturer's recommendations and operating instructions and its listing or labeling.

(5) Personal Protective Equipment:

NOTE: Federal rule 1910.268(f)(1), was NOT adopted by OR-OSHA. Instead, OAR 437-002-0316(5)(a) through (d) apply:

(a) Rubber insulating equipment designed for the voltage levels to be encountered shall be provided and the employer shall ensure that they are used by employees as required by OAR Chapter 437, Division 2/R, 1910.268, Telecommunications;

(b) Rubber insulating equipment shall meet the electrical and physical requirements contained in ASTM Standard D-120-87, "Standard Specifications for Rubber Insulating Gloves", and ASTM Standard D-1048-88(as), "Standard Specifications for Rubber Insulating Blankets", with the exception that:

(A) The maximum proof test current for a 14-inch Class I glove shall be no more than 14 mA; and with the further exception that;

(B) Existing 14-inch Class 1 rubber gloves that meet a maximum proof test current of 16 mA and a minimum breakdown voltage of 17,000 volts (RMS) acquired prior to July 1, 1975 may be used as long as these gloves comply with the retest requirements of Paragraph (f)(5) of 1910.268.

(c) Patching rubber goods is prohibited; rubber protective equipment shall not be vulcanized or patched.;

(d) Rubber gloves for workers. A pair of approved rubber gloves and bag shall be assigned to each worker when workers are required to work on or be exposed to energized parts;

(6) Equipment:

(a) Ladder hooks. When ladder hooks are engaged the safety straps shall be lashed around the top rung and strand or otherwise secured to the strand;

(b) Chain saw usage:

(A) Chain saws shall be inspected prior to use and kept in good repair at all times. Saws with defective parts shall not be used;

(B) Chain saw engines shall be shut off while being fueled;

(C) Chain saws shall be equipped with an automatic throttle control which will return the engine to idling speed upon release of the throttle;

(D) All employees using chain saws shall wear flexible ballistic nylon pads or other equivalent protection sewn or otherwise fastened to the trousers, which will protect the legs from the thigh to below the knee, except when working from an aerial lift device;

(E) Chain saws shall not be brought into a bucket or work platform of an aerial lift device. Saws shall be carried on the outside of the aerial lift device. Chain saws shall be started and used only outside of the aerial lift device.

NOTE: Elevating and rotating work platforms shall comply with the requirements of OAR Chapter 437, Division 2/F, 1910.67.

(7) Training. The employer shall see that employees who operate derricks and cranes are properly trained as required in OAR Chapter 437, Division 2/N, OAR 437-002-0229(3), Crane Operator Training Requirements.

(8) Handling poles near energized power conductors:

NOTE: Federal rules 1910.268(n)(11)(iv) and (v) were NOT adopted by OR-OSHA. Instead, OAR 437-002-0316(8)(a) and (b) apply:

(a) Insulating gloves shall be worn when handling the pole with either hands or tools, when there exists a possibility that the pole may contact a power conductor. Where the voltage to the ground of the power conductor exceeds 15kV to ground, Class II gloves (as defined in ANSI D 120-87 shall be used. For voltages not exceeding 15kV to ground, insulating gloves shall have a breakdown voltage of at least 17kV;

(b) The guard or insulating material used to protect the pole shall meet the appropriate three minute proof test voltage requirements contained in ANSI D 1048-88a.

(9) Fiber optic/lightwave transmission:

(a) Only qualified employees shall install, service, maintain or use lightwave test equipment;

(b) Employees shall avoid eye exposure to emissions from unterminated energized optical connectors;

(c) Employees shall not look into vacant regenerator slots with an optical instrument;

(d) Employees should not examine or look into broken, severed, or disconnected fiber optic cables;

(e) Lightwave emissions may only be viewed with an indirect image converting device;

(f) Microscopes, magnifying glasses and eye loupes shall not be used to examine energized fiber optic cables;

(g) Lightguide terminals must be tagged "Do Not Energize" when splicing technicians are restoring a damaged system.

NOTE: Federal rules in 1910.268(q), Tree trimming - electrical hazards, were NOT adopted by OR-OSHA. Instead, OAR 437-002-0301 through 0311 shall apply. The following Oregon rule makes reference to Oregon's Tree and Shrub Services rules in Division 2/R:

(10) Tree trimming - electrical hazards. Employees engaged in pruning, trimming, removing, or clearing trees from lines shall comply with the requirements under §1910.269 in Division 2/R.

(11) Additional definitions in Oregon:

(a) "Clearance":

(A) For working on, means the certification by the proper authority that a specified line or piece of equipment is de-energized; that the proper precautionary measures have been taken and that the line or equipment is being turned over to the workers;

(B) From hazard, means adequate separation or protection by the use of protective devices to prevent accidental contact by persons or objects on approach to a point of danger.

(b) "Climbing Space" The vertical space reserved along the side of poles or structures to permit ready access for linemen to equipment and conductors located on poles or structures;

(c) "Communication Plant" The conductors and their associated equipment required to provide public or private signals or communicative service;

(d) "Competent or Qualified Person" A person who is familiar with the construction of, or operation of, such lines and/or equipment that concerns his or her position and who is fully aware of the hazards connected therewith *or* one who has passed a journeyman's examination for the particular branch of the trades with which he or she may be connected;

- (e) "Emergency" When an unusual condition exists that endangers life and/or property;
- (f) "Foreman or Person-in-Charge" That person directly in charge of workers doing the work regardless of title;
- (g) "Grounding" The act of placing shorts and grounds on conductors and equipment for the purpose of protecting workers from dangerous voltages while working on such lines or equipment;
- (h) "Guard or Guarded" Covered, shielded, fenced, enclosed, or otherwise protected by means of suitable covers, casings, barriers, rails, screens, mats, platforms, or warning signs or devices which are suitable to remove the possibility of dangerous contact on approach by other persons or objects to a point of danger;
- (i) "Manlift Equipment" Such types of portable truck-mounted equipment as mechanical, electric or hydraulic ladders and boom-mounted buckets or cages;
- (j) "Protection from Hazardous Voltage" The isolation from or deenergizing of equipment to prevent accidental contact by persons or objects on approach to point of danger;
- (k) "Protective Devices" Those devices such as rubber gloves, rubber blankets, line hose, rubber hoods or other insulating devices, which are specially designed for the protection of workers;
- (l) "Public Highway" Land, road, street, boulevard, and every way or place in the state open as matter of right to public vehicular travel, both inside and outside the limit of cities and towns;
- (m) "Sheath" As applied to sharp tools, a case that effectively covers the tool;
- (n) "Voltage Communications" Voltage used for electronic communications equipment to which workers or protective equipment may be subjected:
 - (A) "High" Over 600 volts to ground -- RMS AC or DC or over 1,000 volts RMS across bare parts;
 - (B) "Medium High" 151 to 600 volts to ground -- RMS AC or DC or 301 to 1,000 volts RMS AC across any bare parts.
- (p) "Voltage Electric Supply" The maximum effective line voltage to which the workers or protective equipment may be subjected:
 - (A) "Low" Includes voltages from 100 to 750 volts;
 - (B) "High" Those voltages in excess of 750 volts.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 11-1993, f. 8-4-93, cert. ef. 10-1-93; OSHA 1-1996, f. & cert. ef. 2-16-96

NOTE: In Oregon, live-line work is prohibited by OAR 437-002-0317(2) below. Other Oregon rules are contained in 437-002-0317(1):

437-002-0317

Additional Oregon Rules for Electric Power Generation, Transmission and Distribution

- (1) Two-worker rule.

(a) Not less than two journeymen, or workers with equivalent training and experience, shall be required for work on energized high voltage equipment. A qualified apprentice may work in place of one of the journeymen for the purpose of training.

(b) Exceptions: The following exceptions to the two-worker rule apply:

(A) When refusing circuits with a hot stick.

(B) When operating switches by means of operating handles or switch sticks.

(C) When a qualified apprentice is assigned to work with a journeyman for the purpose of training.

(D) Where life or the public safety are in immediate danger, one worker may remove only the immediate hazard if no other workers are immediately available.

(E) When installing or removing a hot line clamp connection with an approved hot stick on single phase line or apparatus, providing that the connection or disconnection does not interrupt or pick up a load.

(c) Rubber Gloves. Rubber gloves shall not be used for working on circuits in excess of 5,000 volts between phases.

(2) Bare-Hand Work. Live-line bare-hand work is prohibited.

NOTE: 1910.269(q)(3) was NOT adopted by OR-OSHA. In Oregon, OAR 437-002-0317(2) prohibits live-line bare-hand work:

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 3-1994, f. & cert. ef. 8-1-94

Electrical

NOTE: The following rule adopts by reference the federal Electrical Standard.

437-002-0320

Adoption by Reference

In addition to, and not in lieu of, any other health and safety codes contained in OAR Chapter 437, the Department adopts by reference the following rules as printed in the Code of Federal Regulations, 29 CFR 1910, revised as of 7/1/93:

(1) 29 CFR 1910.301, **Introduction**, published 1-16-81, FR Vol. 46, p. 4056; amended 8-7-81, FR Vol. 46, p. 40185.

(2) 29 CFR 1910.302, **Electrical Utilization Systems**, published 1-16-81, FR Vol. 46, p. 4056; amended 8-7-81, FR Vol. 46, p. 40185.

(3) 29 CFR 1910.303, **General Requirements**, published 1-16-81, FR Vol. 46, p. 4056; amended 8-7-81, FR Vol. 46, p. 40185.

(4) 29 CFR 1910.304, **Wiring Design and Protection**, published 1-16-81, FR Vol. 46, p. 4056; amended 8-7-81, FR

Vol. 46, p. 40185; 8-6-90, FR Vol. 55, No. 151, pp. 32016 - 32020.

(5) 29 CFR 1910.305, **Wiring Methods, Components and Equipment for General Use**, published 1-16-81, FR Vol. 46, p. 4056; amended 8-7-81, FR Vol. 46, p. 40185.

(6) 29 CFR 1910.306, **Specific Purpose Equipment and Installations**, published 1-16-81, FR Vol. 46, p. 4056; amended 8-7-81, FR Vol. 46, p. 40185.

(7) 29 CFR 1910.307, **Hazardous (classified) Locations**, published 1-16-81, FR Vol. 46, p. 4056; amended 8-7-81, FR Vol. 46, p. 40185.

(8) 29 CFR 1910.308, **Special Systems**, published 1-16-81, FR Vol. 46, p. 4056; amended 8-7-81, FR Vol. 46, p. 40185.

(9) (Reserved for 1910.309 - .330)

(10) 29 CFR 1910.331 **Scope**, published 8-6-90, Federal Register vol. 55, no. 151, pp. 32016-32020; amended 1-31-94, FR vol. 59, no. 20, pp. 4475-6.

(11) 29 CFR 1910.332 **Training**, published 8-6-90, Federal Register vol. 55, no. 151, pp. 32016-32020.

(12) 29 CFR 1910.333 **Selection and Use of Work Practices**, published 8-6-90, Federal Register vol. 55, no. 151, pp. 32016-32020; amended 11-1-90, FR vol. 55, no. 212, pp. 46052-46054; amended 1-31-94, FR vol. 59, no. 20, pp. 4475-6.

(13) 29 CFR 1910.334 **Use of Equipment**, published 8/6/90, Federal Register vol. 55, no. 151, pp. 32016-32020; amended 11-1-90, FR vol. 55, no. 212, pp. 46052-46054.

(14) 29 CFR 1910.335 **Safeguards for Personnel Protection**, published 8-6-90, Federal Register vol. 55, no. 151, pp. 32016-32020.

(15) (Reserved for 1910.336 - .360)

(16) (Reserved for 1910.361 - .380)

(17) (Reserved for 1910.381 - .398)

(18) 29 CFR 1910.399 Definitions Applicable to this Subdivision; published 1-16-81, Federal Register vol. 46, p. 4056; amended 8-7-81, FR vol. 46, p. 40185, amended 4-12-88, FR vol. 53, p. 12123; amended 8-6-90 FR vol. 55, no. 151, pp. 32016-32020.

(19) Appendices

(1) **Appendix A** - Reference Documents

(2) **Appendix B** - Explanatory Data (Reserved)

(3) **Appendix C** - Tables Notes, and Charts (Reserved)

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 2-1991, f. 2-4-91, cert. ef. 4-1-91; OSHA 3-1994, f. & cert. ef. 8-1-94

437-002-0321

General

No employer shall require or permit any employee to enter or to perform any function in proximity to high-voltage lines, unless danger from accidental contact with said high-voltage lines has been effectively guarded against.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & ef. 1-23-90; OSHA 2-1991, f. 2-4-91, cert. ef. 4-1-91

437-002-0322

Clearance or Safeguards Required

(1) The operation, erection, or transportation of any tools, equipment, or any part thereof capable of movement; the handling, transportation, or storage of any materials; or the moving of any building, near high-voltage lines, is prohibited, if at any time it is possible to bring such object within ten feet of high-voltage lines.

(2) For equipment in transit, on smooth surfaces, the clearance shall be a minimum of four feet for voltages less than 50 kV, ten feet for voltages over 50 kV, up to and including 345 kV, and 16 feet for voltages up to and including 750 kV.

(3) A person shall be designated to observe clearance and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means.

(4) The ten-foot requirement shall not be reduced by movement due to any strains impressed upon the structures supporting the high-voltage line and upon any equipment, fixtures, or attachments thereon.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & ef. 1-23-90; OSHA 2-1991, f. 2-4-91, cert. ef. 4-1-91

437-002-0323

Warning Signs Required

The employer shall post and maintain in plain view of the operator on each crane, derrick, power shovel, drilling rig, hay loader, hay stacker, pile driver, or similar apparatus, any part of which is capable of vertical, lateral, or swinging motion, a durable warning sign legible at 12 feet reading "Unlawful to operate this equipment within 10 feet of high-voltage lines".

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & ef. 1-23-90; OSHA 2-1991, f. 2-4-91, cert. ef. 4-1-91

437-002-0324

Notification to Power Company and Responsibility for Safeguards

(1) When any operations are to be performed, tools or materials handled, equipment is to be moved or operated within ten feet of any high-voltage line, the person or persons responsible for the work to be done shall promptly notify the operator of the high-voltage line of the work to be performed, and shall be responsible for the completion of the safety measures as required before proceeding with any work which would impair the aforesaid clearance.

(2) This section when applied to railway systems, shall be construed as permitting operation of standard rail equipment, which is normally used in the transportation of freight and/or passengers, and the operation of relief trains, or other equipment in emergencies, at a distance of less than ten feet from any high-voltage conductor; but shall be construed as prohibiting normal repair or construction operations at a distance of less than ten feet from any high-voltage conductor by other than properly qualified and authorized persons or employees under the direct supervision of any authorized person who is familiar with the hazards involved, until the safety provisions of the foregoing sections have been complied with.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & ef. 1-23-90; OSHA 2-1991, f. 2-4-91, cert. ef. 4-1-91

437-002-0325

Underground Installations

In addition to, and not in lieu of any rules relating to "underground installations" adopted in OAR Chapter 437, the following Oregon Revised Statutes and Oregon Administrative Rules administered by the Oregon Public Utility Commission (PUC) shall apply:

(1) ORS 757.541 through 757.571; and

(2) OAR 860-024-0006 and 860-024-0007.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 4-1990, f. & ef. 1-23-90; OSHA 2-1991, f. 2-4-91, cert. ef. 4-1-91

Commercial Diving Operations

437-002-0340

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as

of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

- (1) **29 CFR 1910.401** Scope and application, published 7/22/77, **Federal Register**, vol. 42, p. 37668; amended 11/26/82, **FR** vol. 47, p. 53365.
- (2) **29 CFR 1910.402** Definitions, published 7/22/77, **Federal Register**, vol. 42, p. 37668; amended 11/26/82, **FR** vol. 47, p. 53365.
- (3) **29 CFR 1910.410** Qualification of dive team, published 7/22/77, **Federal Register**, vol. 42, p. 37668.
- (4) **29 CFR 1910.420** Safe practices manual, published 7/22/77, **Federal Register**, vol. 42, p. 37668; amended 4/30/84, **FR** vol. 49, p. 18295.
- (5) **29 CFR 1910.421** Pre-dive procedures, published 7/22/77, **Federal Register**, vol. 42, p. 37668; amended 4/6/82, **FR** vol. 47, p. 14706; 6/7/89, **FR** vol. 54, p. 24334.
- (6) **29 CFR 1910.422** Procedures during dive, published 7/22/77, **Federal Register**, vol. 42, p. 37668.
- (7) **29 CFR 1910.423** Post-dive procedures, published 7/22/77, **Federal Register**, vol. 42, p. 37668; amended 4/30/84, **FR** vol. 49, p. 18295.
- (8) **29 CFR 1910.424** SCUBA diving, published 7/22/77, **Federal Register**, vol. 42, p. 37668.
- (9) **29 CFR 1910.424** Surface-supplied air diving, published 7/22/77, **Federal Register**, vol. 42, p. 37668.
- (10) **29 CFR 1910.426** Mixed-gas diving, published 7/22/77, **Federal Register**, vol. 42, p. 37668.
- (11) **29 CFR 1910.426** Liveboating, published 7/22/77, **Federal Register**, vol. 42, p. 37668.
- (12) **29 CFR 1910.430** Equipment, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 4/30/84, **FR** vol. 49, p. 18295; 9/18/88, **FR** vol. 51, p. 33033.
- (13) **29 CFR 1910.440** Recordkeeping requirements, published 7/22/77, **Federal Register**, vol. 42, p. 37688; amended 5/23/80, **FR** vol. 45, p. 35281; 4/6/82, **FR** vol. 47, p. 14706; 9/29/86, **FR** vol. 51, p. 34562; 3/7/96, **FR** vol. 61, no. 46, p. 9242.
- (14) **29 CFR 1910.441** Effective date, published 7/22/77, **Federal Register**, vol. 42, p. 37668.
- (15) **29 CFR 1910**, Appendix A to Subdivision T, Examples of conditions which may restrict or limit exposures to hyperbaric conditions, published 7/22/77, **Federal Register**, vol. 42, p. 37668.
- (16) **29 CFR 1910**, Appendix B to Subdivision T, Guidelines for scientific diving, published 1/9/85, **Federal Register**, vol. 50, p. 1050.

[NOTE: These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 5-1993, f. 5-3-93, cert. ef. 6-1-93; OSHA 4-1997, f. & cert. ef. 4-2-97

Additional Oregon Rules for Commercial Diving

437-002-0342

Additional Oregon Definition

"Depth" The actual depth of the dive measured in feet below the water's surface. For purposes of determining pressure equivalents, these measurements are assumed to be salt water at 0.445 pounds per square inch per foot of depth (0.445 psi/ft depth). Fresh water equals 0.432 psi/ft depth.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 5-1993, f. 5-3-93, cert. ef. 6-1-93

437-002-0345

Inland Emergency Aid

If conducting inland dive operation, the telephone or call numbers of the nearest local sheriff's office shall be included on the "Emergency Aid" list.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 5-1993, f. 5-3-93, cert. ef. 6-1-93

437-002-0355

Air Supply Systems (Compressed Gases and Air)

(1) For purposes of this standard, air supply systems shall include:

(a) Air supplied directly to a diver;

(b) Compressed systems used to fill air cylinders (tanks);

(c) Compressed air cylinders (tanks); and

(d) Compressed oxygen cylinder;

(e) For additional requirements for compressed gas cylinders, see OAR Division 2/I, 1910.134(d), Respiratory Protection; Division 2/H, 1910.101, Compressed Gases; and 30 CFR 11, Respiratory Protective Devices.

(2) Tests for carbon monoxide shall be conducted on the air in air supply systems as follows:

(a) At least daily for air supplied directly to the diver; and

(b) At least once for each group or batch of cylinders filled or purchased.

(3) The employer shall insure that the requirements of 1910.430(d) through (i) are met, regardless of where compressed

gas cylinder (tanks) are purchased or filled.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 5-1993, f. 5-3-93, cert. ef. 6-1-93

Division 2/Z

Toxic and Hazardous Substances

437-002-0360

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1910**, revised as of 7/1/97, and any subsequent amendments published in the **Federal Register** as listed below:

(1) (Reserved) **29 CFR 1910.1000** Air contaminants, published 6/27/74, **Federal Register**, vol. 39, pp. 23540-23543; amended in the following **FR** publications: 5/28/75, vol. 40, pp. 23072-23073; 5/3/77, vol. 42, p. 22525; 1/17/78, vol. 43, p. 2600; 2/10/78, vol. 43, p. 5963; 3/29/78, vol. 43, p. 13563; 5/4/78, vol. 43, p. 19624; 6/23/78, vol. 43, p. 27394; 6/30/78, vol. 43, p. 28473; 10/3/78, vol. 43, p. 45809; 11/14/78, vol. 43, p. 53007; 12/8/78, vol. 43, pp. 57602-57603; 2/5/79, vol. 44, p. 7141; 6/18/80, vol. 45, pp. 12416-12417; 7/28/80, vol. 45, pp. 50328-50329; 6/19/81, vol. 46, p. 32022; 6/22/84, vol. 49, p. 25796; 1/2/85, vol. 50, p. 64; 12/13/85, vol. 50, p. 51173; 11/17/86, vol. 51, p. 41477; 9/11/87, vol. 52, p. 34562; 12/4/87, vol. 52, p. 46291; 1/19/89, vol. 54, pp. 2920-2983; 7/5/89, vol. 54, no. 127, pp. 28054-28061; 9/5/89, vol. 54, no. 170, pp. 36767-36768; 11/15/89, vol. 54, no. 219, p. 47513; 2/5/90, vol. 55, no. 24, pp. 3724; 5/9/90, vol. 55, no. 90, pp. 19258-19259; 11/8/90, vol. 55, no. 217, pp. 46948-46950; 7/1/92, vol. 57, no. 127, pp. 29204-29206.

NOTE: **29 CFR 1910.1000** was repealed on 11/15/93 by OR-OSHA. In Oregon, OAR 437- 002-0382 applies.

(2) **29 CFR 1910.1001** Asbestos, published 6/20/86, **Federal Register**, vol. 51, no. 119, pp. 22612-22790; amended 10/17/86, **FR** vol. 51, pp. 37002-37007; amended 5/12/87, **FR** vol. 52, pp. 17754-17755; amended 9/14/88, **FR** vol. 53, no. 178, pp. 35610- 35627; amended 9/23/88, **FR** vol. 53, no. 185, p. 37080; amended 7/21/89, **FR** vol. 54, no. 139, p. 30704-30705; amended 12/20/89, **FR** vol. 54, no. 243, p. 52028; amended 2/5/90, **FR** vol. 55, no. 24, pp. 3731-3732; amended 12/10/90, **FR** vol. 55, no. 237, pp. 50685-50687; amended 9/4/91, **FR** vol. 56, no. 171, pp. 43699-43700; 3/5/92, **FR** vol. 57, no. 44, p. 7878; 6/8/92, **FR** vol. 57, no. 110, p. 24330; 8/10/94, **FR** vol. 59, no. 153, p. 41065; 6/29/95, **FR** vol. 60, no. 125, pp. 33983-34002; 8/23/96, **FR** vol. 61, no. 165, pp. 43434-43459.

(3) **29 CFR 1910.1002** Coal tar pitch volatiles, interpretation of term, published 1/21/83, **Federal Register**, vol. 43, p. 2768.

(4) **29 CFR 1910.1003** 13 Carcinogens, published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9242.

(5) **29 CFR 1910.1004** See §1910.1003, 13 Carcinogens.

(6) Reserved for **29 CFR 1910.1005** (Reserved).

- (7) **29 CFR 1910.1006** See §**1910.1003**, 13 Carcinogens.
- (8) **29 CFR 1910.1007** See §**1910.1003**, 13 Carcinogens.
- (9) **29 CFR 1910.1008** See §**1910.1003**, 13 Carcinogens.
- (10) **29 CFR 1910.1009** See §**1910.1003**, 13 Carcinogens.
- (11) **29 CFR 1910.1010** See §**1910.1003**, 13 Carcinogens.
- (12) **29 CFR 1910.1011** See §**1910.1003**, 13 Carcinogens.
- (13) **29 CFR 1910.1012** See §**1910.1003**, 13 Carcinogens.
- (14) **29 CFR 1910.1013** See §**1910.1003**, 13 Carcinogens.
- (15) **29 CFR 1910.1014** See §**1910.1003**, 13 Carcinogens.
- (16) **29 CFR 1910.1015** See §**1910.1003**, 13 Carcinogens.
- (17) **29 CFR 1910.1016** See §**1910.1003**, 13 Carcinogens.
- (18) **29 CFR 1910.1017** Vinyl chloride, published 10/4/74, **Federal Register**, vol. 39, p. 35896; amended by the following **FR** publications: 12/3/74, **FR** vol. 39, p. 41848; 3/25/75, **FR** vol. 40, p. 13211; 5/28/75, **FR** vol. 40, p. 23072; 10/24/78, **FR** vol. 43, p. 49751; 5/23/80, **FR** vol. 45, p. 35282; 6/7/89, **FR** vol. 54, p. 24334; 6/30/93, **FR** vol. 58, no. 124, p. 35310.
- (19) **29 CFR 1910.1018** Inorganic arsenic, published 5/25/78, **Federal Register**, vol. 43, p. 19624; amended by the following **FR** publications: 6/30/78, **FR** vol. 43, p. 28472; 5/23/80, **FR** vol. 45, p. 35282; 6/7/89, **FR** vol. 54, p. 24334; 6/30/93, **FR** vol. 58, no. 124, p. 35310; 3/7/96, **FR** vol. 61, no. 46, p. 9245.
- (20) **29 CFR 1910.1020** Access to Employee Exposure and Medical Records; published May 23, 1980, **Federal Register**, vol. 45, no. 102, pp. 35277-35281; amended September 29, 1988, **Federal Register**, vol. 53, no. 189, pp. 38163-38168; 3/7/96, **FR** vol. 61, no. 46, p. 9235; 6/20/96, **FR** vol. 61, p. 31427. Appendix A - Sample Authorization Letter. Appendix B - Availability of NIOSH RTECS.
- (21) **29 CFR 1910.1025** Lead, published 11/14/78, **Federal Register**, vol. 44, p. 53007; amended by the following **FR** publications: 1/26/79, vol. 44, p. 5447; 3/13/79, vol. 44, p. 14554; 8/28/79, vol. 44 p. 50338; 10/23/79, vol. 44, p. 60981; 11/30/79, vol. 44, 68828; 5/23/80, vol. 45, p. 35283; 12/11/81, vol. 46, p. 60775; 11/12/82, vol. 47, p. 51117; 3/6/83, vol. 48, p. 9641; 4/30/84, vol. 49, p. 18295; 6/5/84, vol. 49, p. 23175; 6/5/84, vol. 49, p. 23175; and modified by OSHA Instruction CPL 2-2.47 published by the **U. S. Department of Labor** on 1/5/89. Amended 7/11/89, vol. 54, p. 29142; 1/30/90, vol. 55, no. 20, pp. 3166-3167; 2/13/90, vol. 55, no. 30, pp. 4998-4999; modification of OSHA Instruction CPL 2-2.47, published by **Office of Health Compliance Assistance**, OSHA, on 7/10/90. Amended 5/31/91, **FR** vol. 56, no. 105, p. 24686; amended 10/11/95, **FR** vol. 60, p. 52856.
- (22) **29 CFR 1910.1027** Cadmium, published 9/14/92, **Federal Register**, vol. 57, no. 178, pp. 42388-42453; corrections published 4/23/93, **FR** vol. 58, no. 77, pp. 21778-21787.
- (23) **29 CFR 1910.1028** Benzene, and Appendices A, B, C, D, and E; published 9/11/87, **Federal Register**, vol. 52, no. 176, pp. 34562-34578.
- (24) **29 CFR 1910.1029** Coke oven emissions, published 10/22/76, **Federal Register**, vol. 41, p. 46784; amended by the following **FR** publications: 1/18/77, **FR** vol. 42, p. 3304; 5/23/80, **FR** vol. 45, p. 35283; 9/13/85, **FR** vol. 50, p. 37353; 6/7/89, **FR** vol. 54, p. 24334.
- (25) **29 CFR 1910.1030** Bloodborne pathogens, published 12/6/91, **Federal Register**, vol. 56, no. 235, pp. 64175-

64182; amended 7/1/92, vol. 57, no. 127, p. 29206.

(26) **29 CFR 1910.1043** Cotton dust, published 6/23/78, **Federal Register**, vol. 43, p. 27394; amended by the following **FR** publications: 8/8/78, **FR** vol. 43, p. 35035; 10/10/80, **FR** vol. 45, p. 67340; 12/13/85, **FR** vol. 50, p. 51173; 7/3/86, **FR** vol. 51, p. 24325; 6/7/89, **FR** vol. 54, p. 24334.

(27) **29 CFR 1910.1044** 1,2-dibromo-3-chloropropane, published 3/17/78, **Federal Register**, vol. 43, p. 11527; amended by the following **FR** publications: 5/23/80, **FR** vol. 45, p. 35283; 4/30/84, **FR** vol. 49, p. 18295; 6/7/89, **FR** vol. 54, p. 24334; 6/30/93, **FR** vol. 58, no. 124, p. 35310.

(28) **29 CFR 1910.1045** Acrylonitrile, published 10/3/78, **Federal Register**, vol. 43, p. 45809; amended by the following **FR** publications: 5/23/80, **FR** vol. 45, p. 35283; 6/7/89, **FR** vol. 54, p. 24334; 6/30/93, **FR** vol. 58, no. 124, p. 35310.

(29) **29 CFR 1910.1047** Ethylene oxide, published 6/22/84, **Federal Register**, vol. 49, p. 25796; amended 3/12/85, **FR** vol. 50, p. 9801; amended 10/11/85, **FR** vol. 50, p. 41494; amended 7/10/86, **FR** vol. 51, p. 25053; amended 4/6/88, **FR** vol. 53, p. 11437; amended 7/26/88, **FR** vol. 53, p. 27960.

(30) **29 CFR 1910.1048** Formaldehyde, and Appendices A, B, C, D and E, published 12/4/87, **Federal Register**, vol. 52, no. 233, pp. 46291-46312; and amendments to 1910.1048 published 3/2/88, **FR** vol. 53, no. 41, pp. 6628-6629; 11/8/88, **FR** vol. 53, pp. 45080-45088; 11/22/88, **FR** vol. 53, p. 47188; 7/13/89, **FR** vol. 54, no. 133, pp. 29545-29546; 8/1/89, **FR** vol. 54, No. 146, p. 31765; 8/29/89, **FR** vol. 54, p. 35639; 9/11/89, **FR** vol. 54, p. 37531; 10/24/89, vol. 54, pp. 43344-43346; 6/13/90, **FR** vol. 55, no. 114, p. 24070; 8/10/90, **FR** vol. 55, no. 155, p. 32616; 12/17/90, **FR** vol. 55, no. 242, p. 51698; 3/12/91, **FR** vol. 56, no. 48, pp. 10377-8; 6/12/91, **FR** vol. 56, no. 113, p. 26909; 8/8/91, **FR** vol. 56, no. 153, p. 37650-1, 11/13/91, **FR** vol. 56, no. 219, p. 57593; 1/23/92, **FR** vol. 57, no. 15, p. 2681-2; 5/5/92, **FR** vol. 57, no. 87, p. 19262; 5/27/92, **FR** vol. 57, no. 102, pp. 22307-9; 6/10/92, **FR** vol. 57, no. 112, p. 24701; 6/18/92, **FR** vol. 57, no. 118, pp. 27160-1.

(31) **29 CFR 1910.1050** Methylenedianiline (MDA), published 8/10/92, **Federal Register**, vol. 57, no. 154, pp. 35666-35681.

(32) **29 CFR 1910.1051** 1,3-Butadiene, published 11/4/96, **Federal Register**, vol. 61, no. 214, p. 56831.

(33) **29 CFR 1910.1052** Methylene Chloride, published 1/10/97, **Federal Register**, vol. 62, no. 7, p. 1601. 10/20/97, **FR** vol. 62, p. 54382.

(NOTE: **29 CFR 1910.1101** Asbestos, was repealed by **Federal Register**, vol. 57, no. 110, issued 6/8/92, p. 24330.)

(34) **29 CFR 1910.1096** Ionizing radiation, published 6/27/74, **Federal Register**, vol. 39, p. 23502; amended 10/24/78, **FR** vol. 43, p. 49746; 11/7/78, **FR** vol. 43, p. 51759; 4/30/84, **FR** vol. 49, p. 18295; 6/30/93, **FR** vol. 58, no. 124, p. 35309; 6/20/96, **FR** vol. 61, no. 46, p. 31427.

(35) **29 CFR 1910.1200** Hazard communication, published 8/24/87, **Federal Register**, vol. 52, p. 31877; amended by the following **FR** publications: 12/4/87, **FR** vol. 52, p. 46080; 4/27/88, **FR** vol. 53, p. 15035; 2/15/89, **FR** vol. 54, p. 6888; 6/7/89, **FR** vol. 54, p. 24334; 2/9/94, **FR** vol. 59, no. 27, pp. 6126-6184; 4/13/94, **FR** vol. 59, no. 71, pp. 17478; 12/22/94, **FR** vol. 59, no. 245, p. 65947; 3/7/96, **FR** vol. 61, no. 46, p. 9245.

(36) **29 CFR 1910.1201** Retention of DOT Markings, Placards and Labels, published 7/19/94, **Federal Register**, vol. 59, p. 36700.

(37) **29 CFR 1910.1450** Occupational Exposure to Hazardous Chemicals in Laboratories, published 1/31/90, **Federal Register**, vol. 55 no. 21, pp. 3300-3335; corrected 3/6/90, **FR** vol. 55, no. 44, p. 7967; 7/1/92, vol. 57, no. 127, p. 29204.

(38) **29 CFR 1910.1499** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9245.

(39) **29 CFR 1910.1500** Removed. Published 3/7/96, **Federal Register** vol. 61, no. 46, p. 9245.

[NOTE: These standards are available at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 13-1988, f. 8-2-88 & ef. 8-2-88; APD 14-1988, f. & ef. 9-12-88; APD 18-1988, f. & ef. 11-17-88; APD 4-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 6-1989(Temp), f. 4-20-89, ef. 5-1-89; APD 9-1989, f. & ef. 7-7-89; APD 11-1989, f. 7-14-89, ef. 8-14-89; APD 13-1989, f. & ef. 7-17-89; OSHA 1-1990(Temp), f. & ef. 1-11-90; OSHA 3-1990(Temp), f. & ef. 1-19-90; OSHA 6-1990, f. & ef. 3-2-90; OSHA 7-1990, f. & ef. 3-2-90; OSHA 9-1990, f. 5-8-90, ef. 8-8-90; OSHA 11-1990, f. 6-7-90, ef. 7-1-90; OSHA 13-1990(Temp), f. 6-28-90, ef. 8-1-90; OSHA 14-1990, f. 6-28-90, ef. 8-1-90; OSHA 19-1990, f. & ef. 8-31-90; OSHA 20-1990, f. & ef. 9-18-90; OSHA 21-1990, f. & ef. 9-18-90; OSHA 7-1991, f. & cert. ef. 4-25-91; OSHA 13-1991, f. & cert. ef. 10-10-91; OSHA 15-1991, f. & cert. ef. 12-13-91; OSHA 1-1992, f. & cert. ef. 1-22-92; OSHA 4-1992, f. & cert. ef. 4-16-92; OSHA 5-1992, f. 4-24-92, cert. ef. 7-1-92; OSHA 6-1992, f. & cert. ef. 5-18-92; OSHA 9-1992(Temp), f. & cert. ef. 9-24-92; OSHA 11-1992, f. & cert. ef. 10-9-92; OSHA 12-1992, f. & cert. ef. 10-13-92; OSHA 14-1992, f. & cert. ef. 12-7-92; OSHA 15-1992, f. & cert. ef. 12-30-92; OSHA 1-1993, f. & cert. ef. 1-22-93; OSHA 6-1993(Temp), f. & cert. ef. 5-17-93; OSHA 12-1993, f. 8-20-93, cert. ef. 11-1-93; OSHA 17-1993, f. & cert. ef. 11-15-93; OSHA 4-1994, f. & cert. ef. 8-4-94; OSHA 1-1995, f. & cert. ef. 1-19-95; OSHA 4-1995, f. & cert. ef. 3-29-95; OSHA 5-1995, f. & cert. ef. 4-6-95; OSHA 8-1995, f. & cert. ef. 8-25-95; OSHA 4-1996, f. & cert. ef. 9-13-96; OSHA 6-1996, f. & cert. ef. 11-29-96; OSHA 4-1997, f. & cert. ef. 4-2-97; OSHA 6-1997, f. & cert. ef. 5-2-97; OSHA 8-1997, f. & cert. ef. 11-14-97

437-002-0361

Oregon-Initiated Rules

- (1) The requirements in these rules which pertain only to or are triggered by the excursion limit shall become effective 60 days after the adoption of these rules, except for the excursion limit provisions in 1910.1047(a)(2), (d), (f)(2), (g)(3), and (j), which shall become effective 142 days after adoption of these rules.
- (2) Compliance with the requirements of this section which pertain only to or are triggered by the excursion limit shall be by 180 days (six months) following the adoption of these rules, except for compliance with the excursion limit provisions of 1910.1047(a)(2), (d), (f)(2), (g)(3), and (j) which shall be effective 210 days (seven months) after the adoption of these rules, and implementation of engineering controls specified for compliance with the excursion limit, which shall be nine months after the adoption of these rules.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 18-1988, f. & ef. 11-17-88

437-002-0363

Oregon Amendment

- 1910.1028(j)(1)(ii) is amended to read (wording in brackets is deleted):
- 1910.1028(j)(1)(ii) The employer shall ensure that labels or other appropriate forms of warning are provided for containers of benzene within the workplace. [There is no requirement to label pipes.] The labels shall comply with the requirements of CFR 1910.1200(f) and in addition shall include the following legend:

Danger

Contains Benzene

Cancer Hazard

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 13-1988, f. & ef. 8-2-88

437-002-0364

Oregon Rules for MOCA (4,4'-Methylene Bis (2-chloroaniline))

NOTE: The following Oregon-initiated rule, OAR 437-002-0364, contains wording formerly contained in Division 116, Carcinogens, but the wording is now applicable only to MOCA, which is not covered by federal standards for carcinogens.

(1) Application. This rule applies to any areas in which MOCA (4,4'-Methylene bis (2-chloroaniline)) (CAS# 101-14-4) is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under OAR 437-002-0364(5)(b), (c), and (d).

(2) Definitions:

(a) "Absolute Filter" is one capable of retaining 99.97 percent of a monodisperse aerosol of 0.3 μm particles;

(b) "Administrator" means the Administrator of the Oregon Occupational Safety and Health Division, or any person directed to act for the Administrator;

(c) "Authorized Employee" means an employee whose duties require them to be in the regulate area and who has been specifically assigned by the employer;

(d) "Clean Change Room" means a room where employees put on clean clothing and-or protective equipment in an environment free of MOCA. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this rule;

(e) "Closed System" means an operation involving MOCA where containment prevents the release of MOCA into regulated areas, nonregulated areas, or the external environment;

(f) "Decontamination" means the inactivation of MOCA or its safe disposal;

(g) "Disposal" means the safe removal of MOCA from the work environment;

(h) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of MOCA which may result in exposure to or contact with MOCA;

(i) "External Environment" means any environment external to regulated and nonregulated areas;

(j) "Isolated System" means a fully enclosed structure other than the vessel of containment of MOCA which is impervious to the passage of MOCA and which would prevent the entry of MOCA into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur;

(k) "Laboratory Type Hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving MOCA within the hood does not require the insertion of any portion of any employee's body other than their hands and arms;

(l) "Nonregulated Area" means any area under the control of the employer where entry and exit is neither restricted nor controlled;

(m) "Open-Vessel System" means an operation involving MOCA in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of MOCA into regulated areas, nonregulated areas, or the external environment;

(n) "Protective Clothing" means clothing designed to protect an employee against contact with or exposure to MOCA;

(o) "Regulated Area" means an area where entry and exit is restricted and controlled.

(3) Requirements for areas containing MOCA:

(a) A regulated area shall be established by an employer where MOCA is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved;

(A) Isolated systems. Employees working with MOCA within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(B) Closed system operation. Within regulated areas where MOCA is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while MOCA is contained within:

(i) Access shall be restricted to authorized employees only; and

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(C) Open vessel system operations. Open vessel system operations as defined in section (2) of this rule are prohibited;

(D) Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system. In operations involving "laboratory type hoods", or in locations where MOCA is contained in an otherwise "closed system", but is transferred, charged, or discharged into other normally closed containers, the provisions of this rule shall apply:

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean make-up air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system;

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area;

(iv) Employees engaged in MOCA handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with OAR Chapter 437, Division 2-I, Personal Protective Equipment, 1910.134, Respiratory Protection. A respirator affording higher levels of protection may be substituted;

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under subsections (5)(b), (c) and (d) of this rule;

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities;

(vii) Employees shall be required to shower after the last exit of the day;

(viii) Drinking fountains are prohibited in the regulated area.

(E) Maintenance and decontamination activities. In cleanup or leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with MOCA could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with OAR Chapter 437, Division 2-I, Personal Protective Equipment;

(ii) Be decontaminated before removing the protective garments and hood; and

(iii) Be required to shower upon removing the protective garments and hood.

(F) Premixed solutions. Where MOCA is present only in a single solution at a temperature not exceeding 220° F., the establishment of a regulated area is not required; however:

(i) Only authorized employees shall be permitted to handle such materials;

(ii) Each day employees shall be provided with and required to wear a clean change of protective clothing (smocks, coveralls, or long-sleeved shirts and pants), gloves, and other protective garments and equipment necessary to prevent contact with the solution in the process used;

(iii) Employees shall be required to remove and leave protective clothing and equipment when leaving the work area at the end of the work day, or at any time solution is spilled on such clothing or equipment. Used clothing and equipment shall be placed in impervious containers for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under subsections (5)(b), (c) and (d) of this rule;

(iv) Employees shall be required to wash hands and face after removing such clothing and equipment and before engaging in other activities;

(v) Employees assigned to work covered by paragraph (3)(a)(F) of this rule shall be deemed to be working in regulated areas for the purposes of subsection (4)(a); paragraphs (b)(A) and (B); (c)(C) and (D), and sections (5) through (7) of this rule;

(vi) Work areas where solution may be spilled shall be:

(I) Covered daily or after any spill with a clean covering; or

(II) Cleaned thoroughly daily and after any spill.

(4) General Regulated Area Requirements:

(a) Emergencies. In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (A), (B), (C), (D), and (E) of this subsection shall be implemented:

(A) The potentially affected area shall be evacuated as soon as the emergency has been determined;

(B) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations;

(C) Special medical surveillance by a physician shall be instituted within 24 hours, for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with subsection (6)(b) of this rule;

(D) Where an employee has a known contact with MOCA, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries;

(E) An incident report on the emergency shall be reported as provided in subsection (6)(b) of this rule;

(F) Emergency deluge showers and eyewash fountains supplied with running potable water shall be located near, within sight of, and on the same level with locations where a direct exposure to MOCA would be most likely as a result of equipment failure, or improper work practice.

(b) Hygiene Facilities and Practices:

(A) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas;

(B) Where employees are required by this rule to wash, washing facilities shall be provided in accordance with OAR Chapter 437, Division 2-J, 1910.141, Sanitation;

(C) Where employees are required by this rule to shower, shower facilities shall be provided in accordance with OAR Chapter 437, Division 2-J, 1910.141, Sanitation;

(D) Where employees wear protective clothing and equipment clean change rooms shall be provided in accordance with OAR Chapter 437, Division 2-J, 1910.141, Sanitation, for the number of such employees required to change clothes;

(E) Where toilets are in regulated areas, such toilets shall be in a separate room.

(c) Contamination Control:

(A) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean make-up air in equal volume shall replace air removed;

(B) Any equipment, materials, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment;

(C) Decontamination procedures shall be established and implemented to remove MOCA from the surfaces of materials, equipment, and the decontamination facility;

(D) Dry, sweeping and dry mopping is prohibited.

(5) Signs, Information and Training:

(a) Signs:

(A) Entrances to regulated areas shall be posted with signs bearing the legend:

Cancer-Suspect Agent
Authorized Personnel Only

(B) Entrances to regulated areas containing operations covered in paragraph (3)(a)(E) of this rule, shall be posted with signs bearing the legend:

Cancer-Suspect Agent Exposed in this Area
Impervious Suit Including Gloves, Boots, and Air-Supplied
Hood Required at All Times Authorized Personnel Only

(C) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(b) Container Contents Identification:

(A) Containers of a carcinogen and containers required under subparagraph (3)(a)(D)(v) of this rule and OAR 437-002-0391(5)(b), (c) and (d), which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with subsection (5)(e) of this rule may have contents identification limited to a generic or proprietary name, or other proprietary identification, of MOCA and percent;

(B) Containers of MOCA and containers required under subparagraph (3)(a)(D)(v), and OAR 437-002-0391(5)(b), (c) and (d), which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with subsection (5)(e) of this rule shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry Number as listed in OAR 437-002-0364(1);

(C) Containers shall have the warning words "Cancer-Suspect Agent" displayed immediately under or adjacent to the contents identification;

(D) Containers which have MOCA contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(c) Lettering. Lettering on signs and instructions required by subsections (5)(a) and (b) of this rule shall be a minimum letter height of two inches. Labels on containers required under this division shall not be less than 1-2 the size of the largest lettering on the package, and not less than eight-point type in any instance; provided that no such required lettering need be more than one inch in height;

(d) Prohibited Statements. No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction;

(e) Training and Indoctrination:

(A) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(i) The nature of the carcinogenic hazards of MOCA including local and systemic toxicity;

(ii) The specific nature of the operation involving MOCA which could result in exposure;

(iii) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-

examination;

(iv) The purpose for and application of decontamination practices and purposes;

(v) The purpose for and significance of emergency practices and procedures;

(vi) The employee's specific role in emergency procedures;

(vii) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of MOCA;

(viii) The purpose for and application of specific first aid procedures and practices; and

(ix) A review of OAR 437-002-0364 at the employee's first training and indoctrination program and annually thereafter.

(B) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application;

(C) All materials relating to the program shall be provided upon request to authorized representatives of the Administrator.

(6) Reports:

(a) Operations. Not later than December 1, 1974, the information required in paragraphs (A), (B), (C) and (D) of this subsection shall be reported in writing to the Administrator. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change:

(A) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(B) The name(s) and other identifying information as to the presence of a carcinogen in each regulated area;

(C) The number of employees in each regulated area, during normal operations including maintenance activities; and

(D) The manner in which a carcinogen is present in each regulated area: e.g., whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(b) Incidents. Incidents which result in the release of MOCA into any area where employees may be potentially exposed shall be reported in accordance with this rule:

(A) A report of the occurrence of the incident and the facts obtainable at that time, including a report of any medical treatment of affected employees, shall be made within 24 hours to the Administrator;

(B) A written report shall be filed with the Administrator within 15 calendar days thereafter, and shall include:

(i) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(ii) A report of any medical treatment of affected, employees, and any medical surveillance program implemented; and

(iii) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(7) Medical Surveillance. At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees:

(a) Examinations:

(A) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors;

(B) Authorized employees shall be provided periodic physical examination, not less often than annually, following the preassignment examination;

(C) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(b) Records:

(A) Employers of employees examined pursuant to this rule shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Administrator. A specification of the amount of material released, the amount of time involved and an explanation of the procedure used in determining this figure;

(B) Records required by this rule shall be provided upon request to employees, designated representatives, and the Administrator, in accordance with OAR Chapter 437, Division 2-3, Access to Employee Exposure and Medical Records;

(C) Any physician who conducts a medical examination required by this rule shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-1975, f. 10-6-75, ef. 11-1-75; WCB 4-1979, f. 5-21-79, ef. 7-15-79; WCB 8-1980, f. 11-5-80, ef. 12-1-80; OSHA 12-1993, f. 8-20-93, cert. ef. 11-1-93

437-002-0368

Deterioration

Periodic examination of all asbestos containing material should be performed to detect deterioration. Asbestos which has become damaged or deteriorated shall be repaired, enclosed, encapsulated, or removed in accordance with the provisions of 29 CFR 1926.1101 in OAR 437, Division 3, Construction.

NOTE: 1910.1030(i) Dates, was not adopted by OR-OSHA. In Oregon, the following Effective Date Rule will apply:

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 9-1989, f. & ef. 7-7-89; OSHA 12-1993, f. 8-20-93, cert. ef. 11-1-93; OSHA 4-1995, f. & cert. ef. 3-29-95

Oregon Initiated Rules

NOTE: §1910.1025(a)(1) and (2) were not adopted. In Oregon, OAR 437-002-0371 applies:

437-002-0371

Scope and Application

29 CFR 1910.1025 applies to all occupational exposures to lead, except Construction (see 1926.62 in Division 3, Construction).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 26-1990, f. & cert. ef. 11-16-90; OSHA 6-1994, f. & cert. ef. 9-30-94

NOTE: Former Division 130, Thiram, has been redesignated, renumbered, and slightly amended as Oregon-initiated Rule 437-02-373 to continue coverage not provided in federal standards.

437-002-0373

Oregon Rules for Thiram

(1) Scope and Application:

(a) This rule includes requirements for the control of worker exposure to thiram (tertramethyl thiuram disulfide);

(b) This rule applies where worker exposure to thiram may occur during manufacture, storage, packaging, tree application, treated seedling handling, or use of thiram or thiram treated seedling;

(c) This rule applies to the transportation of thiram or thiram treated trees except to the extent that the U.S. Department of Transportation may regulate the hazards covered by these rules.

(2) Definitions. The following definitions shall apply in the application of thiram rules:

(a) "Clean" -- The absence of dirt or materials which may be harmful to a worker's health;

(b) "Large Seedlings" -- Those seedlings of such size, either by length or breadth, that during normal planting operations it is difficult to avoid contact of the thiram treated plant with the mouth or face.

(3) General Requirements. The following subsections shall be applicable to thiram:

(a) Permissible Exposure Limits:

(A) No employee may be exposed to thiram at atmospheric concentrations greater than 0.15 mg-m³ over any eight-hour period; and

(B) No employee may be exposed to thiram at atmospheric concentrations greater than 0.30 mg-m³ averaged over any

period not exceeding 15 minutes;

(C) Workers shall not be allowed to work more than five days in any seven day period with or around thiram or thiram treated seedlings;

(D) Paragraph (C) of this subsection is not applicable if a specific thiram control program in addition to these rules and approved by the Administrator has been implemented.

(b) Washing and Worker Hygiene:

(A) Workers shall wash their hands prior to eating or smoking and at the close of work;

(B) Warm (at least 85° F., 29.4° C.) wash water and single use hand wiping materials shall be provided for washing;

(C) The warm water and hand wiping materials shall be at fixed work locations or at the planting unit;

(D) Where warm water is not available within 15 minutes travel time, non-alcoholic based waterless hand cleaner shall also be provided;

(E) Every planter or nursery worker shall be advised to bathe or shower daily;

(F) The inside of crummies or other worker carrying vehicles shall be washed or vacuumed and wiped down at least weekly during the period of thiram use.

(c) Personal Protective Measures:

(A) Clothing shall be worn by workers to reduce skin contact with thiram to the legs, arms, and torso;

(B) For those workers who have thiram skin irritations, exposed areas of the body shall be protected by a suitable barrier cream;

(C) Only impervious gloves may be worn by workers;

(D) Workers' hands should be clean of thiram before placing them into gloves;

(E) Nursery applicators shall be provided with and use NIOSH approved respirators according to OAR Chapter 437, Division 2-I, 1910.134, Respiratory Protection, disposable coveralls or rubber slickers or other impervious clothing, rubberized boots, head covers and rubberized gloves;

(F) Nursery workers other than applicators who may be exposed to thiram shall be provided with and use disposable coveralls or rubber slickers or other impervious clothing, impervious footwear and gloves, and head covers unless showers in accordance with OAR Chapter 437, Division 2-J, 1910.141, Sanitation, have been provided and are used;

(G) Eye protection according to OAR Chapter 437, Division 2-J, 1910.133, shall be provided and worn by workers who may be exposed to splashes of thiram such as during spraying, plug bundling, belt line grading and plugging or other operations.

(d) Respiratory Protection:

(A) Only certified respiratory protection which is applicable and approved by NIOSH shall be provided to workers;

(B) All respirators shall be used and maintained in accordance with OAR Chapter 437, Division 2-I, 1010.134, Respiratory Protection;

(C) Respirators shall be worn when planting large seedlings to avoid mouth and face contact with the thiram treated plant unless equally effective measures or planting practices have been taken.

(e) Food Handling:

(A) Food, snacks, beverages, smoking materials, or any other item which is consumed shall not be stored or consumed in the packing area of the nursery;

(B) Crummies or other worker carrying vehicles shall have a clean area for carrying lunches;

(C) The clean area of the vehicle shall be elevated from the floor and not used to carry other than food or other consumable items;

(D) The carrying of lunches, food or other consumable items in tree plating bags is prohibited;

(E) Care shall be taken to ensure that worker exposure to thiram spray, including downwind driftings, is minimized or eliminated;

(F) Workers shall stand upwind when bags that contained thiram or thiram treated seedlings are burned.

(f) Thiram Use and Handling:

(A) Nurseries shall develop a quality control program approved by the Administrator to ensure that only the minimum amount of thiram necessary to achieve the desired anti-browsing results is applied to the tree seedlings;

(B) Thiram treated seedlings shall be allowed to set between the time of spraying and packing;

(C) Seedlings shall be kept moist during packing and whenever possible during planting operations;

(D) Floors where thiram is used shall not be dry swept but instead vacuumed, washed or otherwise cleaned at least daily;

(E) Silica chips used to cover seedling plugs shall be removed at the nursery.

(g) Labeling:

(A) In the event the Oregon Department of Agriculture, or the U.S. Environmental Protection Agency (EPA), has promulgated and maintained administrative rules relative to the labeling of thiram treated seedlings, such rules shall apply;

(B) In the event the Oregon State Department of Agriculture, or EPA, has not promulgated or maintained thiram labeling rules, there shall be attached to each container, bundle, or wrapping or thiram treated seedlings, a clearly legible and visible tag or label, of waterproof material and printing, on which there is stated in English and Spanish the following:

CAUTION

These seedlings have been treated with an animal repellent containing **Thiram** (tetramethyl thiuram disulfide) which may flake off the seedlings during handling. Consumption of alcoholic beverages or use of alcohol-base creams or lotions during a time span from 12 hours before to 7 days after exposure to **Thiram** may result in nausea, headache, vomiting, fatigue, or flushness. Exposure to **Thiram** may also cause irritation of the eyes, nose, throat, or skin.

Thiram may interfere with or render ineffective medications taken by epileptics or heart patients with blood-clotting difficulties. Animal studies at very high concentrations (more than 250 mg-kg) indicate that Thiram may cause birth defects.

SAFETY PRECAUTIONS

1. Keep treated seedlings moist at all times.
2. Clothing shall be worn by workers to reduce skin contact with **Thiram** to the legs, arms and torso.
3. A fiber or cloth face mask (respirator) may be worn at the planter's discretion, except that when plating large seedlings, respirators shall be required to avoid mouth and face contact with thiram treated plants, unless equally effective measures have been taken.
4. Wash exposed skin areas thoroughly after handling treated seedlings and before smoking, drinking, eating or going to the bathroom.
5. If Thiram flakes come in contact with eyes, immediately flush eyes freely with water.
6. Bathe daily and change work clothes at least every other day.

PRECAUCION

Estas plantas han sido tratadas con un replente contra animales que tiene la substancia **Thiram** (tetramethyl thiuram disulfide) que puede desaparecer en manoseo. La consuncion de bebidas alcoholicas o el uso de cremas o lociones con base de alcohol dentro de 12 horas antes de ser expuesto o hasta 7 dias despues de ser expuesto a **Thiram** puede resultar en sintomas de nausea, dolor de cabeza, vomito, faiga o rubor. Contacto con **Thiram** puede causar irritacion de los ojos, nariz, garganta o piel.

Thiram puede interferir o desv alidar en completa las medicinas de los epilepticos o personas con condiciones de la corazon con dificultades de coagulacion de la sangre. Estudios con animals en concentraciones muy altas (mnas que 250 mg-kg) indican que **Thiram** puede causar deformaciones fetales. Sin que cuando se sembra plantas de semillas grandes macaras estaran requerido a evitar contacto con la boca y la cara con plantas tratado con Thiram excepto cuando otros metodos igualmente efecaz estarah usados.

MEDIAS DE PRECAUTION

1. Guardar mojados las platas siempre.
2. El trabajador necesita usar ropa para reducir el contacto de Thiram con law piernas, brazos, y el torso.
3. Una mascara de fibre o garra (mascara) se puede usar a la discrecion del plantador.
4. Lavese bien los parten expuestos cuando trate los semillos antes de fumar, tomar, comer e ir al bano.
5. Se acaso el Thiram cae en sus ojos, imediatamente labese los ojos libremente con agua.
6. Banese todos los dias y cambiese de ropa de trabajo por lo menos cada otro dia.

(C) Other containers or thiram handling areas shall be signed and labeled in accordance with OAR Chapter 437, Division 2-J, General Environmental Controls, 1910.144 and 1910.145.

(h) Training:

(A) Each worker engaged in operations where exposure to thiram may occur shall be provided training relating to the hazards or thiram and precautions for its safe use and handling;

(B) The training shall be approved by the Administrator;

(C) The training shall include instruction in:

(i) The nature of the health hazard(s) from chronic exposure to thiram including specifically the potential for birth defects, alcohol intolerance, and drug interaction;

(ii) The specific nature of operations which could result in exposure to thiram and the necessary protective steps;

(iii) The purpose for, proper use, and limitations of protective devices including respirators and clothing;

(iv) The acute toxicity and skin irritation effects of thiram, and the necessary protective steps;

(v) The necessity for and requirements of excellent personal hygiene;

(vi) A review of the thiram rules at the worker's first training and indoctrination, and annually thereafter.

(D) A copy of these thiram rules shall be provided to each worker who may be exposed to thiram.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 13-1977(Temp), f. & ef. 11-7-77; WCD 2-1978, f. & ef. 3-6-78; OSHA 12-1993, f. 8-20-93, cert. ef. 11-1-93

437-002-0375

Oregon Effective Dates

(1) Effective Date. The standard shall become effective on July 1, 1992.

(2) The Exposure Control Plan required by paragraph (c)(2) shall be completed by September 1, 1992.

(2) Paragraph (g)(2), Information and Training, and (h), Recordkeeping, shall become effective on October 1, 1992.

(4) Paragraphs (d)(2), Engineering and Work Practice Controls, (d)(3), Personal Protective Equipment, (d)(4), Housekeeping, (e) HIV and HBV Research Laboratories and Production Facilities, (f) Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up, and (g)(1), Labels and Signs, shall become effective on November 1, 1992.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 5-1992, f. 4-24-92, cert. ef. 7-1-92

NOTE: The following Oregon-initiated rules have been retained, renumbered as 437-002-0377, and slightly amended from former Division 155, Hazard Communication, to cover Subpoenas and HazCom for Agriculture, which are not covered by 1910.1200.

437-002-0377

Additional Oregon Rules for Hazard Communication

(1) Subpoenas, Citations, Penalties:

(a) In addition to the provisions of 1910.1200(i)(11), the Oregon Occupational Safety and Health Division shall have the authority under ORS Chapter 654 to issue a subpoena or any protective orders;

(b) Agency actions under ORS Chapter 564 and these rules may be enforced by the issuance of additional citations and penalties pursuant to ORS 654.071(4), 654.086(1)(d), or 654.086(3). The Oregon Occupational Safety and Health Division may refer the matter to the Circuit Court in the county in which the proceedings are pending for enforcement of the subpoena.

(2) Hazard Communication for Agriculture:

(a) Definitions:

(A) "Agricultural Employer" means any person engaged in agricultural production or agricultural services (Standard Industrial Classification (SIC) Manual, Division A, Agriculture, Major Groups 01, 02 and 07) who has one or more employees; or any sole proprietor or member of a partnership who elects workers' compensation coverage as a subject worker pursuant to ORS 656.128;

(B) "Hand-Labor Operations" means agricultural operations performed by hand or with hand tools, and other activities or operations performed in conjunction with hand-labor in the field. Some examples of "hand-labor operation" are the hand-cultivation, hand-weeding, hand-planting, and hand-harvesting of vegetables, nuts, fruits, seedlings or other crops, including mushrooms, and the hand-packing of produce into containers, whether done on the ground, on a moving machine, or in a temporary packing shed located in the field.

(b) Employee Training and Information:

(A) Agricultural employers shall provide all of their employees, or assure that the employees have been provided, with the brochure, "Safe Practices When Working Around Hazardous Agricultural Chemicals", developed by the Oregon Occupational Safety and Health Division. The brochure shall contain information on proper personal hygiene, protective safety equipment, general safety rules, proper work clothing, employee rights with respect to ORS Chapter 654 and common symptoms of exposure to hazardous chemicals;

(B) For employees performing hand-labor operations, provision of the brochure, information regarding the location and availability of Material Safety Data Sheets, and providing employee access to Material Safety Data Sheet information for the residual hazardous chemicals when they may reasonably be expected to contact, will be considered to meet the training and information requirements of 1910.1200.

(c) Material Safety Data Sheets. Upon request by an employee performing hand-labor operations, Material Safety Data Sheet information shall be made readily accessible for the residual hazardous chemicals which employees may reasonably be expected to contact;

(d) Employees who mix, load, apply, or otherwise handle hazardous chemicals shall be provided with all information and training required by 1910.1200.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 6-1984, f. 6-25-84, ef. 11-25-85; APD 1-1988, f. & ef. 2-8-88; OSHA 12-1993, f. 8-20-93, cert.; ef. 11-1-93

NOTE: Former Division 153, Pipe Labelling, has been redesignated, renumbered, and amended as Oregon-initiated Rule 437-002-0378, to continue

coverage not provided in federal standards.

437-002-0378

Oregon Rules for Pipe Labelling

(1) Scope and Application. This division shall apply to all piping systems containing hazardous substances or that use asbestos as a pipe insulation material in buildings, structures and workplaces. This division does not apply to buried piping.

(2) Definitions:

(a) "Hazardous Substances": Any substance which is a physical or health hazard;

(b) "Health Hazard": A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosive sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes or mucous membranes;

(c) "Physical Hazard": A chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, or oxidizer, pyrophoric, unstable (reactive) or water-reactive;

(d) "Piping System": Includes pipes, single or multiple, of any kind and, in addition, valves and pipe coverings;

(e) "Pipes": Conduits for the transport of gases, liquids, semiliquids or fine particulate dusts.

(3) Purpose. The purpose of this division is to prescribe minimum labelling requirements for all piping systems which contain hazardous substances, transport substances in a hazardous state, or which use asbestos as a pipe insulation material.

(4) Labelling:

(a) Pipes and piping systems which contain hazardous substances or transport substances in a hazardous state shall be labelled in accordance with paragraphs (A), (B), (C) and (D) of this subsection or otherwise identified in accordance with subsection (c) of this section:

(A) Positive identification of the hazardous contents of a piping system shall be by lettered labels. The label shall give the name of the contents in full or abbreviated form;

(B) Contents shall be identified by labelling with sufficient detail to identify the hazard;

(C) Label wording shall be brief, informative and simple;

(D) Labelling shall be accomplished by stencilling, the use of tape, adhesives, markers or approved alternative means.

(b) Pipes or piping systems which use asbestos as a pipe insulation material shall be labelled in accordance with subsection (c) of this section:

(A) The label for pipe insulation containing asbestos shall include the following:

Danger
Contains Asbestos Fiber
Avoid Creating Dust
Cancer and Lung Disease Hazard

(c) The employer may use signs, placards, process sheets, batch tickets, operating procedures, or other such written materials in lieu of affixing labels to individual pipes, as long as the alternative method identifies the pipe(s) to which it is applicable and conveys the information required by this rule. The written materials shall be readily accessible to the employees in their work areas during each shift. (OAR Chapter 437, Division 2-Z, Hazard Communication, 1910.1200.)

(5) Location of Labelling:

(a) Labelling shall be applied where confusion may occur, such as close to valves or flanges and adjacent to changes in direction, branches and where pipes pass through walls, floors or ceilings;

(b) Labelling shall be applied, at a minimum, at the beginning and end of continuous pipe runs;

(c) For asbestos insulation, labelling shall be at a minimum, on unobstructed continuous pipe runs, every 75 feet.

(6) Visibility:

(a) Where pipes are located above or below the normal line of vision, the lettering shall be placed below or above the horizontal centerline of the pipe;

(b) Where pipes are inaccessible and-or at a distance which precludes clear identification of the letters on labelling, alternatives to the labelling which meet all other requirements of this rule may be used (i.e., schematics posted on walls in work areas).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 8-1986, f. 9-4-86, cert. ef. 10-1-87; OSHA 12-1993, f. 6-20-93, cert. ef. 11-1-93; Renumbered from 437-153-0004 - 0025

437-002-0382

Oregon Rules for Air Contaminants

An employee's exposure to any substance listed in Oregon Tables Z-1, Z-2, or Z-3 of this section shall be limited in accordance with the requirements of the following paragraphs of this section.

(1) Oregon Table Z-1.

(a) Substances with limits preceded by "C" -- Ceiling Values. An employee's exposure to any substance in Oregon Table Z-1, the exposure limit of which is preceded by a "C", shall at no time exceed the exposure limit given for that substance. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15-minute time weighted average exposure which shall not be exceeded at any time during the working day.

(b) Other substances -- 8-hour Time Weighted Averages. An employee's exposure to any substance in Oregon Table Z-

1, the exposure limit of which is not preceded by a "C", shall not exceed the 8-hour Time Weighted Average given for that substance in any 8-hour work shift of a 40-hour work week.

(c) Other Substances - Excursion Limits. Excursions in worker exposure levels may exceed 3 times the PEL-TWA for no more than a total of 30 minutes during a workday, and under no circumstances should they exceed 5 times the PEL-TWA, provided that the PEL-TWA is not exceeded.

(d) Skin Designation. To prevent or reduce skin absorption, an employee's skin exposure to substances listed in Oregon Table Z-1 with an "X" in the Skin Designation column following the substance name shall be prevented or reduced to the extent necessary in the circumstances through the use of gloves, coveralls, goggles, or other appropriate personal protective equipment, engineering controls or work practices.

(2) Oregon Table Z-2. An employee's exposure to any substance listed in Oregon Table Z-2 shall not exceed the exposure limits specified as follows:

(a) 8-hour time weighted averages. An employee's exposure to any substance listed in Oregon Table Z-2, in any 8-hour work shift of a 40-hour work week, shall not exceed the 8-hour time weighted average limit given for that substance in Oregon Table Z-2.

(b) Acceptable ceiling concentrations. An employee's exposure to a substance listed in Oregon Table Z-2 shall not exceed the acceptable ceiling concentration for the given substance in the table at any time during an 8-hour shift except: Acceptable maximum peak above the acceptable ceiling concentration for an 8-hour shift. An employee's exposure to a substance listed in Oregon Table Z-2 shall not exceed the acceptable maximum peak above the acceptable ceiling concentration, and shall not exceed the maximum duration for the given substance during an 8-hour shift.

(c) Example: [Table not included. See ED. NOTE.] During an 8-hour work shift, an employee exposed to benzene may be exposed to an 8-hour time weighted average (TWA) of 10 ppm. Concentrations of benzene during the 8-hour work shift may not exceed 25 ppm, unless that exposure is no more than 50 ppm and does not exceed 10 minutes during an 8-hour work shift. Such exposures must be compensated by exposures to concentrations below 10 ppm so that the 8-hour time-weighted average is less than 10 ppm.

(3) Oregon Table Z-3. An employee's exposure to any substance listed in Oregon Table Z-3, in any 8-hour work shift of a 40-hour work week, shall not exceed the 8-hour time weighted average limit given for that substance in the table.

(4) Computation formulae. The computation formula which shall apply to employee exposure to more than one substance for which 8-hour time weighted averages are included in OAR 437, Division 2/Z, Toxic and Hazardous Substances, in order to determine whether an employee is exposed over the regulatory limit is as follows:

(a) [Equation not included. See ED. NOTE.]

(A) The cumulative exposure for an 8-hour work shift shall be computed as follows:

Where:

E is the equivalent exposure for the working shift.

C is the concentration during any period of time T where the concentration remain constant.

T is the duration in hours of the exposure at the concentration C.

The value of E shall not exceed the 8-hour time weighted average specified in **subpart Z of 29 CFR part 1910** for the substance involved.

(B) To illustrate the formula prescribed in paragraph (4)(a)(A) of this section, assume that Substance A has an 8-hour time weighted average limit of 100 ppm (Oregon Table Z-1). Assume that an employee is subject to the following

exposure:

Two hours exposure at 150 ppm

Two hours exposure at 75 ppm

Four hours exposure at 50 ppm

Substituting this information in the formula, we have: [Equation not included. See ED. NOTE.]

Since 81.25 ppm is less than 100 ppm, the 8-hour time weighted average limit, the exposure is acceptable.

(b) [Equation not included. See ED. NOTE.]

(A) In case of a mixture of air contaminants an employer shall compute the equivalent exposure as follows:

Where:

E_m is the equivalent exposure for the mixture.

C is the concentration of a particular contaminant.

L is the exposure limit for that substance specified in Subpart Z of 29 **CFR** Part 1910.

The value of E_m shall not exceed unity (1).

(B) To illustrate the formula prescribed in paragraph (4)(b)(A) of this section, consider the following exposures: [Table not included. See ED. NOTE.]

Substituting in the formula, we have: [Equation not included. See ED. NOTE.]

$$E_m = (500 \div 1000) + (45 \div 200) + (40 \div 200)$$

$$E_m = 0.500 + 0.225 + 0.200$$

$$E_m = 0.925$$

Since E_m is less than unity (1), the exposure combination is within acceptable limits.

(5) To achieve compliance with paragraphs (1) through (4) of this section, administrative or engineering controls must first be determined and implemented whenever feasible. When such controls are not feasible to achieve full compliance, protective equipment or any other protective measures shall be used to keep the exposure of employees to air contaminants within the limits prescribed in this section. Any equipment and/or technical measures used for this purpose must be approved for each particular use by a competent industrial hygienist or other technically qualified person. Whenever respirators are used, their use shall comply with 1910.134.

[ED. NOTE: The Tables and Equations referenced in this rule are not printed in the OAR Compilation. Copies are available from the agency.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 17-1993, f. & cert. ef. 11-15-93; OSHA 6-1994, f. & cert. ef. 9-30-94; OSHA 5-1997, f. & cert. ef. 4-22-97; OSHA 6-1997, f. & cert. ef. 5-2-97

NOTE: The following Oregon-initiated rule is adopted in place of 1910.1450(k).

437-002-0390

Oregon Effective Dates

- (1) The effective date for 29 CFR 1910.1450 in Oregon is August 8, 1990.
- (2) Start up dates in Oregon:
 - (a) Employers shall have developed and implemented a written Chemical Hygiene Plan no later than May 8, 1991;
 - (b) 29 CFR 1910.1450(a)(2) shall not take effect until the employer has developed and implemented a written Chemical Hygiene Plan.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 9-1990, f. 5-8-90, ef. 8-8-90

NOTE: The following Oregon-initiated Rule 437-02-391 (formerly 437-0116-0010(6)) has been retained and renumbered from former Division 116, Carcinogens.

437-002-0391

Additional Oregon Rules for Carcinogens in Laboratories

- (1) Definitions:
 - (a) "Absolute Filter" is one capable of retaining 99.97 percent of a monodisperse aerosol of 0.3 μ m particles;
 - (b) For the purposes of OAR 437-002-0391, "carcinogen" is defined as the substances regulated by 29 CFR 1910.1003, 1910.1004, 1910.1006, 1910.1007, 1910.1008, 1910.1009, 1910.1010, 1910.1011, 1910.1012, 1910.1013, 1910.1014, 1910.1015, 1910.1016 and OAR 437-002-0364.
- (2) Laboratory Activities. The requirements of this section shall apply to research and quality control activities involving the use of a carcinogen:
 - (a) Mechanical pipetting aids shall be used for all pipetting procedures;
 - (b) Experiments, procedures and equipment which could produce aerosols shall be confined to laboratory-type hoods or glove boxes;
 - (c) Surfaces on which a carcinogen is handled shall be protected from contamination;
 - (d) Contaminated wastes and animal carcasses shall be collected in impervious containers which are closed and decontaminated prior to removal from the work area. Such wastes and carcasses shall be incinerated in such a manner that no carcinogenic products are released;
 - (e) All other forms of a carcinogen shall be inactivated prior to disposal;

(f) Laboratory vacuum systems shall be protected with disposable absolute filters. Exhaust systems containing such filters shall be provided with suitable ports or openings to enable determination of whether the filter in its operating location, does meet the efficiency requirements defined in section (1) of this rule. Determination of filter efficiency shall be by measurement, with a forward light scattering photometer, of passage of a polydisperse dioctyl phthalate aerosol;

(g) Employees engaged in animal support activities shall be:

(A) Provided with, and required to wear, a complete protective clothing change, clean each day, including coveralls or pants and shirt, foot covers, head covers, gloves, and appropriate respiratory protective equipment or devices; and

(B) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified as required under OAR 437-002-0364(5)(b), (c) and (d);

(C) Required to wash hands, forearms, face and neck upon each exit from the regulated area close to the point of exit, and before engaging in other activities; and

(D) Required to shower after the last exit of the day.

(h) Employees, other than those engaged only in animal support activities, each day shall be:

(A) Provided with and required to wear a clean change of appropriate laboratory clothing, such as a solid front gown, surgical scrub suit, or full buttoned laboratory coat;

(B) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified as required under OAR 437-002-0364(5)(b), (c) and (d);

(C) Required to wash hands, forearms, face and neck upon each exit from the regulated area close to the point of exit, and before engaging in other activities.

(i) Air pressure in laboratory areas and animal rooms where a carcinogen is handled and bioassay studies are performed shall be negative in relation to the pressure in surrounding areas. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated;

(j) There shall be no connection between regulated areas and any other areas through the ventilation system;

(k) A current inventory of carcinogens shall be maintained;

(l) Ventilated apparatus such as laboratory type hoods, shall be tested at least semiannually or immediately after ventilation modification or maintenance operations, by personnel fully qualified to certify correct containment and operation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-1975, f. 10-6-75, ef. 11-1-75; OSHA 12-1993, f. 6-20-93, cert. ef. 11-1-93

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Oregon Administrative Rules 1998 Compilation

DEPARTMENT OF CONSUMER AND BUSINESS SERVICES, OREGON OCCUPATIONAL SAFETY AND HEALTH DIVISION

DIVISION 3

CONSTRUCTION

437-003-0001

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1926**, revised as of 7/1/96, and any subsequent amendments published in the **Federal Register** as listed below:

(1) General -- Subdivision A:

(a) **29 CFR 1926.1** Purpose and Scope, published 2/9/79, **Federal Register (FR)**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(b) **29 CFR 1926.2** Variances from safety and health standards, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(c) **29 CFR 1926.3** Inspections - right of entry, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(d) **29 CFR 1926.4** Rules of practice for administrative adjudications for enforcement of safety and health standards, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(2) General Interpretations -- Subdivision B:

(a) **29 CFR 1926.10** Scope of subpart, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(b) **29 CFR 1926.11** Coverage under section 103 of the act distinguished, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(c) **29 CFR 1926.12** Reorganization plan No. 14 of 1950, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(d) **29 CFR 1926.13** Interpretation of statutory terms, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(e) **29 CFR 1926.14** Federal contracts for 'mixed' types of performance, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(f) **29 CFR 1926.15** Relationship to the service contract act; Walsh-Healey Public Contracts Act, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(g) **29 CFR 1926.16** Rules of construction, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(3) General Safety and Health Provisions -- Subdivision C:

(a) **29 CFR 1926.20** General safety and health provisions, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(b) **29 CFR 1926.21** Safety training and education, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(c) **29 CFR 1926.22** Recording and reporting of injuries (Reserved)

(d) **29 CFR 1926.23** First aid and medical attention, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(e) **29 CFR 1926.24** Fire protection and prevention, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(f) **29 CFR 1926.25** Housekeeping, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(g) **29 CFR 1926.26** Illumination, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(h) **29 CFR 1926.27** Sanitation, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(i) **29 CFR 1926.28** Personal protective equipment, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(j) **29 CFR 1926.29** Acceptable certifications, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(k) **29 CFR 1926.30** Shipbuilding and ship repairing, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 3/7/96, **FR** vol. 61, no. 46, p. 9249.

(l) **29 CFR 1926.31** Incorporation by reference, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 3/7/96, **FR** vol. 61, no. 46, p. 9249.

(m) **29 CFR 1926.32** Definitions, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(n) **29 CFR 1926.33** Access to employee exposure and medical records, published 6/20/96, **FR** vol. 61, no. 46, p. 31427.

(4) Occupational Health and Environmental Controls -- Subdivision D:

(a) **29 CFR 1926.50** Medical services and first aid, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

- (b) **29 CFR 1926.51** Sanitation, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (c) **29 CFR 1926.52** Occupational noise exposure, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (d) **29 CFR 1926.53** Ionizing radiation, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (e) **29 CFR 1926.54** Nonionizing radiation, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (f) **29 CFR 1926.55** Gases, vapors, fumes, dusts, and mists, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 10/17/86, **FR** vol. 51, p. 37007; 12/4/87, **FR** vol. 52, p. 46312; 11/4/96, **FR** vol. 61, no. 214, p. 56856; 1/10/97, **FR** vol. 62, no. 7, p. 1619.
- (g) **29 CFR 1926.56** Illumination, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (h) **29 CFR 1926.57** Ventilation, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 6/30/93, **FR** vol. 58, no. 124, p. 35099; 3/7/96, **FR** vol. 61, no. 46, p. 9250.
- (i) **29 CFR 1926.58** Reserved, §1926.58, Asbestos, tremolite, anthophyllite and actinolite is redesignated as §1926.1101, Asbestos, and §1926.58 is reserved (8/10/94, **FR** vol. 59, no. 153, pp. 41131-62).
- (j) **29 CFR 1926.59** Hazard Communication, published 8/24/87, **FR** vol. 52, p. 31852; amended 12/4/87, **FR** vol. 52, 46075; 4/27/88, **FR** vol. 53, no. 81, pp. 15033-15035; stay lifted on 2/17/89, **FR** vol. 54, p. 6886; 2/9/94, **FR** vol. 59, no. 27, pp. 6126-6184; 4/13/94, **FR** vol. 59, no. 71, pp. 17478-17479; 12/22/94, **FR** vol. 59, no. 245, p. 65947; 6/20/96, **FR** vol. 61, p. 31427.
- (k) **29 CFR 1926.60** Methylenedianiline (MDA), published 8/10/92, **FR** vol. 57, no. 154, pp. 35681-35695; 6/20/96, **FR** vol. 61, p. 31427.
- (l) **29 CFR 1926.61** Retention of DOT markings, placards and labels, published 7/19/94, **FR** vol. 59, no. 137, pp. 36700; 6/20/96, **FR** vol. 61, p. 31427.
- (m) **29 CFR 1926.62** Lead, published 5/4/93, **FR** vol. 58, no. 84, pp. 26626-26649.

NOTE: Cadmium has been redesignated as §1926.1127.

- (n) **29 CFR 1926.65** Hazardous Waste Operations and Emergency Response.

NOTE: Division 2/H, 1910.120, Hazardous Waste Operations and Emergency Response, applies to Construction.

(5) Personal Protective and Life Saving Equipment -- Subdivision E:

- (a) **29 CFR 1926.100** Head protection, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (b) **29 CFR 1926.101** Hearing protection, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (c) **29 CFR 1926.102** Eye and face protection, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (d) **29 CFR 1926.103** Respiratory protection, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

NOTE: 29 CFR 1926.104 Removed, 8/9/94, **FR** vol. 59, no. 152, p. 40729.

(e) **29 CFR 1926.105** Reserved, 8/9/94, **FR** vol. 59, no. 152, p. 40729.

(f) **29 CFR 1926.106** Working over or near water, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(g) **29 CFR 1926.107** Definitions applicable to this subpart, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 8/9/94, **FR** vol. 59, no. 152, p. 40729.

(6) Fire Protection and Prevention -- Subdivision F:

(a) **29 CFR 1926.150** Fire protection, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(b) **29 CFR 1926.151** Fire protection, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, p. 25318.

(c) **29 CFR 1926.152** Flammable and combustible liquids, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(d) **29 CFR 1926.153** Liquefied petroleum gas (LP-Gas), published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(e) **29 CFR 1926.154** Temporary heating devices, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(f) **29 CFR 1926.155** Definitions applicable to this subpart, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(7) Fire Protection and Protection and Prevention -- Subdivision G:

(a) **29 CFR 1926.200** Accident prevention signs and tags, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 8/9/94, **FR** vol. 59, no. 152, p. 40729.

(b) **29 CFR 1926.201** Signaling, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(c) **29 CFR 1926.202** Barricades, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(d) **29 CFR 1926.203** Definitions applicable to this subpart, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(8) Materials Handling, Storage, Use and Disposal -- Subdivision H:

(a) **29 CFR 1926.250** General requirements for storage, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 8/9/94, **FR** vol. 59, no. 152, p. 40729.

(b) **29 CFR 1926.251** Rigging equipment for material handling, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(c) **29 CFR 1926.252** Disposal of waste materials, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(9) Tools - Hand and Power -- Subdivision I:

(a) **29 CFR 1926.300** General requirements, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 6/30/93, **FR** vol. 58, no. 124, p. 35076; 3/7/96, **FR** vol. 61, no. 46, p. 9250.

- (b) **29 CFR 1926.301** Hand tools, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (c) **29 CFR 1926.302** Power operated hand tools, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (d) **29 CFR 1926.303** Abrasive wheels and tools, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (e) **29 CFR 1926.304** Woodworking tools, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 3/7/96, **FR** vol. 61, no. 46, p. 9251.
- (f) **29 CFR 1926.305** (Reserved, by **FR** vol. 55, no. 202, p. 42326 on 10/18/90.)
- (10) Welding and Cutting -- Subdivision J:
 - (a) **29 CFR 1926.350** Gas welding and cutting, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
 - (b) **29 CFR 1926.351** Arc welding and cutting, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 6/11/86, **FR** vol. 51, p. 25318.
 - (c) **29 CFR 1926.352** Fire prevention, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
 - (d) **29 CFR 1926.353** Ventilation and protection in welding, cutting, and heating, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
 - (e) **29 CFR 1926.354** Welding, cutting, and heating in way of preservative coatings, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (11) Electrical -- Subdivision K: General:
 - (a) **29 CFR 1926.400** Introduction, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.
 - (b) **29 CFR 1926.401** (Reserved) Installation Safety Requirements
 - (c) **29 CFR 1926.402** Applicability, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.
 - (d) **29 CFR 1926.403** General requirements, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.
 - (e) **29 CFR 1926.404** Wiring design and protection, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.
 - (f) **29 CFR 1926.405** Wiring methods, components, and equipment for general use, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.
 - (g) **29 CFR 1926.406** Specific purpose equipment and installations, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.
 - (h) **29 CFR 1926.407** Hazardous (classified) locations, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.
 - (i) **29 CFR 1926.408** Special systems, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.

(j) **29 CFR 1926.409** (Reserved)

(k) **29 CFR 1926.415** (Reserved) Safety-Related Work Practices

(l) **29 CFR 1926.416** General requirements, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.

(m) **29 CFR 1926.417** Lockout and tagging of circuits, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335; 6/30/93, **FR** vol. 58, no. 124, p. 35181.

(n) **29 CFR 1926.418** (Reserved)

(o) **29 CFR 1926.430** (Reserved) Safety-Related Maintenance and Environmental Considerations

(p) **29 CFR 1926.431** Maintenance of equipment, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.

(q) **29 CFR 1926.432** Environmental deterioration of equipment, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.

(r) **29 CFR 1926.433-29 CFR 1926.440** (Reserved) Safety Requirements for Special Equipment

(s) **29 CFR 1926.441** Battery locations and battery charging, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.

(t) **29 CFR 1926.442-29 CFR 1926.448** (Reserved) Definitions

(u) **29 CFR 1926.449** Definitions applicable to this subpart, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, no. 133, pp. 25294-25335.

(12) Scaffolding -- Subdivision L:

(a) **29 CFR 1926.450** Scope, application and definitions applicable to this subpart, published 8/30/96, **FR** vol. 61, no. 170, p. 46104.

(b) **29 CFR 1926.451** General Requirements, published 8/30/96, **FR** vol. 61, no. 170, p. 46107; 11/25/96, **FR** vol. 61, no. 228, p. 59831.

(c) **29 CFR 1926.452** Additional requirements applicable to specific types of scaffolds, published 8/30/96, **FR** vol. 61, no. 170, p. 46113.

(d) **29 CFR 1926.453** Aerial lifts, published 8/30/96, **FR** vol. 61, no. 170, p. 46116; 11/25/96, **FR** vol. 61, no. 228, p. 59832.

(e) **29 CFR 1926.454** Training, published 8/30/96, **FR** vol. 61, no. 170, p. 46117.

(f) Appendix A to Subpart L - Scaffold Specifications, published 8/30/96, **FR** vol. 61, no. 170, p. 46117.

(g) Appendix B to Subpart L - Criteria for determining the feasibility of providing safe access and fall protection for scaffold erectors and dismantlers (Reserved), published 8/30/96, **FR** vol. 61, no. 170, p. 46122.

(h) Appendix C to Subpart L - List of National Consensus Standards, published 8/30/96, **FR** vol. 61, no. 170, p. 46122.

(i) Appendix D to Subpart L - List of training topics for scaffold erectors and dismantlers, published 8/30/96, **FR** vol. 61, no. 170, p. 46122.

(j) Appendix E to Subpart L - Drawings and Illustrations, published 8/30/96, **FR** vol. 61, no. 170, p. 46122; 11/25/96, **FR** vol. 61, no. 228, p. 59832.

(13) Fall Protection -- Subdivision M:

(a) **29 CFR 1926.500** Scope, application, and definitions applicable to this subpart. Amended 8/9/94, **FR** vol. 59, no. 152, p. 40730-40731.

(b) **29 CFR 1926.501** Duty to have fall protection. Amended 8/9/94, **FR** vol. 59, no. 152, p. 40732-40733.

(c) **29 CFR 1926.502** Fall protection systems criteria and practices. Amended 8/9/94, **FR** vol. 59, no. 152, p. 40733-40738.

(d) **29 CFR 1926.503** Training requirements. Amended 8/9/94, **FR** vol. 59, no. 152, p. 40738.

(e) Appendix A to Subpart M - Determining Roof Widths, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; amended 8/9/94, **FR** vol. 59, no. 152, p. 40738-40742.

(f) Appendix B to Subpart M - Guardrail Systems, published 8/9/94, **FR** vol. 59, no. 152, p. 40743.

(g) Appendix C to Subpart M - Personal Fall Arrest Systems, published 8/9/94, **FR** vol. 59, no. 152, p. 40743-40746.

(h) Appendix D to Subpart M - Positioning Device Systems, published 8/9/94, **FR** vol. 59, no. 152, p. 40746.

(14) Cranes, Derricks, Hoists, Elevators, and Conveyors -- Subdivision N:

(a) **29 CFR 1926.550** Cranes and derricks, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 4/6/82, **FR** vol. 47, p. 14706; 8/2/88, **FR** vol. 53, p. 29139; 4/18/89, **FR** vol. 54, no. 73, p. 15405; 8/9/94, **FR** vol. 59, no. 152, p. 40730.

(b) **29 CFR 1926.551** Helicopters, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(c) **29 CFR 1926.552** Material hoists, personnel hoists, and elevators, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(d) **29 CFR 1926.553** Base-mounted drum hoist, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(e) **29 CFR 1926.554** Overhead hoists, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(f) **29 CFR 1926.555** Conveyors, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(g) **29 CFR 1926.556** Aerial lifts, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(15) Motor Vehicles, Mechanized Equipment, and Marine Operations -- Subdivision O:

(a) **29 CFR 1926.600** Equipment, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(b) **29 CFR 1926.601** Motor vehicles, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(c) **29 CFR 1926.602** Material handling equipment, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(d) **29 CFR 1926.603** Pile driving equipment, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(e) **29 CFR 1926.604** Site clearing, published 6/24/74, **FR** vol. 39, p. 22801; amended 7/22/77, **FR** vol. 42, p. 37674.

(f) **29 CFR 1926.605** Marine operations and equipment, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(g) **29 CFR 1926.606** Definitions applicable to this subpart, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(16) Excavations -- Subdivision P:

(a) **29 CFR 1926.650** Scope, application, and definitions applicable to this subdivision, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 10/31/89, **FR** vol. 54, no. 209, pp. 45959-45961.

(b) **29 CFR 1926.651** General Requirements, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 10/31/89, **FR** vol. 54, no. 209, pp. 45960-45961; 8/9/94, **FR** vol. 59, no. 152, p. 40730.

(c) **29 CFR 1926.652** Requirements for protective systems, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 10/31/89, **FR** vol. 54, no. 209, pp. 45961-45962.

(d) Appendices A-F to Subdivision P, Excavations, published 10/31/89, **FR** vol. 54, no. 209, pp. 45962-45991.

(17) Concrete and Masonry Construction -- Subdivision Q:

(a) **29 CFR 1926.700** Scope, application and definitions applicable to this subpart, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 6/16/88, **FR** vol. 53, p. 22612; 10/18/90, **FR** vol. 55, no. 202, p. 42326.

(b) **29 CFR 1926.701** General requirements, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 6/16/88, **FR** vol. 53, p. 22612; 8/9/94, **FR** vol. 59, no. 152, p. 40730.

(c) **29 CFR 1926.702** Requirements for equipment and tools, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 6/16/88, **FR** vol. 53, p. 22612.

(d) **29 CFR 1926.703** Requirements for cast-in-place concrete, published 6/16/88, **FR** vol. 53, p. 22612.

(e) **29 CFR 1926.704** Requirements for precast concrete, published 6/16/88, **FR** vol. 53, p. 22612; amended 10/5/89, **FR** vol. 54, no. 192, p. 41088.

(f) **29 CFR 1926.705** Requirements for lift-slab construction operations, published 6/16/88, **FR** vol. 53, p. 22612; amended 10/18/90, **FR** vol. 55, no. 202, p. 42326.

(g) Appendix A to 1926.705 - Lift-slab operations, published 10/18/90, **FR** vol. 55, no. 202, p. 42326.

(h) **29 CFR 1926.706** Requirements for masonry construction, published 6/16/88, **FR** vol. 53, p. 22612.

(18) Steel Erection -- Subdivision R:

(a) **29 CFR 1926.750** Flooring requirements, published 6/24/74, **Federal Register**, vol. 39, p. 22801; amended 7/2/74, **FR** vol. 39, p. 24361.

(b) **29 CFR 1926.751** Structural steel assembly, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(c) **29 CFR 1926.752** Bolting, riveting, fitting-up and plumbing-up, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(d) **29 CFR 1926.753** Safety Nets, published 8/9/94, **FR** vol. 59, no. 152, p. 40729.

(19) Underground Construction, Caissons, Cofferdams, and Compressed Air -- Subdivision S:

(a) **29 CFR 1926.800** Tunnels and shafts, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940. Underground Construction, published 6/2/89, **FR** vol. 54, no. 105, p. 23824.

(b) **29 CFR 1926.801** Caissons, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(c) **29 CFR 1926.802** Cofferdams, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(d) **29 CFR 1926.803** Compressed air, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 7/11/86, **FR** vol. 51, p. 25318.

(e) **29 CFR 1926.804** Definitions applicable to this subpart, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(f) Appendix A to Subpart S - Decompression Tables, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(20) Demolition -- Subdivision T:

(a) **29 CFR 1926.850** Preparatory operations, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(b) **29 CFR 1926.851** Stairs, passageways, and ladders, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(c) **29 CFR 1926.852** Chutes, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(d) **29 CFR 1926.853** Removal of materials through floor openings, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(e) **29 CFR 1926.854** Removal of walls, masonry sections, and chimneys, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(f) **29 CFR 1926.855** Manual removal of floors, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(g) **29 CFR 1926.856** Removal of walls, floors, and materials with equipment, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(h) **29 CFR 1926.857** Storage, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(i) **29 CFR 1926.858** Removal of steel construction, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(j) **29 CFR 1926.859** Mechanical demolition, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(k) **29 CFR 1926.860** Selective demolition by explosives, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(21) Blasting and Use of Explosives -- Subdivision U:

(a) **29 CFR 1926.900** General provisions, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR**

vol. 44, p. 20940.

(b) **29 CFR 1926.901** Blaster qualifications, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(c) **29 CFR 1926.902** Surface transportation of explosives, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(d) **29 CFR 1926.903** Underground transportation of explosives, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(e) **29 CFR 1926.904** Storage of explosives and blasting agents, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(f) **29 CFR 1926.905** Loading of explosives or blasting agents, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(g) **29 CFR 1926.906** Initiation of explosive charges - electric blasting, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(h) **29 CFR 1926.907** Use of safety fuse, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(i) **29 CFR 1926.908** Use of detonating cord, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(j) **29 CFR 1926.909** Firing the blast, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(k) **29 CFR 1926.910** Inspection after blasting, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(l) **29 CFR 1926.911** Misfires, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(m) **29 CFR 1926.912** Underwater blasting, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(n) **29 CFR 1926.913** Blasting in excavation work under compressed air, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(o) **29 CFR 1926.914** Definitions applicable to this subpart, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(22) Power Transmission and Distribution -- Subdivision V:

(a) **29 CFR 1926.950** General requirements, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(b) **29 CFR 1926.951** Tools and protective equipment, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 8/9/94, **FR** vol. 59, no. 152, p. 40730.

(c) **29 CFR 1926.952** Mechanical equipment, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(d) **29 CFR 1926.953** Material handling, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(e) **29 CFR 1926.954** Grounding for protection of employees, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

- (f) **29 CFR 1926.955** Overhead lines, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (g) **29 CFR 1926.956** Underground lines, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (h) **29 CFR 1926.957** Construction in energized substations, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (i) **29 CFR 1926.958** External load helicopters, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (j) **29 CFR 1926.959** Lineman's body belts, safety straps, and lanyards, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (k) **29 CFR 1926.960** Definitions applicable to this subpart, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.

(23) Rollover Protective Structures: Overhead Protection -- Subdivision W:

- (a) **29 CFR 1926.1000** Rollover protective structures (ROPS) for material handling equipment, published 2/9/79, **Federal Register**, vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (b) **29 CFR 1926.1001** Minimum performance criteria for rollover protective structure for designated scrapers, loaders, dozers, graders, and crawler tractors, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940.
- (c) **29 CFR 1926.1002** Protective frame (ROPS) test procedures and performance requirements for wheel-type agricultural and industrial tractors used in construction, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 3/7/96, **FR** vol. 61, no. 46, p. 9251.
- (d) **29 CFR 1926.1003** Overhead protection for operators of agricultural and industrial tractors, published 2/9/79, **FR** vol. 44, p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 3/7/96, **FR** vol. 61, no. 46, p. 9251.

(24) Stairways and Ladders -- Subdivision X:

- (a) **29 CFR 1926.1050** Scope, application and definitions applicable to this Subdivision, published 11/14/90, **Federal Register**, vol. 55, no. 220, p. 47687; amended 1/23/91, **FR** vol. 56, no. 15, p. 2585.
- (b) **29 CFR 1926.1051** General requirements, published 11/14/90, **FR** vol. 55, no. 220, p. 47688.
- (c) **29 CFR 1926.1052** Stairways, published 11/14/90, **FR** vol. 55, no. 220, p. 47688; amended 1/23/91, **FR** vol. 56, no. 15, p. 2585; 2/7/91, **FR** vol. 56, no. 26, p. 5061; 8/23/91, **FR** vol. 56, no. 164, pp. 41793-41794.
- (d) **29 CFR 1926.1053** Ladders, published 11/14/90, **FR** vol. 55, no. 220, p. 47689; amended 1/23/91, **FR** vol. 56, no. 15, p. 2585; 8/23/91, **FR** vol. 56, no. 164, pp. 41793-41794.
- (e) **29 CFR 1926.1054** (Reserved)
- (f) **29 CFR 1926.1055** (Reserved)
- (g) **29 CFR 1926.1056** (Reserved)
- (h) **29 CFR 1926.1057** (Reserved)
- (i) **29 CFR 1926.1058** (Reserved)
- (j) **29 CFR 1926.1059** (Reserved)

(k) **29 CFR 1926.1060** Training Requirements, published 11/14/90, **FR** vol. 55, no. 220, p. 47691.

(25) Toxic and Hazardous Substances -- Subdivision Z:

(a) **29 CFR 1926.1101** Asbestos, published 2/9/79, **FR** p. 8577; amended 4/6/79, **FR** vol. 44, p. 20940; 6/20/86, **FR** vol. 51, p. 22612; 10/17/86 **FR** vol. 52, p. 17756; 7/20/88, **FR** vol. 53, no. 138, p. 27346; 9/14/88, **FR** vol. 53, p. 35627; 9/23/88, **FR** vol. 53, no. 185, p. 37080; 7/21/89, **FR** vol. 54, no. 139, p. 30705, 12/20/89, **FR** vol. 54, no. 243, pp. 52027-52028; 2/5/90, **FR** vol. 55, no. 24, p. 3792; 12/10/90, **FR** vol. 55, no. 237, pp. 50685-50687; 9/4/91, **FR** vol. 56, no. 171, pp. 43699-43700; 3/5/92, **FR** vol. 57, no. 44, p. 7878; 6/8/92, **FR** vol. 57, no. 110, pp. 24330-1; 6/30/92, **FR** vol. 57, no. 126, p. 29119; 8/10/94, **FR** vol. 59, no. 153, pp. 41131-62; 6/29/95, **FR** vol. 60, no. 125, pp. 33983-34002; 7/13/95, **FR** vol. 60, p. 36043; 9/29/95, **FR** vol. 60, p. 50411; 8/23/96, **FR** vol. 61, no. 165, p. 43454.

(b) **29 CFR 1926.1127** Cadmium, published 9/14/92, **FR** vol. 57, no. 178, pp. 542453-42463; amended 4/23/93, **FR** vol. 58, no. 77, p. 21778; 1/3/94, **FR** vol. 59, no. 1, p. 215; 6/20/96, **FR** vol. 61, p. 31427.

(c) **29 CFR 1926.1152** Methylene Chloride, published 1/10/97, **Federal Register**, vol. 62, no. 7, p. 1619.

[NOTE: These standards are available at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89; APD 14-1989(Temp), f. 7-20-89, ef. 8-1-89; APD 15-1989, f. & ef. 9-13-89; OSHA 3-1990(Temp), f. & cert. ef. 1-19-90; OSHA 7-1990, f. & cert. ef. 3-2-90; OSHA 8-1990, f. & cert. ef. 3-30-90; OSHA 13-1990(Temp), f. 6-28-90, ef. 8-1-90; OSHA 19-1990, f. & cert. ef. 8-31-90; OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91; OSHA 6-1991, f. 3-18-91, cert. ef. 4-15-91; OSHA 7-1991, f. & cert. ef. 4-25-91; OSHA 15-1991, f. & cert. ef. 12-13-91; OSHA 16-1991, f. 12-16-91, cert. ef. 1-1-92; OSHA 6-1992, f. & cert. ef. 5-18-92; OSHA 11-1992, f. & cert. ef. 10-9-92; OSHA 1-1993, f. & cert. ef. 1-22-93; OSHA 16-1993, f. & cert. ef. 11-1-93; OSHA 4-1994, f. & cert. ef. 8-4-94; OSHA 1-1995, f. & cert. ef. 1-19-95; OSHA 3-1995, f. & cert. ef. 2-22-95; OSHA 4-1995, f. & cert. ef. 3-29-95; OSHA 5-1995, f. & cert. ef. 4-6-95; OSHA 6-1995, f. & cert. ef. 4-18-95; OSHA 8-1995, f. & cert. ef. 8-25-95; OSHA 5-1996, f. & cert. ef. 11-29-96; OSHA 6-1996, f. & cert. ef. 11-29-96; OSHA 2-1997, f. & cert. ef. 3-12-97; OSHA 4-1997, f. & cert. ef. 4-2-97; OSHA 6-1997, f. & cert. ef. 5-2-97; OSHA 7-1997, f. & cert. ef. 9-15-97

437-003-0003

Purpose

The purpose of these rules is to prescribe minimum safety requirements for employees engaged in construction work, including demolition, blasting and use of explosives, and power transmission distribution and maintenance work.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0005

Additional Applicability

If a specific type of equipment, process or practice is *not* limited to the construction industry, the provisions contained in other Divisions of OAR Chapter 437, Oregon Occupational Safety and Health Code, shall apply.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0006

General Oregon Definitions

For the purposes of administration of the Oregon Safe Employment Act, the following terms mean:

- (1) "Act" means the Oregon Safe Employment Act, ORS Chapter 654.
- (2) "Agency" means the Accident Prevention Division, Department of Insurance and Finance.
- (3) "Assistant Secretary" means the Administrator of the Accident Prevention Division or designated representative.
- (4) "Assistant Secretary of Labor for Occupational Safety and Health" means the Administrator of the Accident Prevention Division or designated representative.
- (5) "Office of the Solicitor of Labor" means Legal Counsel for the Accident Prevention Division.
- (6) "Occupational Safety and Health Administration" or "OSHA" means the Accident Prevention Division, Department of Insurance and Finance.
- (7) "Standards" mean any occupational safety and health standard which has been adopted and promulgated by a nationally-recognized standards-producing organization, the federal government, or the State of Oregon and shall have the same meaning as, and include, the terms "code(s)" and "rule(s)".
- (8) "Administrative Rules" means OAR Chapter 437, Division 001, Rules for the Administration of the Oregon Safe Employment Act, and Oregon Revised Statutes (ORS) Chapter 183.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 8-1989, f. & ef. 7-7-89

437-003-0007

Additional Rules of Practice for Administrative Adjudications

In addition to and not in lieu of administrative and legal actions outlined in **29 CFR 1926.4**, the State of Oregon will use the provisions of ORS Chapter 183 and 654, and OAR Chapter 437, Division 1, to administer this code.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0011

Additional Definitions

The following definitions are in addition to those found in **29 CFR 1926.32**:

- (1) "Department" The Department of Insurance and Finance.
- (2) "Employee" Any individual, including a minor whether lawfully or unlawfully employed, who engages to furnish his services for a remuneration, financial or otherwise, subject to the direction and control of an employer, and includes salaried, elected and appointed officials of the state, state agencies, counties, cities, school districts and other public corporations, or any individual who is provided with workers' compensation coverage as a subject worker pursuant to ORS Chapter 656, whether by operation of law or by election.
- (3) "Employer" Any person who has one or more employees, or any sole proprietor or member of a partnership who elects workers' compensation coverage as a subject worker pursuant to ORS 656.128.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Sanitation

437-003-0015

Drinking Water

In addition to and no in lieu of any provisions in 1926.51(a), drinking water containers shall be constructed of materials that maintain water quality, shall be refilled daily or more often as necessary, shall be kept covered, and shall be regularly cleaned.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0020

Toilets

In addition to and not in lieu of any provisions in 26 **CFR** 1926.51(c):

- (1) At the site of every project with an estimated cost of \$500,000 or more, the employer or owner of such place of employment shall provide flush toilet facilities in accordance with Subsection (2) of **29 CFR 1926.51(c)** and washing facilities which include wash basins, warm water and soap.

NOTE: Section (1) of this rule does not apply to highway construction or maintenance projects or to electricity, water, sewer or gas transmission facility construction or maintenance projects. The director may, by order, exempt or partially exempt, individual or classes of construction projects from the requirements of section (1) of this rule when conditions are such that compliance is impractical or impossible.

(2) Where toilet facilities will not be used by women, urinals may be provided instead of toilets, except that the number of toilets in such cases shall not be reduced to less than 2-3 of the minimum specified.

(3) Toilets and toilet area shall be maintained in good repair and in a clean and sanitary condition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89; OSHA 1-1994, f. & cert. ef. 4-27-96

Occupational Noise Exposure

Note: §1926.52 was not adopted by the Department. In Oregon, 437-03-027 applies:

437-003-0027

Applicable Rules

Whenever any employee is exposed to noise in the workplace, the requirements of OAR Chapter 437, Division 2/G, 1910.95, Occupational Noise Exposure shall apply.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 8-1989, f. & ef. 7-7-89; OSHA 6-1994, f. & cert. ef. 9-30-94

Asbestos, Tremolite, Anthophyllite and Actinolite

Hazard Communication

NOTE: §1926.55 was not adopted by the Department. In Oregon, OAR 437-002-0382 applies.

437-003-0035

Additional Rules

In addition to and not in lieu of administrative and legal actions outlined in **29 CFR 1926.59(i)(11)**, the State of Oregon may take the following actions:

(1) Issue subpoenas or any protective orders;

(2) Issue additional citations and penalties pursuant to ORS 654.071(4), 654.086(1)(d), (3) or OAR Chapter 437, Division 1; or

(3) Refer the matter to the circuit court in the county in which the proceedings are pending for enforcement of the subpoena.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Respiratory Protection

NOTE: §1926.103(a)(2) was not adopted by the Department. In Oregon, OAR 437-003-0037 applies.

437-003-0037

Acceptable Equipment

Respiratory protective devices shall be approved by the National Institute for the Occupational Safety and Health (NIOSH), or acceptable to the Department of Insurance and Finance, for the specific contaminants to which the employee is exposed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 8-1989, f. & ef. 7-7-89

Personal Protective Equipment

NOTES:

-1- §1926.451(u)(3) was not adopted by the Department. In Oregon, OAR 437-003-0040, applies. See §1926.104 for Oregon-Initiated Rule OAR 437-003-0040, Fall Protection.

-2- Oregon Exception 1: On sloped roofs with a roof slope between 3:12 to and including 6:12, and having a ground-to-eave height not to exceed twenty-five (25) feet, 2 x 6 roofing brackets, with full bearing on a solid surface, may be used for fall protection when performing roofing and sheathing work on residential type structures.

-3- Oregon Exception 2: On residential type structures with a roof slope greater than 6:12 to and including 8:12, and having a ground-to-eave height not to exceed twenty-five (25) feet, roofing brackets may be used when brackets are used in multiples and spaced every eight (8) feet vertically. All brackets shall bear on a solid surface.

-4- Oregon Exception 3: When performing residential type construction work such as leading edge work, top plate work, constructing and setting walls and trusses or doing roofing and sheathing work, the fall distance to a lower level may be increased from 6 feet to 10 feet.

437-003-0040

Fall Protection

(1) All employees, not covered by §1926.500 through §1926.503, shall be protected from fall hazards when working on unguarded surfaces more than 10 feet above a lower level or at any height above dangerous equipment, except when connecting steel beams as stipulated in OAR 437-003-0040(2).

(2)(a) Employees connecting steel beams of a skeleton steel building or structure, where the fall distance is greater than 25 feet, shall be tied off by a safety belt and lifeline to the columns, by a pendant line secured at the top of the columns, by a catenary line, or other secure anchoring methods;

(b) When feasible, employees connecting steel beams shall "straddle walk" the bottom flange of steel beams when it is necessary to release choker lines, land intermediate members or perform other work on the beams.

(3) If the procedures in subsection (2)(a) of this rule are impractical, then safety nets shall be used. Nets shall be installed at a distance of no greater than 25 feet below the working surface.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89; APD 16-1989(Temp), f. & ef. 9-13-89; OSHA 2-1989, f. & ef. 10-17-89; OSHA 6-1995, f. & cert. ef. 4-18-95

437-003-0045

Additional Definitions

The following definitions are in addition to those found in **29 CFR 1926.107**:

(1) "Connector(s)" A worker who is engaged in the initial fastening of suspended steel members by the use of pins, bolts or other connecting devices; When steel erection work has progressed to the point where steel members are no longer required to be suspended by a crane and the task is welding, riveting or bolting of steel members, the task shall no longer be considered connecting.

(2) "Dangerous Equipment" Equipment such as pickling or galvanizing tanks, degreasing units, machinery, electrical equipment, and other units which, as a result of form or function, may be hazardous to employees who fall onto or into such equipment.

(3) "Lower Levels" Those areas to which an employee can fall. Such areas include ground levels, floors, ramps, runways, excavations, pits, tanks, material, water, equipment, and similar surfaces.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Electrical -- Safety-Related Work Practices

437-003-0047

Proximity to Overhead High Voltage Lines and Equipment

(1) General. No employer shall require or permit any employee to enter or to perform any function in proximity to high-voltage lines, unless danger from accidental contact with said high-voltage lines has been effectively guarded against.

(2) Clearance or Safeguards Required:

(a) The operation, erection, or transportation of any tools, equipment, or any part thereof capable of movement; the handling, transportation, or storage of any materials; or the moving of any building, near high-voltage lines, is prohibited, if at any time it is possible to bring such object within ten feet of high-voltage lines;

(b) Except where electrical distribution and transmission lines have been de-energized and visibly grounded at point of work or where insulating barriers, not a part of or an attachment to the equipment or machinery, have been erected to prevent physical contact with the lines, equipment or machines shall be operated near power lines only in accordance with the following:

(A) For lines rated 50 kV, or below, minimum clearance between the lines and any part of the object shall be ten feet;

(B) For lines rated over 50 kV, minimum clearance between the lines and any part of the object shall be ten feet plus 0.4 inch for each one kV, over 50 kV, or twice the length of the line insulator but never less than ten feet;

(C) For equipment in transit, on smooth surfaces, the clearance shall be a minimum of four feet for voltages less than 50 kV, ten feet for voltages over 50 kV, up to and including 345 kV, and 16 feet for voltages up to and including 750 kV;

(D) A person shall be designated to observe clearance and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means.

(c) Insulating links, or proximity warning devices may be used on equipment, but the use of such devices shall not alter the requirements of any other regulation of this part;

(d) The ten-foot requirement shall not be reduced by movement due to any strains impressed upon the structures supporting the high-voltage line and upon any equipment, fixtures, or attachments thereon.

(3) Warning Signs Required. The employer shall post and maintain in plain view of the operator on each crane, derrick, power shovel, drilling rig, hay loader, hay stacker, pile driver or similar apparatus, any part of which is capable of vertical, lateral, or swinging motion, a durable warning sign legible at 12 feet reading **"Unlawful to operate this equipment within 10 feet of high-voltage lines"**.

(4) Notification to Power Company and Responsibility for Safeguards:

(a) When any operations are to be performed, tools or materials handled, equipment is to be moved or operated within ten feet of any high-voltage line, the person or persons responsible for the work to be done shall promptly notify the operator of the high-voltage line of the work to be performed, and shall be responsible for the completion of the safety measures as required before proceeding with any work which would impair the aforesaid clearance;

(b) This section when applied to railway systems, shall be construed as permitting operation of standard rail equipment, which is normally used in the transportation of freight and-or passengers, and the operation of relief trains, or other equipment in emergencies, at a distance of less than ten feet from any high-voltage conductor; but shall be construed as prohibiting normal repair or construction operations at a distance of less than ten feet from any high-voltage conductor by other than properly qualified and authorized persons or employees under the direct supervision of any authorized person who is familiar with the hazards involved, until the safety provision of the foregoing sections have been

complied with.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Ladders

437-003-0065

Extension Ladders

Extension ladders shall be equipped with necessary guide irons, locks, and hooks and shall be assembled so that the sliding (upper) section shall be on top of the base (lower) section.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Scaffolds

437-003-0071

Manually Propelled Elevating Aerial Platforms

When using manually propelled elevating aerial platforms as covered by **ANSI/SIA** A92.3-1990, the manufacturer's operating manual must be with the equipment. You must follow all operating and maintenance instructions and recommendations of the manufacturer.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 2-1997, f. & cert. ef. 3-12-97

437-003-0073

Boom Supported Elevating Work Platforms

(1) When using boom supported elevating work platforms as covered by **ANSI/SIA** A92.5-1992, the manufacturer's operating manual must be with the equipment. You must follow all operating and maintenance instructions and recommendations of the manufacturer.

(2) Workers must use personal fall protection that complies with Subdivision M of this division, when working in these

devices.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 2-1997, f. & cert. ef. 3-12-97

437-003-0074

Scissor Lifts - Self-Propelled Elevating Work Platforms

When using self-propelled elevating aerial platforms, scissor lifts, as covered by **ANSI/SIA** A92.6-1990, the manufacturer's operating manual must be with the equipment. You must follow all operating and maintenance instructions and recommendations of the manufacturer.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 2-1997, f. & cert. ef. 3-12-97

Cranes and Derricks

437-003-0080

Wind Velocity Device

- (1) The employer shall provide a wind velocity device which will give a visible or audible alarm to the crane operator at a predetermined wind velocity; and
- (2) The employer shall ensure that:
 - (a) The wind velocity device is compatible with the manufacturer's crane specifications; and
 - (b) The crane operators are fully instructed regarding the maximum permissible wind speeds during operation; and
 - (c) The load chart contains the wind velocity operating limits.

Stat. Auth.: ORS 643.014(1) & 646.716(2)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 16-1991, f. 12-18-91, cert. ef. 1-1-92; OSHA 6-1994, f. & cert. ef. 9-30-94

Cranes, Derricks, Hoists, Elevators, and Conveyors

437-003-0081

Crane Operator Training Requirements

- (1) The employer shall establish written procedures for the safe operation of all cranes used in construction.
- (2) The employer shall see that employees who operate cranes are properly trained, have sufficient practical experience, and follow operating procedures for the safe operation of the crane.
- (3) The level of training and experience received by the employee as meeting section (2) of this rule shall be recorded in writing.
- (4) The employer shall maintain all written records of the crane operator's training and experience as set forth in this rule, and shall make such records available for review by the Oregon Occupational Safety and Health Division (OR-OSHA) upon request.
- (5) In addition to the basic training and experience required by section (2) of this rule, all employees engaged in construction work who operate cranes of five ton capacity or greater shall have additional training and experience as set forth in **Appendices OR-A through OR-F**, and shall possess a valid crane operator's card issued by a training provider or employer:

(a) Section (5) of this rule does not apply to hoists, wrecker, line trucks, cranes used by railroads on railroad right-of-ways, or to cranes while used for handling logs;

NOTE: The term "line truck" means a truck used to transport workers, tools, and material, and is sometimes equipped with a boom and auxiliary equipment for setting poles, digging holes, and elevating material or personnel.

- (b) An employee with prior training and experience having a minimum of 1,500 hours of prior crane experience on a specific type or type(s) of crane shall be deemed to have met the requirements of section (5) of this rule if that person has written records of such training and experience;
- (c) Upon receipt and verification of such written records of experience, the employer may issue a crane operator's card to the employee;
- (d) After January 1, 1992, all operators of cranes of five tons or greater capacity that are used in construction shall comply with section (5) of this rule by successfully completing a training course which meets the provisions of section (2) of this rule and Appendices 1 through 5;
- (e) A crane operator's card, as required by section (5) of this rule, need not be in any particular form, but at a minimum shall specify the type or types and sizes of cranes the operator is trained to operate, a picture of the operator, the original issue date, expiration date, name, social security number and signature of the operator, and the name and signature of the training provider or employer;
- (f) All cards issued after January 1, 1992, shall be laminated in clear plastic to prevent tampering. All cards issued prior to January 1, 1992, shall be laminated in plastic and shall have the operator's pictures on the card by April 1, 1992;
- (g) The crane operator's card required by section (4) of this rule shall be renewed and signed every three years by a training institution or employer upon:
 - (A) Verification that the employee has read the current OR-OSHA rules on cranes contained in this rule; and
 - (B) Completion of crane operator refresher training consisting of four hours at a minimum.
- (6) Persons who are in training either through a recognized apprenticeship program, or any other properly supervised program may operate a crane under visual supervision of a crane operator who possesses a current operator's card for that type of crane

(7) Any person from another state wishing to operate a crane of five ton capacity or greater for the purpose of construction work may be issued an operator's card by the employer or training provider upon:

(a) Verification of a minimum of 1,500 hours experience on a specific type or types of cranes being operated and is being trained in Oregon for the purpose of operating this type of crane. This temporary operator's card shall be valid for 30 days from the date of issue; or

(b) Presenting a valid crane operator's card issued in a state which has crane operator's safety training standards equal to or greater than those listed in **Appendices OR-A through OR-F**.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 16-1991, f. 12-16-91, cert. ef. 1-1-92; OSHA 6-1994, f. & cert. ef. 9-30-94

APPENDIX OR-A

Classroom Training: Minimum Training Required for Operating Cranes of 5 Ton Capacity or Greater, Basic and Specialty Basic Core Training Curriculum

Unit of Study Instruction

SAFETY - Overview of causes of crane accidents and training in managing the work environment safely.

OR-OSHA CRANE RULES - Familiarity with OR-OSHA'S Division 3, Construction, Subdivision N, Cranes, Derricks, Hoists, Elevators, and Conveyors.

CRANES AND COMPONENTS - Types of cranes, names of crane components, selection of cranes for job.

DEFINITIONS OF TERMS - Center of gravity, radius, gross and net load, static load and dynamic load(s), effective weights, ultimate strength and rated strength, safety factors, stowed and stored, tipping axis, jib angle to ground.

TECHNICAL DATA - Leverage: when using the crane in general, the hook, block and the boom hoist. Changes in leverage, rate of tipping, forward stability, backward stability, crane failures, gantries, live and high masts, counterweights, effect of boom angle, effects of jib angle, jib as a boom extension, effect of load on booms, production lifts, rope safety factors.

QUADRANTS OF OPERATION DEFINITIONS - Over the rear, over the side, 360 degree rotation.

WEIGHT OF THE LIFT - Sources of weight data, calculating weights, principles examples, lifting in water, tests lifts, check lifts.

CONDITIONS & CAPACITIES - Summary of conditions affecting crane capacities: off-level, wind, eccentric reeving, swingout, sidelading, impact loading, outrigger position, ground conditions, counterweights, gantries and high masts, equipment condition, swing bearing wear, tire condition and inflation, boom pad wear, outrigger and pad condition, bent chords and lacings.

MULTIPLE CRANE LIFTS - Types of equalizer beams, pivot points in lines, pivot points not in-line, load as an equalizer beam, necessary calculations.

CALCULATIONS - Crane capacities: results of over loading, division of load charts, gross and net capacity, gross and net load, radius between values, boom length between values, boom angle between values, parts of line; calculating capacities: on the boom, on the pinned section, on the extension, on the jib.

PREPARING FOR A LIFT - Boom assembly and disassembly, reasons to repair/scrap boom sections, Wire rope installation, reeving, wedge sockets, telescoping booms, setting-up, measuring radius, radius over boom angle, outrigger set-up, block outriggers, leveling methods.

CONDITIONS DURING LIFTS - Swingout, slack rope on drums, pick and carry, lifting on tires, protection of personnel around high voltage and results of making contact, working in the vicinity, effects of electrical current, hitting booms, boom over back, causes of two-blocking, shift of center of gravity, cold weather operation, tipping over backwards.

LEAVING CRANES UNATTENDED - Short periods, extended periods.

RESPONSIBILITIES - Management and operator responsibilities.

MISCELLANEOUS - Signals, composition of wire rope, rope strengths, tables of rates and capacities, determine sling loadings, using blocks and tackle.

CRANE CHECKLIST - Operator's daily checklist.

ERECTION, DISMANTLING, TRANSPORT - Erection checklist, bolting procedures, bolting.

INSPECTION & TESTING - Frequency of inspections, testing maintenance, and storage of crane components.

NOTE: Complete program includes at least one crane specific class in addition to basic core.

APPENDIX OR-B

Training (Crane Specific): Minimum Training Required for Operating Cranes of 5 Ton Capacity or Greater, Hydraulic Cranes

Unit of Study Instruction

INTRODUCTION - Hydraulic cranes: 5 ton to 50 ton.

ACCIDENTS/SAFETY - Overview of crane accidents and safety awareness.

CRANE NOMENCLATURE - Type of cranes, industrial hydraulic crane (carry deck), commercial mounted boom truck, hydraulic rough terrain crane (exploded view), characteristics, name of components, transporting, erecting & dismantling, hydraulic crane operator checklist (daily inspection).

MACHINE CONDITION - Configuration, repairs/modifications, swing assembly, cab/controls, fluid levels, boom/load hoist, boom/jib extensions, wire rope/load blocks, safety devices, annual inspection.

SAFE OPERATING PRACTICES - Quadrants of operation: over the front, over the rear, over the side, over the outriggers; mobile and rubber-tired cranes; weight of the lift; load charts; calculating capacities.

CONDITIONS & CAPACITIES - Land based, barge mounted.

APPENDIX OR-C

**Training : Minimum Training Required for Operating
Cranes of 5 Ton Capacity or Greater, Tower and Whirley Cranes**

Unit of Study Instruction

ACCIDENTS/SAFETY - Overview of crane accidents and safety awareness.

CRANE NOMENCLATURE - Type of cranes, characteristics, name of components.

Tower & Whirley Operator Checklist

MACHINE CONDITION - Configuration, repairs/modifications, swing assembly, cab/controls, fluid levels, boom/load hoist, boom/jib extensions, wire rope/load blocks, safety devices.

Tower Crane Climbing

SAFE OPERATING PRACTICES - Quadrants of operation, weight of the lift, load charts, calculating capacities.

APPENDIX OR-D

**Training : Minimum Training Required for Operating Cranes of 5 Ton Capacity or Greater, Conventional
Cranes**

Unit of Study Instruction

ACCIDENTS/SAFETY - Overview of crane accidents and safety awareness.

CRANE NOMENCLATURE - Type of cranes, truck cranes, crawler, characteristics, name of components, transporting, erecting and dismantling, conventional crane operator checklist (daily inspection).

MACHINE CONDITION - Configuration, repairs/modifications, swing assembly, cab/controls, fluid levels, boom/load hoist, boom/jib extensions, wire rope/load blocks, safety devices, annual inspection

SAFE OPERATING PRACTICES - Quadrants of operation for mobile and rubber-tired cranes: over the rear, over the side, over the outriggers, over the front. Quadrants of operation for crawler cranes: over the side, ends, 360 degree rotation; weight of the lift; load charts; calculating capacities.

CONDITIONS & CAPACITIES - Land base, barge mounted.

APPENDIX OR-E

Practical Experience :

Minimum Training Required for Operating Cranes of 5 Ton Capacity or Greater

This Area is Meant to Have an Operator Demonstrate a Minimum Acceptable Level of Competency in the Listed Areas

as Appropriate to the Specific Type of Crane Being Operated

1. Method and sequence of checks to be conducted on cranes prior to operation.

2. Procedures for assembling and dismantling cranes and their transportation.

3. Crane Set-Up

(a) Site preparation

(b) Counterweights

(c) Outriggers

(d) Rigging methods and materials

4. Crane Operation

(a) Safe operating procedures

- (b) Principles of leverage and power transmission
- (c) Purpose and use of load charts and boom angles
- (d) Picking loads
- (e) Adjacent hazards

5. Frequency, sequence and methods of inspections.

6. Maintenance.

7. Effect of overloading, instability, and structural or functional failure.

8. Procedures for Tower Crane climbing (as applicable).

9. Familiarity with OR-OSHA Crane rules and Manufacturer's Operating Manuals.

APPENDIX OR-F

Curriculum for Crane Safety Refresher Training

Unit of Study Instruction

OR-OSHA REQUIREMENTS - Division 3, Subdivision N.

RESPONSIBILITIES - Site supervisor's responsibilities. Crane owner's responsibilities. Operator's responsibilities.

CENTER OF GRAVITY - Crane center of gravity. Load center of gravity. Combined center of gravity. Effect of boom position on combined center of gravity.

RADIUS - Changes in load, boom angle and rotation point.

LOAD - Load on lattice boom cranes. Load on hydraulic cranes. Load on hydraulic crane boom extensions. Load on the jib of lattice and hydraulic boom cranes. Gross capacity vs. net capacity. Static and dynamic loads.

TIPPING AXIS - Rough terrain cranes: Tipping axis. Crawler mounted cranes: Tipping axis.

CALCULATIONS - Overloads and tipping. Division of load charts. Main boom capacity - lattice booms. Values of boom angle, boom length and load radius between chart listings. Parts of line. Crane capacities. Range diagrams.

ACCIDENT PREVENTION - Common causes of tower whirley accidents. Rigging the load. Handling the load. Electrical hazards. Review/analysis of known incidents/accidents.

Equipment

437-003-0085

General Requirement

An unimpaired horizontal clearance or not less than three feet shall be maintained between the rotating superstructure of any mechanical equipment and any adjacent object or surface. If this clearance cannot be maintained, barricades shall be installed to isolate the hazardous area.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0090

Pinchpoints

To protect against workers being exposed to the hazardous pinchpoint area between the rotating superstructure and the non-rotating undercarriage of any mechanical equipment:

(1) Signs shall be conspicuously posted on all sides of any mechanical equipment warning workers:

Danger -- Stay Clear

(2) Items of personal property, tools, or other miscellaneous materials shall not be stored on or near any mechanical

equipment if retrieval of such items would expose a worker to the hazardous pinchpoint.

(3) Workers shall approach the hazardous pinchpoint area only after informing the operator of his intent and receiving acknowledgement from the operator that the operator understands his intention. All mechanical equipment shall be stopped while any worker is in the hazardous pinchpoint area; and

(4) When the nature of the work requires a person to work within three feet of the swing radius of the rotating upper structure, a warning barricade shall be provided. This requirement shall not apply to mechanical equipment when:

(a) The distance from the highest point of the undercarriage to the lowest point of the rotating superstructure is greater than 18 inches. This applies only to that portion of the rotating superstructure that swings directly over the undercarriage;

(b) The distance from the ground to the lowest point of the rotating superstructure is greater than five feet six inches. This applies only to that portion of the rotating superstructure that swings directly over the undercarriage; or

(c) On crawler-type track-mounted mechanical equipment only, the rotating superstructure is positioned at a right angle to the tracks, and the distance from the side of the cab to the extreme end of the track is four feet or less. This exemption shall apply to side barricades only; barricades between the tracks at both ends of any crawler-type mechanical equipment are required regardless of the right angle dimension.

Stat. Auth: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

NOTE: §1910.501(a) was NOT adopted by OR-OSHA. In Oregon, OAR 437-002-0093 applies:

437-003-0093

Exemption

The requirements of §1926 .601, Motor Vehicles, do NOT apply to equipment for which rules are prescribed in §1926.602, Material Handling Equipment.

Stat. Auth: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 6-1991, f. 3-18-91, cert. ef. 4-15-91

Specific Excavation Requirements

437-003-0096

Underground Installations

In addition to an not in lieu of any rules relating to "underground installations" adopted in OAR Chapter 437, the

following Oregon Revised Statutes and Oregon Administrative Rules administered by the Oregon Public Utility Commission (PUC) shall apply:

(1) ORS 757.451 through 757.571; and

(2) OAR 860-024-0006 and 860-024-0007.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 8-1990, f. 3-30-90, cert. ef. 9-1-90

Specific Trenching Requirements

Additional Trenching Requirements Steel Erection

NOTE: §1926.750(b)(1)(ii) was not adopted by the Department. In Oregon, OAR 437-003-0105 applies.

437-003-0105

Additional Flooring Requirements

Where skeleton steel erection is being done, a tightly planked and substantial floor shall be maintained within two stories or 30 feet, whichever is less, below and directly under that portion of each tier of beams on which any work is being performed, except when gathering and stacking temporary floor planks on a lower floor, in preparation for transferring such planks for use on an upper floor.

NOTE: For fall protection requirements when doing steel erection work, see OAR 437-003-0040.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Power Transmission and Distribution

437-003-0110

Personnel

Only qualified persons shall be engaged in the construction, maintenance and/or operation of electrical transmission and distribution facilities. This paragraph shall not be construed as prohibiting in-service training when properly supervised and all necessary precautions are exercised to safeguard such work.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Two-Worker Rules

437-003-0115

High Voltage

Not less than two journeyman, or workers with equivalent training and experience, shall be required for work on energized high voltage equipment. A qualified apprentice may work in place of one of the journeyman for the purpose of training.

NOTE: See OAR 437-003-0120 for additional exceptions.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0120

More than 750 Volts

(1) Two journeymen shall work together on the same pole or structure when working energized circuits in excess of 750 volts between phases. Two separate poles or structures shall be considered as one for the purpose of this rule if both workers can step to the other pole or structure without having to descend to the ground to do so.

(2) Exceptions: The following exceptions to the two-worker rule apply:

- (a) When re-fusing circuits with a hot stick;
- (b) When operating switches by means of operating handles or switch sticks;
- (c) When a qualified apprentice is assigned to work with a journeyman for the purpose of training;
- (d) Where life or the public safety are in immediate danger, one worker may remove only the immediate hazard if no other workers are immediately available;
- (e) When installing or removing a hot line clamp connection with an approved hot stick on single phase line or apparatus, providing that the connection or disconnection does not interrupt or pick up a load.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0125

Proximity

Workers within reach of each other shall not work on different phases of the same circuit, or on different circuits, or on one energized phase and a ground conductor at the same time.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0130

Training-Experience

At least two journeymen or workers having the equivalent training and experience are required to work where contact with energized high voltage is possible unless or until proper guards or barriers have been installed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0135

Additional Personnel

When it is necessary to patrol lines when road conditions, weather conditions, or other factors make it impossible to patrol safely with one person, additional help shall be provided to perform the job safely.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0140

Working Foreman

A foreman shall not work as a journeyman while supervising two or more other journeymen who are engaged in high voltage or equally hazardous work.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Safety Watcher

437-003-0145

General

A qualified safety watcher shall be provided whenever workers or equipment are required to perform work in areas where inadvertent motions or movements would violate specified clearances. The safety watcher's sole duty is to keep constant watch over persons under his observation and to warn them of danger.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0150

Foreman as Safety Watcher

The foreman may act as the safety watcher providing his other duties do not interfere. Should the foreman, for any reason, find his attention distracted or leave the immediate vicinity, he shall either designate another qualified person as the safety watcher or order the work stopped.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0155

Selection

The foreman or worker in charge of the work will be held responsible for the designation of the safety watcher. It is the foreman's responsibility to select a qualified worker for this job who is capable, and who is familiar with the work being done.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0160

Request for Safety Worker

Any worker may ask for a safety watcher when one is required by this code.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0165

Safety Watcher for Nonelectrical Workers

(1) A safety watcher shall be provided whenever a clearance is necessary for the performance of nonelectric work. Safety watchers shall obtain such clearances and see that necessary grounds are installed.

(2) Exceptions:

(a) Clearances and safety watchers are not required for the painting of transmission line towers as long as all painters and their rigging remain below the level of the lowest energized conductor and at least ten feet from such conductor;

(b) Warning signs or danger flags shall be attached to each tower leg that can be climbed to a location consistent with the above;

(c) Painters shall be clearly instructed to remain below these signs or workers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Identification of Lines, Cables and Equipment

437-003-0170

No Defacement

Marks of identification on electrical equipment shall not be defaced.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0175

Proper Identification

Lines, cables or equipment that are or may become energized shall not be worked upon until properly identified.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0180

Both Ends Identified

All primary cables shall be permanently and plainly identified by tags or other methods at both ends.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Cutting and Splicing

437-003-0185

Energized Cables

Energized cables shall be spliced only by persons qualified for such work. Extreme caution and suitable tools and protective devices shall be used for such operations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0190

Cable Tests

Cables shall not be cut until tests are made to verify that cables are not energized.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0195

Protective Equipment

- (1) Any intervening conductor or ground between the workers and the conductor to be worked on shall be covered with protective equipment designed for that purpose.
- (2) Such protective equipment shall be installed so that the nearest conductor or ground shall be covered first.
- (3) In removing the protective equipment, the sequence shall be reversed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0200

Guards-Barriers

Suitable guards and barriers shall be erected, so that workers or tools and equipment will not fall into or accidentally contact energized conductors or equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0205

Markers

Unsafe areas shall be marked off with barricade tape or by equivalent means.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0210

No Attachments

No attachments shall be placed on poles, towers, or other structures which are not authorized by the utilities involved.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0215

Emergency Procedures and First Aid

All linemen and persons doing aerial work shall be trained in pole top rescue.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

NOTE: §1926.950(d)(1) was not adopted by the Department. In Oregon, OAR 437-003-0220 applies.

437-003-0220

Working Clearance

When de-energizing lines or equipment and the means of disconnecting from electric energy are not visibly locked out, the following requirements shall be met:

- (1) The section of line or equipment to be de-energized shall be clearly identified, and it shall be isolated from all sources of voltage.
- (2) All switches and disconnectors through which electric energy may be supplied to the line or equipment to be worked on shall be de-energized.
- (3) All switches and disconnectors shall be plainly tagged indicating that workers are at work.
- (4) When the design of switches and disconnectors permit, they shall be rendered inoperable.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0225

Required Precautions

After receiving notification from the dispatcher that the circuit or equipment is de-energized, the person making the request shall take the following precautions before coming in contact with the circuit or equipment:

- (1) The circuit or equipment shall be tested to make sure that it is de-energized.
- (2) The circuit or equipment shall be grounded and shorted as prescribed by the grounding section of these rules.
- (3) Guards or barriers shall be erected as necessary to prevent approach or contact with adjacent energized lines or equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0227

Clearing-Tagging Before Work and Removal After Work

- (1) When more than one independent crew requires the same line or equipment to be de-energized, each crew must have the de-energized circuit or equipment cleared and tagged for itself individually, unless working under the direct supervision of a single foreman or supervisor who has the circuit or equipment cleared and tagged for himself.
- (2) Upon completion of work on de-energized lines or equipment, each designated employee in charge shall determine that all employees in his crew are clear, that protective grounds installed by his crew have been removed, and he shall report to the designated authority that all tags protecting his crew may be removed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0230

Verification Before Contact

No person shall contact a circuit or equipment that has been taken out of service to be worked on until he has assured himself the circuit or equipment is cleared, tagged and grounded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Tools and Protective Equipment

Tools

437-003-0235

Additional Requirements

- (1) The use of axes, hatchets and power saws is prohibited on all over-head work where workers are supported by a single climbing belt or rope.
- (2) When power saws are used on overhead work where workers are supported by climbing belts or ropes, the

requirement in OAR 437-003-0705 shall apply.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0240

Other Materials and Tools

Materials and tools other than belt tools for which the body belt is designed:

- (1) Shall be raised or lowered by means of a suitable container and-or handline.
- (2) Shall not be thrown to or from linemen working on poles or structures.
- (3) Shall not be carried up or down poles or structures in belts.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0245

Tools in Belt

Small tools carried in the belt shall be placed so they present the least danger of coming in accidental contact with energized parts, and where they will not interfere with use of "D" rings. No sharp or pointed tools shall be carried except when in scabbards or otherwise effectively safeguarded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0250

Housekeeping

Loose tools and materials shall not be left on poles, crossarms, ladders, or other elevated locations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Protective Equipment

437-003-0255

Designated Voltage Barriers

Line guards, insulator covers and other protective devices shall be considered adequate barriers for the voltages for which they are specifically designed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989, f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0260

NEC Compliance

Fixed protective guards and barriers, when installed and maintained in compliance with the National Electric Code, shall be considered as providing adequate clearance.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0265

Tests and Records

Rubber blankets, line hose and hoods shall be electrically tested at least once each six months after they are checked out for use, and complete records kept of all such tests and date of issue. Rubber protective equipment not checked out for use within one year shall be re-tested before being issued.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0270

Rubber Gloves

Rubber gloves referred to in these rules shall be those guaranteed by the manufacturer to pass a minimum dielectric test of 10,000 volts. Rubber gloves shall not be used for working on circuits in excess of 5,000 volts between phases.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0275

Tests of Gloves and Sleeves

Rubber gloves and sleeves shall be electrically tested at least once each sixty days after they are checked out for use, and complete records shall be kept of all such tests and date of issue. Rubber gloves and sleeves not checked out for use within one year shall be re-tested before being issued.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0280

Glove Assignment

A pair of rubber gloves with protectors and a container shall be assigned to each worker who is required to work on, or to be exposed to, energized parts where rubber protective equipment is necessary.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0285

Required Protection

Rubber gloves or hot sticks shall be used while installing or removing protective equipment on conductors or equipment energized at 5,000 volts or less.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0290

Hot Sticks or Other Protective Devices

Protective equipment and devices shall be installed with hot sticks when used on conductors or equipment energized in

excess of 5,000 volts. If no protective equipment or device has been manufactured for a particular situation, protective equipment may be installed with rubber gloves on voltages not over 15,000 for that situation only.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0295

Adequate Protection

(1) Rubber protective equipment shall be considered as adequate barriers when used on voltages of not more than 5,000 volts between phases.

(2) Exceptions:

(a) Rubber protective equipment may be used for protection against accidental contact only up to 15,000 volts between phases to cover those parts of energized equipment for which no satisfactory protecting device has been developed;

(b) Rubber gloves shall be used as protection, from accidental contact only, on voltages above 5,000 and not over 15,000 volts between phases.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0300

Removal of Foreign Objects

Rubber gloves shall be worn or hot sticks used when handling or removing foreign materials or objects that are in contact with high voltage equipment or conductors.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0305

High Voltage Vicinity

Workers shall have rubber gloves on before reaching a position where they can touch high voltage conductors or equipment that are not protected and they shall not remove their rubber gloves until entirely clear and out of reach of all such high voltage conductors or equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0310

Two-Worker Rules

When the two-worker rules apply and rubber gloves are required, they shall be worn by both workers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0315

Leather Protectors

Workers shall use leather protectors over rubber gloves at all times.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0320

Glove Containers

When not in use, rubber gloves shall be carried in a protective container designed for this purpose.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0325

Correct Use

Rubber gloves shall not be worn or stored inside out.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0330

Defective Gloves

Defective rubber gloves shall not be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0335

Providing and Maintaining Protective Equipment

All protective equipment and devices used in electrical work, such as insulating gloves, hoods, insulating blankets, hose, hot sticks, fuse pullers, tongs, grounding equipment and other special tools and devices must be provided and used when their need is indicated, and shall be maintained in a manner that will preserve adequate dielectric strength.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0340

Design and Use

All protective equipment or protective devices shall be of safe design, fabrication and condition, and their use shall be restricted to the use and purpose for which they are designed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0345

Suspected Defect

Any piece of protective equipment suspected of being defective shall be tested and found safe before use. Any protective equipment found to be defective shall be removed from service.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0350

Housekeeping

All protective equipment and protective devices shall be properly stored when not in use to prevent damage and resist deterioration.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Climbers

437-003-0355

Climber Gaffs

Climber gaffs shall be kept sharpened. Gaffs of 1-1-4 inches or less shall not be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0360

Gaffs Guarded

While climbers are not being worn, the gaffs shall be properly guarded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0365

Restrictions on Use of Climbers

- (1) Workers shall remove climbers before driving any vehicle.
- (2) Climbers shall not be worn except when required.

(3) Workers shall not continue to wear their climbers while working on the ground except for brief periods when a worker is necessarily off the pole.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Hot Line (or Live Line) Tools

437-003-0370

Inspection and Condition

Hot line tools shall be inspected by a competent person frequently enough to insure that they will not be used in an unsafe condition. The surface finish shall be kept free from scratches and abrasions which would reduce the insulating qualities.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0375

Handling and Transporting

Hot line tools shall be handled carefully and maintained in first class condition. They shall be kept in a dry place. When transporting, they shall be kept in separate special storage compartments, or be contained in protective bags. They shall not be laid directly on the ground.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0380

Margin of Safety

All hot line tools shall be designed and constructed to provide an ample margin of safety for the voltage on which they are recommended for use. They shall be of sufficient length to allow the user to remain outside the minimum required clearance.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0385

Required Use

Hot line tools shall be used by workers when doing work on energized lines in excess of 5,000 volts.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0390

Weather and Other Factors

Hot line tools shall not be used when rain, fog, or any other factor is sufficient to reduce their insulating qualities to the extent that leakage can be felt.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0395

Tested and Warranted

Only hot line tools that are tested and warranted by the manufacturer to be adequate for the voltage involved shall be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0400

Rope Use

Hot line type ropes shall be used where there is a possibility of ropes coming in contact with energized conductors of more than 5,000 volts. Hot line ropes shall be used solely for hot line work and shall be kept free as possible from dirt and moisture.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0405

Removal of Foreign Objects

Hot line tools shall be used while handling or removing foreign materials or objects that are in contact with high voltage equipment or conductors energized in excess of 5,000 volts.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Ladders

437-003-0410

Damaged-Defective Ladders

Damaged or defective ladders shall be removed from the jobsite.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Mechanical Equipment

437-003-0415

General

- (1) Equipment and rigging shall be regularly inspected and maintained in safe operating condition.
- (2) Position measures shall be taken to prevent vehicles or pedestrians from coming in contact with wires, rope or equipment being used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

NOTE: §1926.200(g)(2) was not adopted by the Department. In Oregon, 437-003-0420 applies.

437-003-0420

Traffic Control

(1) Adequate and appropriate traffic controls shall be provided for all operations on or adjacent to a highway, street, or railway. The traffic controls shall conform to the American National Standards Institute (ANSI) D6.1e-1989: Manual on Uniform Traffic Control Devices for Streets and Highways.

(2) Where the term "American National Standards Institute D6.1-1979, Manual on Uniform Traffic Control Devices for Streets and Highways" appears in OAR Chapter 437, it shall mean "American National Standards Institute (ANSI) D6.1e-1989: Manual on Uniform Traffic Control Devices for Streets and Highways".

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Occupational Health and Safety Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89; APD 16-1989(Temp), f. & ef. 9-13-89; OSHA 2-1989, f. & ef. 10-17-89

437-003-0425

Rigging

Workers shall stand in the clear of rigging under tension.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0430

Suitable Equipment

Equipment used for handling conductors under tension shall be suitable for the purpose.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Outriggers

437-003-0435

Position for Hoisting

Means shall be provided to hold all outriggers securely in a retracted position when blocked for hoisting.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0440

Stability

When outriggers are placed on soft or unstable soil, additional pads shall be placed to prevent slipping or sinking of outriggers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Aerial Manlift Equipment

437-003-0445

High Voltage Contact

Direct contact between the basket, supporting boom, or ladder on aerial equipment and energized high voltage conductors or equipment shall be avoided. Special tools, fittings, or masts designed for use on energized equipment are excepted.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0450

Two-Worker Rules

The use of aerial equipment shall not create an exception to the two-worker rules. The presence of a second lineman in a position to operate the controls or otherwise observe and render immediate assistance will be considered in compliance with the two-worker rules.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Controls of Aerial Equipment

437-003-0455

Proximity to High Voltage

Workers operating controls of aerial equipment shall not stand on the ground or a grounded surface unless wearing rubber gloves or standing on an insulating board or mat where equipment is exposed to high voltage conductors.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0460

Inadvertent Contact Protection

Controls shall be so placed and-or guarded that the equipment cannot be activated by inadvertent contact by the operator, tools, equipment, lines, or foreign objects.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Operation of Aerial Equipment

437-003-0465

Operation-Maintenance Manual

The manufacturer's operation and maintenance manual shall be available. The operating instructions, proper sequence, and maintenance procedures prescribed by the manufacturer should be followed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0470

Posted Capacity

The rated load capacity shall be posted at a conspicuous place on the equipment and shall be kept in a legible condition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Inspection, Testing and Repair

437-003-0475

Operational Check

(1) The operator shall make an operational test or check of all parts of his vehicle vital to safe operation at the beginning of each shift.

(2) Any malfunction noted shall be reported to the proper authority, and the necessary repairs or adjustments shall be made before the vehicle is placed in regular operation.

(3) Any vehicle which develops defects in parts vital to safe operation during a work shift shall be removed from service until necessary repairs are made.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Grounding for Protection of Employees

Grounding and De-Energizing

437-003-0480

Worker's Presence

Any worker's request that the grounding set be installed in his presence shall be complied with.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0485

Three Phase Line

While working on extra high voltage transmission circuits under de-energized conditions with three phase mechanical shorts and grounds closed at the terminal ends of the line, workers may perform work on one phase of the three phase line after having grounded the phase being directly worked on. The ungrounded phases are to be treated as energized until they are properly grounded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0490

Overheat Static Wires

When work is being done on overhead static wires (ground wires), they shall be grounded as though they were line conductors, unless they are permanently grounded on the structure where the work is being performed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0495

No Contact with Conducting Objects

Workers on the ground shall avoid unnecessary contacts with lower conductors, tower legs, ground rods, winch lines, vehicles, and other conducting objects.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Working Clearance

437-003-0500

Clearance Request

Clearance shall be required from the dispatcher or person acting in at capacity on all circuits and equipment under his control.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0505

Identity of Dispatcher

Workers shall obtain the name of the dispatcher when requesting clearance.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0510

Identity of Requestor

The dispatcher shall obtain the name of the person requesting clearance and assure himself that the person is qualified to receive such clearance.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0515

Request Content

The person requesting the clearance shall state exactly what circuit or equipment he wants de-energized and the reason.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0520

Request Verification

The dispatcher shall repeat the request for clearance and be certain that the request is fully understood.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0525

Notification Necessary

The circuit or equipment shall be considered as energized until notification from the dispatcher to the contrary is received.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0530

Verification of Clearance

Before considering any circuit or equipment de-energized, the dispatcher shall assure himself that all switches which could possibly energize the circuit or equipment in question have been opened, all phases, checked, tagged with "Work in Progress" or "Hold" tags, and locked or blocked in the open position. Only a visible air break shall be regarded as clearing a circuit.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0535

Multiple Workers

If two or more workers are required to do a job on a circuit or equipment which has been removed from service, each worker must understand who is in charge and responsible for the clearance.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0540

Release of Clearance

A dispatcher shall not authorize any person to energize the circuit or equipment that has been taken out of service for the purpose of having work done on it until all persons having clearances on such circuit or equipment have released their clearances and authorized their "Hold" or "Work in Progress" tags to be removed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0545

Tags Prohibited Use

No person shall operate a switch to which "Hold" or "Work in Progress" tags are attached.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0550

Tag Removal

No person shall remove any "Hold" or "Work in Progress" tags for any purpose without the authorization of the dispatcher.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0555

Responsibility of Requestor

Any person to whom a clearance has been given shall be held responsible for removing all protective grounds and shorts installed by him or under his direction, before releasing the circuits or equipment to the dispatcher for service.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0560

Attaching and Removing Grounds

Grounding shall conform to the following rules:

- (1) A ground set or grounding device shall be a positive pressure contact clamp that can be applied with insulated hot stick or sticks, and shall be of sufficient current carrying capacity to activate the protective devices without damaging the ground set.
- (2) A short and ground shall be placed at the point of work on all phase conductors. When the conductor is to be opened, a short and ground set shall be placed on both sides of the opening at the point of work. When the placement of a short and ground at the point of work increases the hazard to workers, a short and ground may be placed as near to the point of work as possible.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Overheat Lines

General

437-003-0565

Dead End Towers

Removing structural or lacing members of dead end towers during stringing operations shall be prohibited except on tangent (0° angle) dead end towers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0570

Wire Rope

Conductive rigging (wire rope) shall not be used to raise poles, transformers and other equipment except when such rigging is below, protected or at a sufficient distance from energized high voltage conductors to prevent hazardous contact.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-897-

437-003-0575

Ladders

Ladders or other suitable devices shall be used when working on strands or conductors that cannot be ridden. If ladders are used, they must either be held by another worker until the ladder can be securely lashed to the strand or conductor, or secured by strand hooks. After making the ladder secure, the worker shall attach his safety strap to the strand, conductor or other support.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0580

Strength Check

Before riding a conductor, every precaution shall be taken to determine that the conductor in the span, and its supports are of sufficient strength to safely bear the weight of the workers and their equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0585

Route Check

Before riding a strand or conductor, a worker shall survey his proposed route to insure that there will be no hazardous contacts.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0590

Equipment Check

Only equipment properly designed for the purpose shall be used as a means for riding strands or conductors.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0595

Platform Use

Workers shall not crawl out over insulator strings, but shall use a platform or other suitable device from which to work when making dead ends or doing other work beyond strings of insulators at such distance that the work cannot be reached from the pole or fixture. While working on the platform or other device, they shall secure themselves to the device or structure with their safety straps or a rope.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0600

Bare-Hand Work

Live-line bare-hand work is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Raising Poles, Towers, Fixtures

437-003-0605

Qualified Supervision

Raising poles, towers or fixtures in close proximity of high voltage conductors shall be done under the supervision of a worker especially qualified for this work. Workers handling such poles, towers or fixtures shall wear rubber gloves or be otherwise adequately protected.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

NOTE: §1926.955(a)(5)(i) was not adopted by the Department. In Oregon, OAR 437-003-0610 applies:

437-003-0610

Proximity to High Voltage

When setting, moving, or removing poles using cranes, derricks, gin poles, A-frames, or other mechanized equipment near energized lines or equipment, precautions shall be taken to avoid contact with energized lines or equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Stringing or Removing De-Energized Conductors

437-003-0615

Positive Control

Conductors being strung in or removed shall be kept under positive control by the use of adequate tension reels, guard structures, tielines, or other means to prevent accidental contact with energized circuits.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0620

Removing Conductors

Conductors shall be strung or removed with a dry, nonconductive rope used as a running or trailing line. In replacing a conductor with a new or larger conductors, the conductor being removed shall not be used to pull in the new conductor unless the conductor being removed has been carefully inspected for its entire length and then adjudged to have adequate strength.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0625

Pulling

Each pull shall be snubbed or dead ended at both ends before subsequent pulls.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0630

Bare Conductors

Bare conductors being strung or removed shall be run through an effectively grounded block or be grounded at the reel or the first possible point where the conductor could contact energized high voltage conductors.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0635

Stringing Conductors

Conductors being strung shall not be allowed to slack enough to be in reach of traffic or pedestrians, unless guarded by flaggers or other suitable safeguards.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0640

Sleeves

When stringing or removing conductors under tension, there shall be no sleeves pulled through the bull wheel or the puller on the tension machine.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0645

Reel Tender

A lineman or experienced person under the supervision of a lineman shall be placed in charge of the reels as the reel

tender.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0650

Reel Tending Equipment

Reels shall be grounded. Reel tenders shall be provided with and use a suitable insulated platform or rubber mat on which to stand, and shall wear rubber gloves.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0655

Equipment Secured

Reel handling equipment, including pulling, braking and sagging equipment shall be firmly anchored or secured during operations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0660

Tree Trimming

Tree trimming shall be done in accordance with the provisions in OAR 437-003-0301 through 437-002-0311, Ornamental Tree and Shrub Services in OAR Chapter 437, Division 2, Subdivision R, Special Industries.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89; OSHA 27-1990, f. 12-12-90, cert. ef. 2-1-91

NOTE: OAR 437-003-0665 through 0715 were repealed by OR-OSHA Admin. Order 27-1990, f. 12-12-90, ef. 2-1-91. Refer to Division 2-R, Tree and Shrub Services, OAR 437-002-0301 through 0311.

First Aid Requirements

437-003-0720

CPR Training

Tree trimming personnel shall be trained in cardio-pulmonary resuscitation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0725

Rescue Training

All tree trimmers shall be trained in rendering pole top rescue.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Chipper Equipment

437-003-0730

Equipment Housing

Chipper equipment shall be provided with a substantial housing which will be capable of effectively retaining broken chipper knives or foreign material.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0735

Chipper Tables

Chipper tables shall be of sufficient length or guarded to prevent reaching chipper blades.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0740

Equipment Repair

Any chipper equipment to be repaired or adjusted shall be shut down and shall be provided with a positive means to prevent accidental starting.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0745

Replacing Blades

Guards shall be installed over exposed adjacent blades when replacing chipper blades.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0750

Chipper Operation Crew

When chipper is in operation, at least one worker in addition to the operator shall be in the immediate vicinity.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0755

Shut-Off Switch

A shut-off switch shall be installed within convenient reach of the worker feeding the chipper.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0760

Eye Protection

Eye protection equipment shall be worn by the chipper operator at all times during chipper operations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0765

No Foreign Objects

Care shall be taken that no foreign objects are fed into the chipper blades.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Underground Lines and Confined Spaces

Street Openings

NOTE: §1926.956(a)(1) and (2) were not adopted by the Department. In Oregon, OAR 437-003-0770 and 0775 apply:

437-003-0770

Barriers, Guards, Warning Signs

(1) Protective barriers or suitable guards shall be erected and appropriate warning signs shall be placed before covers over openings are removed or excavations made in places accessible to vehicular or pedestrian traffic.

(2) Warning lights or flares shall be displayed if work is being done in reduced visibility.

(3) Protective measures shall be maintained until permanent or adequate covers are in place or the hazard removed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0775

Guarding Required Before Entering

No employee shall enter an opening or excavation accessible to vehicular or pedestrian traffic which is not protected by a barrier, temporary cover, or other suitable guard.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

NOTE: §1926.956(b)(3) was not adopted by the Department. In Oregon, OAR 437-003-0780 applies:

437-003-0780

Test for Flammability

(1) No torch, open flame, or other source of ignition shall be used in any excavation, manhole, or similarly confined work area until the atmosphere of such work area has been tested and found safe, or cleared of combustible vapors or liquids.

(2) A test for flammability of the vapors in the work area shall be made, using an appropriate device for this purpose.

(3) Unless the percentage of flammable vapor is found to be less than 20 percent of its lower explosive limit, no source of ignition shall be permitted.

(4) Frequent testing for determining the concentration of flammable vapors shall be made, and if the concentration exceeds 20 percent of its lower explosive limit, sources of ignition shall be removed immediately.

(5) Fire extinguishing equipment adequate to cope with possible hazards shall be maintained close at hand.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0785

Illumination

When it is necessary to illuminate a manhole, guarded electric lights only shall be used. Leads, sockets and connections shall be well insulated and maintained in good condition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Battery Rooms, General Requirements

437-003-0790

Designation and Posting

Proper identification and warning signs shall be posted at all entrances to battery rooms or compartments.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0795

Use of Sources of Ignition

The use of open flames, tools which may generate sparks, or other sources of ignition shall be avoided in battery rooms, except where cells are not actively gassing and the room has been ventilated.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0800

Personal Protection

Workers shall wear goggles, acid proof gloves and aprons when handling battery solution

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0805

Static Electricity

Workers having occasion to work on storage batteries should first discharge the static electricity from their bodies.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0810

Ventilation

Suitable ventilation or other equally effective means shall be provided to make certain that toxic or flammable gases are not present in hazardous quantities.

NOTE: See OAR Chapter 437, Division 2, Subdivision E, Means of Egress, Rules 437-002-0005 - 437-002-0053

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Construction in Energized Substances

Safety Watcher

NOTE: §1926.957(e)(1) was not adopted by the Department. In Oregon, OAR 437-003-0815 applies.

437-003-0815

Use of Equipment

Use of vehicles, gin poles, cranes, and other equipment in restricted or hazardous areas shall at all times be controlled by a safety watcher other than the equipment operator.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0820

Use of Barrier

A safety watcher shall be provided for all other work being performed in any energized substation yard except when the work is separated from all energized equipment by a suitable and adequate barrier.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0825

Nonelectrical Workers

As an exception to OAR 437-003-0165 and 437-003-0820, certain nonelectrical workers will be allowed to work in substations without barriers and without a safety watcher if all the following conditions are observed:

- (1) Permission to enter must be obtained from the substation operator or other authorized person.
- (2) The worker must not get off the ground without the specific approval of the person responsible for control of entry except to operate such equipment as light motor vehicles which have no equipment or loads that can project above the cab.
- (3) The worker must be qualified as having sufficient experience and knowledge to protect himself against electrical hazards.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

External Load Helicopters

437-003-0830

Additional Rules

The rules in OAR Chapter 437, Division 089, Cranes, OAR 437-089-0520 through 437-089-0550, Helicopters, shall apply to all helicopter operations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0835

Hooking and Unhooking Loads

Employees may work under hovering helicopters only for that limited period of time necessary to guide, secure, hook, or unhook the loads. In addition:

(1) When guiding, securing, hooking or unhooking the load in transmission and distribution structures at elevated positions, employees shall be assisted by, and use, a positive positioning guide system. The following definitions shall apply:

- (a) "Elevated" -- Any position where work is performed with the worker's feet above ground or water level;
- (b) "Positive Positioning Guide System" -- System or method of installing a load into position so that the load is capable of being released from the helicopter without being otherwise secured so that the load will remain in position permanently or until otherwise secured by physical means.

(2) When under hovering helicopters at any other location, the employee shall have a safe means of access and egress, including readily available escape route or routes in the event of an emergency.

(3) No other work or work-related activity, other than the aforementioned, shall be permitted under hovering helicopters.

(4) Bolting of, or otherwise permanently securing the structures, is prohibited under hovering helicopters, except that in the event of an unforeseen contingency of an emergency nature which represents a substantial hazard to life or property, an employee may do such work as is necessary to preserve life or protect substantial property.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Lineman's Body Belts, Safety Strap and Lanyards

Use and Care of Body Belts, Safety Straps and Lanyards

437-003-0840

Use of Body Belts and Safety Lines

Workers, when working from a hook ladder, must either belt themselves securely to the ladder, attach themselves to the structure by means of a safety line, or belt themselves to the ladder safety equipment, which shall consist of a safety rope or belting, threaded through the rungs or secured to the ladder at intervals not to exceed three feet.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0845

Use of Safety Straps

Linemen shall not place safety straps around the pole above the top crossarm except where adequate protection is taken

to prevent it from slipping over the top of the pole. Linemen shall not allow either end of the strap to hang loose, either in climbing or descending poles or other structures.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0850

Storing Equipment

Body belts and safety straps (when no in use) shall never be stored with sharp or edged tools. When a body belt safety strap and climbers are kept in the same compartment, care shall be taken in storing them to avoid cutting, puncturing or otherwise damaging the belt or strap.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Personal Climbing Equipment

437-003-0855

Use of Straps and Lanyards

Body belts with straps or lanyards shall be worn to protect employees working at elevated locations on poles, towers, or other structures except where such use creates a greater hazard to the safety of the employees, in which case other safeguards shall be employed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0860

Equipment Criteria

Body belts and safety straps shall meet the requirements of **29 CFR 1926.959(a)(2)** through (b)(7)(iii). In addition to being used as an employee safeguarding item, body belts with approved tool loops may be used for the purpose of holding tools. Body belts shall be free from additional metal hooks and tool loops other than those permitted in **29 CFR 1926.929(a)(2)** through (b)(7)(iii).

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0865

Equipment Inspection Before Use

Body belts and straps shall be inspected before use each day to determine that they are in safe working condition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0870

Monthly Supervisory Inspection

Foremen shall inspect, at least once each month, the belts, spurs and safety straps of all workers under their supervision. Whenever such equipment is found to be unsafe, it shall be withdrawn from service immediately.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0875

Additional Rules

Life lines and lanyards shall comply with the requirements of OAR 437-050-0050 in OAR Chapter 437, Division 050, Personal Protective Equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0860

Safety Lines

Safety lines are not intended to be subjected to shock loading and are used for emergency rescue such as lowering a worker to the ground. Such safety lines shall be a minimum of one-half-inch diameter and three or four strand first-

grade manila or its equivalent in strength (2,650 lb.) and durability.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0885

Replacement

Defective safety line ropes shall be replaced.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0890

Additional Definitions

The following Oregon-initiated definitions are additional to those found in **29 CFR 1926.960**:

- (1) "Aerial Manlift Equipment" All types of mobile equipment primarily designed to place personnel aloft to work on elevated structures and equipment. This equipment includes, but is not necessarily limited to, extending towers, boom-mounted cages or baskets, and truck-mounted ladders.
- (2) "Clearance" Notification from an authorized person that all necessary actions have been taken to de-energize a circuit, line, or equipment and the line or equipment is safe to be worked, so that workers may be authorized to proceed with intended operations.
- (3) "Dispatcher" A properly qualified and authorized worker who shall be in charge of the operation of electrical circuits and equipment and who is directly responsible for their safe operation.
- (4) "Low Voltage" -- Any voltage of less than 750 volts phase to phase.
- (5) "High Voltage" -- Any voltage between 750 and 230,000 volts inclusive phase to phase.
- (6) "Extra High Voltage" -- Any voltage of over 230,000 volts phase to phase.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

Other Structural Requirements

437-003-0905

Flooring

In buildings or other structures of wood floor construction, the under-flooring shall be laid on each tier of joists as the structure progresses, or if double floors are not to be used, the tier of joists next below where work is being performed shall be entirely floored over except for such spaces as are required for ladders and shaftways.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0910

Temporary Floors

Temporary floors shall be of sufficient strength to support expected loading.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0915

Shoring, Bracing or Guying of Structures

During erection, alteration, or repair, structures, including each part thereof, shall be braced or guyed as necessary to prevent overturning or collapse. All temporary shoring, bracing, or guying used for this purpose shall be maintained until the structure or any part of same is otherwise secured against overturning or collapse.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

437-003-0920

Project Plans

The Administrator of the Accident Prevention Division may require plans and specifications of temporary shoring and bracing used in the construction or alteration of any building, structure, or excavation project. Required plans shall be certified by a qualified engineer, whenever there is a question as to compliance with requirements of this code.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 5-1989(Temp), f. 3-31-89, ef. 5-1-89; APD 8-1989, f. & ef. 7-7-89

NOTE: This rule was NOT adopted by OR-OSHA. In Oregon, OAR 437-03-925 applies.

437-003-0925

Powder-Actuated Tools

Powder-actuated tools used by employees shall meet all other applicable requirements of American National Standards Institute, ANSI A10.3-1985, Safety Requirements for Powder-Actuated Fastening Systems.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 8-1990, f. 3-30-90, cert. ef. 9-1-90

437-003-1000

Oregon Rules for Air Contaminants

An employee's exposure to any substance listed in Oregon Tables Z-1, Z-2, or Z-3 of this section shall be limited in accordance with the requirements of the following paragraphs of this section.

(1) Oregon Table Z-1.

(a) Substances with limits preceded by "C" -- Ceiling Values. An employee's exposure to any substance in Oregon Table Z-1, the exposure limit of which is preceded by a "C", shall at no time exceed the exposure limit given for that substance. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15-minute time weighted average exposure which shall not be exceeded at any time during the working day.

(b) Other substances -- 8-hour Time Weighted Averages. An employee's exposure to any substance in Oregon Table Z-1, the exposure limit of which is not preceded by a "C", shall not exceed the 8-hour Time Weighted Average given for that substance in any 8-hour work shift of a 40-hour work week.

(c) Other Substances - Excursion Limits. Excursions in worker exposure levels may exceed 3 times the PEL-TWA for no more than a total of 30 minutes during a workday, and under no circumstances should they exceed 5 times the PEL-TWA, provided that the PEL-TWA is not exceeded.

(d) Skin Designation. To prevent or reduce skin absorption, an employee's skin exposure to substances listed in Oregon Table Z-1 with an "X" in the Skin Designation column following the substance name shall be prevented or reduced to the extent necessary in the circumstances through the use of gloves, coveralls, goggles, or other appropriate personal protective equipment, engineering controls or work practices.

(2) Oregon Table Z-2. An employee's exposure to any substance listed in Oregon Table Z-2 shall not exceed the

exposure limits specified as follows:

(a) 8-hour time weighted averages. An employee's exposure to any substance listed in Oregon Table Z-2, in any 8-hour work shift of a 40-hour work week, shall not exceed the 8-hour time weighted average limit given for that substance in Oregon Table Z-2.

(b) Acceptable ceiling concentrations. An employee's exposure to a substance listed in Oregon Table Z-2 shall not exceed the acceptable ceiling concentration for the given substance in the table at any time during an 8-hour shift except: Acceptable maximum peak above the acceptable ceiling concentration for an 8-hour shift. An employee's exposure to a substance listed in Oregon Table Z-2 shall not exceed the acceptable maximum peak above the acceptable ceiling concentration, and shall not exceed the maximum duration for the given substance during an 8-hour shift.

(c) Example: [Table not included. See ED. NOTE.] During an 8-hour work shift, an employee exposed to benzene may be exposed to an 8-hour time weighted average (TWA) of 10 ppm. Concentrations of benzene during the 8-hour work shift may not exceed 25 ppm, unless that exposure is no more than 50 ppm and does not exceed 10 minutes during an 8-hour work shift. Such exposures must be compensated by exposures to concentrations below 10 ppm so that the 8-hour time-weighted average is less than 10 ppm.

(3) Oregon Table Z-3. An employee's exposure to any substance listed in Oregon Table Z-3, in any 8-hour work shift of a 40-hour work week, shall not exceed the 8-hour time weighted average limit given for that substance in the table.

(4) Computation formulae. The computation formula which shall apply to employee exposure to more than one substance for which 8-hour time weighted averages are included in OAR 437, Division 2/Z, Toxic and Hazardous Substances, in order to determine whether an employee is exposed over the regulatory limit is as follows:

(a) [Equation not included. See ED. NOTE.]

(A) The cumulative exposure for an 8-hour work shift shall be computed as follows:

Where:

E is the equivalent exposure for the working shift.

C is the concentration during any period of time T where the concentration remain constant.

T is the duration in hours of the exposure at the concentration C.

The value of E shall not exceed the 8-hour time weighted average specified in **subpart Z of 29 CFR part 1910** for the substance involved.

(B) To illustrate the formula prescribed in paragraph (4)(a)(A) of this section, assume that Substance A has an 8-hour time weighted average limit of 100 ppm (Oregon Table Z-1). Assume that an employee is subject to the following exposure:

Two hours exposure at 150 ppm

Two hours exposure at 75 ppm

Four hours exposure at 50 ppm

Substituting this information in the formula, we have: [Equation not included. See ED. NOTE.]

Since 81.25 ppm is less than 100 ppm, the 8-hour time weighted average limit, the exposure is acceptable.

(b) [Equation not included. See ED. NOTE.]

(A) In case of a mixture of air contaminants an employer shall compute the equivalent exposure as follows:

Where:

E_m is the equivalent exposure for the mixture.

C is the concentration of a particular contaminant.

L is the exposure limit for that substance specified in Subpart Z of 29 **CFR** Part 1910.

The value of E_m shall not exceed unity (1).

(B) To illustrate the formula prescribed in paragraph (4)(b)(i) of this section, consider the following exposures: [Table not included. See ED. NOTE.]

Substituting in the formula, we have:

$$E_m = (500 \div 1000) + (45 \div 200) + (40 \div 200)$$

$$E_m = 0.500 + 0.225 + 0.200$$

$$E_m = 0.925$$

Since E_m is less than unity (1), the exposure combination is within acceptable limits.

(5) To achieve compliance with paragraphs (1) through (4) of this section, administrative or engineering controls must first be determined and implemented whenever feasible. When such controls are not feasible to achieve full compliance, protective equipment or any other protective measures shall be used to keep the exposure of employees to air contaminants within the limits prescribed in this section. Any equipment and/or technical measures used for this purpose must be approved for each particular use by a competent industrial hygienist or other technically qualified person. Whenever respirators are used, their use shall comply with 1910.134.

[ED. NOTE: The Tables and Equations referenced in this rule is not printed in the OAR Compilation. Copies are available from the agency.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 6-1997, f. & cert. ef. 5-2-97

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[Numerical](#) Index of Agencies by OAR Chapter

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**Oregon Administrative Rules
1998 Compilation**

**DEPARTMENT OF CONSUMER AND BUSINESS SERVICES, OREGON
OCCUPATIONAL SAFETY AND HEALTH DIVISION**

DIVISION 5

MARITIME ACTIVITIES

Standards for Shipyard Employment

437-005-0001

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the **Code of Federal Regulations, 29 CFR 1915**, revised as of 7/1/91, and any subsequent amendments published in the **Federal Register** as listed below:

(1) General Provisions. Subdivision A:

- (a) **29 CFR 1915.1** - Purpose and authority, published 4/20/82, **Federal Register(FR)** vol. 47, p. 16984.
- (b) **29 CFR 1915.2** - Scope and application, published 4/20/82, **FR** vol. 47, p. 16984.
- (c) **29 CFR 1915.3** - Responsibility, published 4/ 20/82, **FR** vol. 47, p. 16984.
- (d) **29 CFR 1915.4** - Definitions, published 4/20 /82, **FR** vol. 47, p. 16984.
- (e) **29 CFR 1915.5** - Incorporation by reference, published 5/24/96, **FR** vol. 61, no. 102, p. 26359.
- (f) **29 CFR 1915.6** - Commercial diving operations, published 4/20/82, **FR** vol. 47, p. 16984.
- (g) **29 CFR 1915.7** - Competent person, published 4/20/82, **FR** vol. 47, p. 16984; amended 6/7/89, **FR** vol. 54, p. 24334; 7/25/94, **FR** vol. 59, p. 37856.

(2) Explosive and Other Dangerous Atmospheres. Subdivision B:

- (a) **29 CFR 1915.11** - Scope, application and definitions applicable to this Subpart, published 4/20/82, **FR** vol. 47, p.

16984; amended 7/25/94, **FR** vol. 59, p. 37857.

(b) **29 CFR 1915.12** - Precautions before entering confined and enclosed spaces and other dangerous atmospheres, published 4/20 /82, **FR** vol. 47, p. 16984; amended 7/1/93, **FR** vol. 58, no. 125, p. 35514; amended 7/25/94, **FR** vol. 59, p. 37858 ; 3/16/95, **FR** vol. 60, no. 51, p. 14218.

(c) **29 CFR 1915.13** - Cleaning and other cold work, published 4/20/82, **FR** vol. 47, p. 16984; amended 7/25/94, **FR** vol. 59, p. 37859.

(d) **29 CFR 1915.14** - Hot work, published 4/20 /82, **FR** vol. 47, p. 16984; amended 7/25/94, **FR** vol. 59, p. 37860 ; 3/16/95, **FR** vol. 60, no. 51, p. 14218.

(e) **29 CFR 1915.15** - Maintenance of safe conditions, published 4/20/82, **FR** vol. 47, p. 16984; amended 7/25/94, **FR** vol. 59, p. 37860 ; 3/16/95, **FR** vol. 60, no. 51, p. 14218.

(f) **29 CFR 1915.16** - Warning signs and labels, published 4/20/82, **FR** vol. 47, p. 16984; amended 7/25/94, **FR** vol. 59, p. 37861.

(3) **Surface Preparation and Preservation.** Subdivision C:

(a) **29 CFR 1915.31** - Scope & application of subdivision, published 4/20/82, **FR** vol. 47, p. 16984.

(b) **29 CFR 1915.32** - Toxic cleaning solvents, published 4/20/82, **FR** vol. 47, p. 16984 ; 5/24/96, **FR** vol. 61, no. 102, p. 26351.

(c) **29 CFR 1915.33** - Chemical paint & preservative remover, published 4/20/82, **FR** vol. 47, p. 16984; 5/24/96, **FR** vol. 61, no. 102, p. 26351.

(d) **29 CFR 1915.34** - Mechanical paint removers, published 4/20/82, **FR** vol. 47, p. 16984; 5/24/96, **FR** vol. 61, no. 102, p. 26351.

(e) **29 CFR 1915.35** - Painting, published 4/20/82, **FR** vol. 47, p. 16984 ; 5/24/96, **FR** vol. 61, no. 102, p. 26351.

(f) **29 CFR 1915.36** - Flammable liquids, published 4/20/82, **FR** vol. 47, p. 16984.

(4) **Welding, Cutting and Heating.** Subdivision D:

(a) **29 CFR 1915.51** - Ventilation & protection in welding, cutting and heating, published 4/20/82, **FR** vol. 47, p. 16984.

(b) **29 CFR 1915.52** - Fire prevention, published 4/20/82, **FR** vol. 47, p. 16984.

(c) **29 CFR 1915.53** - Welding, cutting and heating of hollow metal containers & structure not covered by 1915.12, published 4/20/82, **FR** vol. 47, p. 16984.

(d) **29 CFR 1915.55** - Gas welding & cutting, published 4/20/82, **FR** vol. 47, p. 16984.

(e) **29 CFR 1915.56** - Arc welding and cutting, published 4/20/82, **FR** vol. 47, p. 16984.

(f) **29 CFR 1915.57** - Uses of fissionable material in ship repairing and shipbuilding, published 4/20/82, **FR** vol. 47, p. 16984.

(5) **Scaffolds, Ladders and Other Working Surfaces.** Subdivision E:

(a) **29 CFR 1915.71** - Scaffolds or staging, published 4/20/82, **FR** vol. 47, p. 16984.

(b) **29 CFR 1915.72** - Ladders, published 4/20/82, **FR** vol. 47, p. 16984.

- (c) **29 CFR 1915.73** - Guarding of deck openings and edges, published 4/20/ 82, **FR** vol. 47, p. 16984.
- (d) **29 CFR 1915.74** - Access to vessels, published 4/20/82, **FR** vol. 47, p. 16984.
- (e) **29 CFR 1915.75** - Access to and guarding of dry docks and marine railways, published 4/20/82, **FR** vol. 47, p. 16984.
- (f) **29 CFR 1915.76** - Access to cargo spaces and confined spaces, published 4/20/82, **FR** vol. 47, p. 16984.
- (g) **29 CFR 1915.77** - Working surfaces, published 4/20/82, **FR** vol. 47, p. 16984.
- (6) **General Working Conditions.** Subdivision F:
 - (a) **29 CFR 1915.91** - Housekeeping, published 4/ 20/82, **FR** vol. 47, p. 16984.
 - (b) **29 CFR 1915.92** - Illumination, published 4/20/ 82, **FR** vol. 47, p. 16984.
 - (c) **29 CFR 1915.93** - Utilities, published 4/20/82, **FR** vol. 47, p. 16984.
 - (d) **29 CFR 1915.94** - Work in confined or isolated spaces, published 4/20/82, **FR** vol. 47, p. 16984.
 - (e) **29 CFR 1915.95** - Ship repairing and shipbuilding work on or in the vicinity of radar and radio, published 4/20/82, **FR** vol. 47, p. 16984; amended 4/30/ 84, **FR** vol. 49, p. 18295; 6/7/89, **FR** vol. 54, p. 24334.
 - (f) **29 CFR 1915.96** - Work in or on lifeboats, published 4/20/82, **FR** vol. 47, p. 16984; amended 8/24/ 87, **FR** vol. 52, p. 31886.
 - (g) **29 CFR 1915.97** - Health and sanitation, published 4/20/82, **FR** vol. 47, p. 16984; amended 8/24/87, **FR** vol. 52, p. 31886.
 - (h) **29 CFR 1915.98** - First aid, published 4/20/82, **FR** vol. 47 p. 16984.
- (NOTE: **29 CFR 1915.99**, Hazard Communication, was redesignated as **1915.1200** on 7/1/93, **FR** vol. 58, no. 125, p. 35514.)
- (i) **29 CFR 1915.100** - Retention of DOT markings, placards and labels, published 7/19/94, **Federal Register**, vol. 59, no. 137, p. 36700.
- (7) **Gear and Equipment for Rigging and Materials Handling.** Subdivision G:
 - (a) **29 CFR 1915.111** - Inspection, published 4/20/ 82, **FR** vol. 47, p. 16984.
 - (b) **29 CFR 1915.112** - Ropes, chains and slings, published 4/20/82, **FR** vol. 47, p. 16984.
 - (c) **29 CFR 1915.113** - Shackles and hooks, published 4/20/82, **FR** vol. 47, p. 16984; amended 9/29/86, **FR** vol. 51, p. 34562.
 - (d) **29 CFR 1915.114** - Chain falls and pull-lifts, published 4/20/82, **FR** vol. 47, p. 16984.
 - (e) **29 CFR 1915.115** - Hoisting and hauling equipment, published 4/20/82, **FR** vol. 47, p. 16984.
 - (f) **29 CFR 1915.116** - Use of gear, published 4/20/ 82, **FR** vol. 47, p. 16984.
 - (g) **29 CFR 1915.117** - Qualifications of operators, published 4/20/82, **FR** vol. 47, p. 16984.
 - (h) **29 CFR 1915.118** - Tables, published 4/20/82, **FR** vol. 47, p. 16984.

(8) Tools and Related Equipment. Subdivision H:

- (a) **29 CFR 1915.131** - General precautions, published 4/20/82, **FR** vol. 47, p. 16984.
- (b) **29 CFR 1915.132** - Portable electric tools, published 4/20/82, **FR** vol. 47, p. 16984.
- (c) **29 CFR 1915.133** - Hand tools, published 4/20/ 82, **FR** vol. 47, p. 16984.
- (d) **29 CFR 1915.134** - Abrasive wheels, published 4/20/82, **FR** vol. 47, p. 16984; 5/24/96, **FR** vol. 61, no. 102, p. 26351.
- (e) **29 CFR 1915.135** - Powder actuated fastening tools, published 4/20/82, **FR** vol. 47, p. 16984; 5/24/96, **FR** vol. 61, no. 102, p. 26351.
- (f) **29 CFR 1915.136** - Internal combustion engines other than ship's equipment, published 4/20/82, **FR** vol. 47, p. 16984.

(9) Personal Protective Equipment. Subdivision I:

- (a) **29 CFR 1915.151** - Scope, application and definitions, published 5/24/96, **FR** vol. 61, no. 102, p. 26352.
- (b) **29 CFR 1915.152** - General requirements, published 5/24/96, **FR** vol. 61, no. 102, p. 26352; 6/13/96, **FR** vol. 61, p. 29957.
- (c) **29 CFR 1915.153** - Eye and face protection, published 5/24/96, **FR** vol. 61, no. 102, p. 26353.
- (d) **29 CFR 1915.154** - Respiratory protection, published 5/24/96, **FR** vol. 61, no. 102, p. 26354.
- (e) **29 CFR 1915.155** - Head protection, published 5/24/96, **FR** vol. 61, no. 102, p. 26354.
- (f) **29 CFR 1915.156** - Foot protection, published 5/24/96, **FR** vol. 61, no. 102, p. 26354.
- (g) **29 CFR 1915.157** - Hand and body protection, published 5/24/96, **FR** vol. 61, no. 102, p. 26354.
- (h) **29 CFR 1915.158** - Lifesaving equipment, published 5/24/96, **FR** vol. 61, no. 102, p. 26354.
- (i) **29 CFR 1915.159** - Personal fall arrest systems (PFAS), published 5/24/96, **FR** vol. 61, no. 102, p. 26355.
- (j) **29 CFR 1915.160** - Positioning device systems, published 5/24/96, **FR** vol. 61, no. 102, p. 26356.
- (A) Appendix A to Subpart I, published 5/24/96, **FR** vol. 61, no. 102, p. 26356.
- (B) Appendix B to Subpart I, published 5/24/96, **FR** vol. 61, no. 102, p. 26358.

(10) Ship's Machinery and Piping Systems. Subdivision J:

- (a) **29 CFR 1915.161** - Scope and application of subdivision, published 4/20/ 82, **FR** vol. 47, p. 16984.
- (b) **29 CFR 1915.162** - Ship's boilers, published 4/ 20/82, **FR** vol. 47, p. 16984.
- (c) **29 CFR 1915.163** - Ship's piping systems, published 4/20/82, **FR** vol. 47, p. 16984.
- (d) **29 CFR 1915.164** - Ship's propulsion machinery, published 4/20/82, **FR** vol. 47, p. 16984.
- (e) **29 CFR 1915.165** - Ship's decking machinery, published 4/20/82, **FR** vol. 47, p. 16984.

(11) **Portable, Unfired Pressure Vessels, Drums and Containers, Other than Ship's Equipment.** Subdivision K:

- (a) **29 CFR 1915.171** - Scope and application of subdivision, published 4/20/ 82, **FR** vol. 47, p. 16984.
- (b) **29 CFR 1915.172** - Portable air receiver and other unfired pressure vessels, published 4/20/82, **FR** vol. 47, p. 16984; amended 9/29/86, **FR** vol. 51, p. 34562.
- (c) **29 CFR 1915.173** - Drums and containers, published 4/20/82, **FR** vol. 47, p. 16984.

(12) **Electrical Machinery.** Subdivision L:

- (a) **29 CFR 1915.181** - Electrical circuits and distribution boards, published 4/20/82, **FR** vol. 47, p. 16984.

(13) Subdivisions M-Y (Reserved).

(14) **Toxic and Hazardous Substances.** Subdivision Z:

- (a) Reserved for **1915.1000**, Air Contaminants.
- (b) **29 CFR 1915.1001** Asbestos, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 8/10/94, **FR** vol. 59, no. 153, p. 41080; 6/29/95, **FR** vol. 60, no. 125, pp. 33974-34002; 7/13/95, **FR** vol. 60, p. 36043; 9/29/95, **FR** vol. 60, p. 50411; 8/23/96, **FR** vol. 61, p. 43454.
- (c) **29 CFR 1915.1002** Coal tar pitch volatiles; interpretation of term, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.
- (d) **29 CFR 1915.1003** 13 Carcinogens (4-Nitrobiphenyl, etc.), published 7/ 1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46, p. 9245; 6/20/96, **FR** vol. 61, p. 31427.
- (e) **29 CFR 1915.1004** alpha-Naphthylamine, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46, p. 9245; 6/20/96, **FR** vol. 61, p. 31427.
- (f) **29 CFR 1915.1005** (Reserved).
- (g) **29 CFR 1915.1006** Methyl chloromethyl ether, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46, p. 9245; 6/20/96, **FR** vol. 61, p. 31427.
- (h) **29 CFR 1915.1007** 3,3'Dichlorobenzidene (and its salts), published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46, p. 9245; 6/20/96, **FR** vol. 61, p. 31427.
- (i) **29 CFR 1915.1008** bis-Chloromethyl ether, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46, p. 9245; 6/20/96, **FR** vol. 61, p. 31427.
- (j) **29 CFR 1915.1009** beta-Naphthylamine, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46, p. 9245; 6/20/96, **FR** vol. 61, p. 31427.
- (k) **29 CFR 1915.1010** Benzidine, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46, p. 9245; 6/20/96, **FR** vol. 61, p. 31427.
- (l) **29 CFR 1915.1011** 4-Aminodiphenyl, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46, p. 9245; 6/20/96, **FR** vol. 61, p. 31427.
- (m) **29 CFR 1915.1012** Ethyleneimine, published 7/ 1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46, p. 9245; 6/20/96, **FR** vol. 61, p. 31427.
- (n) **29 CFR 1915.1013** beta-Propiolactone, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46,

p. 9245; 6/20/96, **FR** vol. 61, p. 31427.

(o) **29 CFR 1915.1014** 2-Acetylaminofluorene, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46, p. 9245; 6/20/96, **FR** vol. 61, p. 31427.

(p) **29 CFR 1915.1015** 4-Dimethylaminoazobenzene, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46, p. 9245; 6/20/96, **FR** vol. 61, p. 31427.

(q) **29 CFR 1915.1016** N-Nitrosodimethylamine, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 3/7/96, **FR** vol. 61, no. 46, p. 9245; 6/20/96, **FR** vol. 61, p. 31427.

(r) **29 CFR 1915.1017** Vinyl chloride, published 7/1/ 93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.

(s) **29 CFR 1915.1018** Inorganic arsenic, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.

(t) **29 CFR 1915.1020** Access to employee exposure and medical records, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.

(u) **29 CFR 1915.1025** Lead, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.

(v) **29 CFR 1915.1027** Cadmium, published 9/14/ 92, **FR** vol. 57, no. 178. pp. 42388-42452; amended 4/23/93, **FR** vol. 58, no. 177, p. 21778; 1/3/94, **FR** vol. 59, no. 1, pp. 146-215; 6/20/96, **FR** vol. 61, p. 31427.

(w) **29 CFR 1915.1028** Benzene, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.

(x) **29 CFR 1915.1030** Bloodborne pathogens, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.

(y) **29 CFR 1915.1044** 1,2 dibromo-3-chloropropane, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.

(z) **29 CFR 1915.1045** Acrylonitrile, published 7/1/ 93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.

(aa) **29 CFR 1915.1047** Ethylene oxide, published 7/1/ 93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.

(bb) **29 CFR 1915.1048** Formaldehyde, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.

(cc) **29 CFR 1915.1050** Methylenedianiline, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.

(dd) **29 CFR 1915.1052** Methylene Chloride, published 1/10/97, **Federal Register**, vol. 62, no. 7, p. 1619.

(ee) **29 CFR 1915.1120** Access to employee exposure and medical records has been redesignated to §1915.1020.

(NOTE:**29 CFR 1915.99**, Hazard Communication was redesignated as **1915.1200** on 7/1/93, **FR** vol. 58, no. 125, p. 35514.)

(ff) **29 CFR 1915.1200** Hazard communication, published 9/24/87, **FR** vol. 52, p. 31886; amended 4/27/88, **FR** vol. 53, p. 15035; 2/15/ 89, **FR** vol. 54, p. 6888; 6/7/89, **FR** vol. 54, p. 24334; 7/1/93, **FR** vol. 58, no. 125, p. 35514; 2/9/94, **FR** vol. 59, no. 27, pp. 6126-6184; 4/13/ 94, **FR** vol.59, no.71, pp. 17478-17479; 12/22 /94, **FR** vol. 59, no. 245, p. 65947; 6/20/96, **FR** vol. 61, p. 31427.

(gg) **29 CFR 1915.1450** Occupational exposure to hazardous chemicals in laboratories, published 7/1/93, **FR** vol. 58, no. 125, p. 35514; 6/20/96, **FR** vol. 61, p. 31427.

[NOTE: These standards are available at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the **United States Government Printing Office**.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1992, f. 9-24-92, cert. ef. 11-1-92; OSHA 1-1993, f. & cert. ef. 1-22-93; OSHA 19-1993, f. & cert. ef. 12-29-93; OSHA 4-1994 f. & cert. ef. 8-4-94; OSHA 1-1995, f. & cert. ef. 1-19-95; OSHA 2-1995, f. & cert. ef. 1-25-95; OSHA 4-1995, f. & cert. ef. 3-29-95; OSHA 5-1995, f. & cert. ef. 4-6-95; OSHA 8-1995, f. & cert. ef. 8-25-95; OSHA 5-1996, f. & cert. ef. 11-29-96; OSHA 6-1996, f. & cert. ef. 11-29-96; OSHA 3-1997, f. & cert. ef. 3-28-97; OSHA 4-1997, f. & cert. ef. 4-2-97; OSHA 6-1997, f. & cert. ef. 5-2-97

Marine Terminals

437-005-0002

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rule as printed in the Code of Federal Regulations, 29 **CFR** 1915, 1917 and 1918, revised as of 7-1-93:

(1) Scope and Definitions:

- (a) **29 CFR 1917.1**, Scope and Applicability, published 7-5-83, **FR** Vol. 48, p. 30909; amended 12-31-87, **FR** Vol. 52, p. 36026; 12-31-87, **FR** Vol. 52, p. 49624;
- (b) See OAR 437-005-0010(1) for applicable Oregon Rules;
- (c) **29 CFR 1917.2**, Definitions, published 7-5-83, **FR** Vol. 58, p. 30909.

(2) Marine Terminal Operations:

- (a) **29 CFR 1917.11**, Housekeeping, published 7-5-83, **FR** Vol. 48, p. 30909;
- (b) **29 CFR 1917.12**, Slippery Conditions, published 7-5-83, **FR** Vol. 48, p. 30909;
- (c) **29 CFR 1917.13**, Slinging, published 7-5-83, **FR** Vol. 48, p. 30909;
- (d) **29 CFR 1917.14**, Stacking of Cargo and Pallets, published 7-5-83, **FR** Vol. 48, p. 30909;
- (e) **29 CFR 1917.15**, Coopering, published 7-5-83, **FR** Vol. 48, p. 30909;
- (f) **29 CFR 1917.16**, Line Handling, published 7-5-83, **FR** Vol. 48, p. 30909;
- (g) **29 CFR 1917.17**, Railroad Facilities, published 7-5-83, **FR** Vol. 48, p. 30909;
- (h) **29 CFR 1917.18**, Log Handling, published 7-5-83, **FR** Vol. 58, p. 30909;
- (i) **29 CFR 1917.19**, Movement of Barges and Rail Cars, published 7-5-83, **FR** Vol. 48, p. 30909;
- (j) **29 CFR 1917.20**, Interference with Communications, published 7-5-83, **FR** Vol. 48, p. 30909;
- (k) **29 CFR 1917.21**, Open Fires, published 7-5-83, **FR** Vol. 48, p. 30909;

- (l) **29 CFR 1917.22**, Hazardous Cargo, (see 1917.2(p)), published 7-5-83, **FR** Vol. 48, p. 30909;
- (m) **29 CFR 1917.23**, Hazardous Atmospheres and Substances (see 1917.2(p)), published 7-5-83, **FR** Vol. 48, p. 30909; amended 7-13-84, **FR** Vol. 49, p. 28551;
- (n) **29 CFR 1917.24**, Carbon Monoxide, published 7-5-83, **FR** Vol. 48, p. 30909; amended 7-13-84, **FR** Vol. 49, p. 28551;
- (o) **29 CFR 1917.25**, Fumigants, Pesticides, Insecticides and Hazardous Preservatives (see 1917.2(p)), published 7-5-83, **FR** Vol. 48, p. 30909; amended 7-13-84, **FR** Vol. 49, p. 28551;
- (p) **29 CFR 1917.26**, First Aid and Lifesaving Facilities, published 7-5-83, **FR** Vol. 48, p. 30909;
- (q) **29 CFR 1917.27**, Personnel, published 7-5-83, **FR** Vol. 48, p. 30909;
- (r) **29 CFR 1917.28**, Hazard Communication, published 7-5-83, **FR** Vol. 48, p. 30909; amended 9-24-87, **FR** Vol. 52, p. 31876; 4-27-88, **FR** vol. 53, p. 15035; 2-15-89, **FR** Vol. 54, p. 6888; 6-7-89, **FR** Vol. 54, p. 24334; 2-9-94, **FR** vol. 59, no. 27, pp. 6126-6184; 4-13-94, **FR** vol. 59, no. 71, pp. 17478-17479; 12-22-94, **FR** vol. 59, no. 245, p. 65947.
- (s) **29 CFR 1917.29**, Retention of DOT Markings, Placards and Labels, published 7/19/94, **FR**, vol. 59, no. 137, p. 36700.

(3) Cargo Handling Gear and Equipment:

- (a) **29 CFR 1917.41**, House Falls, published 7-5-83, **FR** Vol. 48, p. 30909;
- (b) **29 CFR 1917.42**, Miscellaneous Auxiliary Gear, published 7-5-83, **FR** Vol. 48, p. 30909;
- (c) **29 CFR 1917.43**, Powered Industrial Trucks, published 7-5-83, **FR** Vol. 48, p. 30909;
- (d) **29 CFR 1917.44**, General Rules Applicable to Vehicles, published 7-5-83, **FR** Vol. 48, p. 30909; amended 9-25-87, **FR** Vol. 52, p. 36026;
- (e) **29 CFR 1917.45**, Cranes and Derricks (see 1917.51), published 7-5-83, **FR** Vol. 48, p. 30909;
- (f) **29 CFR 1917.46**, Crane Load and Limit Devices, published 7-5-83, **FR** Vol. 48, p. 30909;
- (g) **29 CFR 1917.47**, Winches, published 7-5-83, **FR** Vol. 48, p. 30909;
- (h) **29 CFR 1917.48**, Conveyors, published 7-5-83, **FR** Vol. 48, p. 30909;
- (i) **29 CFR 1917.49**, Spouts, Chutes, Hoppers, Bins, and Associated Equipment, published 7-5-83, **FR** Vol. 48, p. 30909;
- (j) **29 CFR 1917.50**, Certification of Marine Terminal Material Handling Devices, published 7-5-83, **FR** Vol. 48, p. 30909; amended 7-13-84, **FR** Vol. 49, p. 28551;
- (k) **29 CFR 1917.51**, Hand Tools, published 7-5-83, **FR** Vol. 48, p. 30909.

(4) Specialized Terminals:

- (a) **29 CFR 1917.70**, General, published 7-5-83, **FR** Vol. 48, p. 30909;
- (b) **29 CFR 1917.71**, Terminals Handling Intermodal Container or Roll-On Roll-Off Operations, published 7-5-83, **FR** Vol. 48, p. 30909;

(c) **29 CFR 1917.72**, Reserved;

(d) **29 CFR 1917.73**, Terminal Facilities Handling Menhaden and Similar Species of Fish, published 7-5-83, **FR** Vol. 48, P. 30909.

(5) Personal Protection:

(a) **29 CFR 1917.91**, Eye Protection, published 7-5-83, **FR** Vol. 48, p. 30909;

(b) **29 CFR 1917.92**, Respiratory Protection, published 7-5-83, **FR** Vol. 48, p. 30909;

(c) **29 CFR 1917.93**, Head Protection, published 7-5-83, **FR** Vol. 48, p. 30909;

(d) **29 CFR 1917.94**, Foot Protection, published 7-5-83, **FR** Vol. 48, p. 30909.

(e) **29 CFR 1917.95**, Other Protective Measures, published 7-5-83, **FR** Vol. 48, p. 30909.

(5) Terminal Facilities:

(a) **29 CFR 1917.111**, Maintenance and Load Limits, published 7-5-83, **FR** Vol. 48, p. 30909;

(b) **29 CFR 1917.112**, Guarding of Edges, published 7-5-83, **FR** Vol. 48, p. 30909;

(c) **29 CFR 1917.113**, Clearance Heights, published 7-5-83, **FR** Vol. 48, p. 30909;

(d) **29 CFR 1917.114**, Cargo Doors, published 7-5-83, **FR** Vol. 48, p. 30909;

(e) **29 CFR 1917.115**, Platforms and Skids, published 7-5-83, **FR** Vol. 48, p. 30909;

(f) **29 CFR 1917.116**, Elevators and Escalators, published 7-5-83, **FR** Vol. 48, p. 30909; amended 7-13-84, **FR** Vol. 49, p. 28551;

(g) **29 CFR 1917.117**, Manlifts, published 7-5-83, **FR** Vol. 48, p. 30909;

(h) **29 CFR 1917.118**, Fixed Ladders, published 7-5-83, **FR** Vol. 48, p. 30909;

(i) **29 CFR 1917.119**, Portable Ladders, published 7-5-83, **FR** Vol. 48, p. 30909;

(j) **29 CFR 1917.120**, Fixed Stairways, published 7-5-83, **FR** Vol. 48, p. 30909;

(k) **29 CFR 1917.121**, Spiral Stairways, published 7-5-83, **FR** Vol. 48, p. 30909;

(l) **29 CFR 1917.122**, Employee Exits, published 7-5-83, **FR** vol. 48, p. 30909.

(m) **29 CFR 1917.123**, Illumination, published 7-5-83, **FR** Vol. 48, p. 30909;

(n) **29 CFR 1917.124**, Passage Between Levels and Across Openings, published 7-5-83, **FR** Vol. 48, p. 30909;

(o) **29 CFR 1917.125**, Guarding Temporary Hazards, published 7-5-83, **FR** Vol. 48, p. 30909;

(p) **29 CFR 1917.126**, River Banks, published 7-5-83, **FR** Vol. 48, p. 30909;

(q) **29 CFR 1917.127**, Sanitation, published 7-5-83, **FR** Vol. 48, p. 30909;

(r) **29 CFR 1917.128**, Signs and Marking, published 7-5-83, **FR** Vol. 48, p. 30909.

(7) Related Terminal Operations and Equipment:

- (a) **29 CFR 1917.151**, Machine Guarding, published 7-5-83, **FR** Vol. 48, p. 30909;
- (b) **29 CFR 1917.152**, Welding, Cutting and Heating (Hot Work), published 7-5-83, **FR** Vol. 48, p. 30909;
- (c) **29 CFR 1917.153**, Spray Painting, published 7-5-83, **FR** Vol. 48, p. 30909;
- (d) **29 CFR 1917.154**, Compressed Air, published 7-5-83, **FR** Vol. 48, p. 30909;
- (e) **29 CFR 1917.155**, Air Receivers, published 7-5-83, **FR** Vol. 48, p. 30909;
- (f) **29 CFR 1917.156**, Fuel Handling and Storage, published 7-5-83, **FR** Vol. 48, p. 30909;
- (g) **29 CFR 1917.157**, Battery Charging and Changing, published 7-5-83, **FR** Vol. 48, p. 30909;
- (h) **29 CFR 1917.158**, Prohibited Operations, published 7-5-83, **FR** Vol. 48, p. 30909.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available at the Department of Consumer and Business Services, Oregon Occupational Safety and Health Division, and the United States Government Printing Office.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1992, f. 9-24-92, cert. ef. 11-1-92; OSHA 4-1994 f. & cert. ef. 8-4-94; OSHA 1-1995, f. & cert. ef. 1-19-95; OSHA 5-1995, f. & cert. ef. 4-6-95

Safety and Health Regulations for Longshoring

437-005-0003

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rule as printed in the Code of Federal Regulations, **29 CFR** 1915, 1917 and 1918, revised as of 7-1-93.

(1) General Provisions:

- (a) **29 CFR 1918.1**, Purpose and Authority, published 6-19-74, **FR** Vol 39, p. 22074;
- (b) **29 CFR 1918.2**, Scope and Responsibility, published 6-19-74, **FR** Vol. 39, p. 22074;
- (c) **29 CFR 1918.3**, Definitions, published 6-19-74, **FR** Vol. 39, p. 22074;
- (d) **29 CFR 1918.4**, Reserved;
- (e) **29 CFR 1918.5**, Reserved;
- (f) **29 CFR 1918.6**, Standards Incorporated by Reference, published 6-19-74, **FR** Vol. 39, p. 22074;
- (g) **29 CFR 1918.7**, Reserved;

(h) **29 CFR 1918.8**, Amendment of This Part, published 6-19-74, **FR** Vol. 39, p. 22074;

(i) See OAR 437-095-0010(1) for Applicable Oregon Rules.

(2) Gangways and Gear Certification:

(a) **29 CFR 1918.11**, Gangways, published 6-19-74, **FR** Vol. 39, p. 22074;

(b) **29 CFR 1918.12**, Gear Certification, published 6-19-74, **FR** Vol. 39, p. 22074;

(c) **29 CFR 1918.13**, Certification of Shore-Based Material Handling Devices, published 6-19-74, **FR** Vol. 39, p. 22074;

(d) **29 CFR 1918.14**, Container Cranes, published 6-19-74, **FR** Vol. 39, p. 22074;

(e) **29 CFR 1918.15**, Effective Date for §§1918. 13 and 1918.14, published 6-19-74, **FR** Vol. 39, p. 22074.

(3) Means of Access:

(a) **29 CFR 1918.21**, Gangways and Other Means of Access, published 6-19-74, **FR** Vol. 39, p. 22074;

(b) **29 CFR 1918.22**, Jacob's Ladders, published 6-19-74, **FR** Vol. 39, p. 22074;

(c) **29 CFR 1918.23**, Access of Barges and River Towboats, published 6-19-74, **FR** Vol. 39, p. 22074;

(d) **29 CFR 1918.24**, Bridge Plates and Ramps, published 6-19-74, **FR** Vol. 39, p. 22074;

(e) **29 CFR 1918.25**, Ladders, published 6-19-74, **FR** Vol. 39, p. 22074.

(4) Working Surfaces:

(a) **29 CFR 1918.31**, Hatch Coverings, published 6-19-74, **FR** Vol. 39, p. 22074;

(b) **29 CFR 1918.32**, Stowed Cargo and Temporary Landing Platforms, published 6-19-74, **FR** Vol. 39, p. 22074;

(c) **29 CFR 1918.33**, Deck Loads, published 6-19-74, **FR** Vol. 39, p. 22074;

(d) **29 CFR 1918.34**, Skeleton Decks, published 6-19-74, **FR** Vol. 39, p. 22074;

(e) **29 CFR 1918.35**, Open Hatches, published 6-19-74, **FR** Vol. 39, p. 22074;

(f) **29 CFR 1918.36**, Weather Deck Rails, published 6-19-74, **FR** Vol. 39, p. 22074;

(g) **29 CFR 1918.37**, Barges, published 6-19-74, **FR** Vol. 39, p. 22074;

(h) **29 CFR 1918.38**, Freshly Oiled Decks, published 6-19-74, **FR** Vol. 39, p. 22074.

(5) Opening and Closing Hatches:

(a) **29 CFR 1918.41**, Coaming Clearances, published 6-19-74, **FR** Vol. 39, p. 22074;

(b) **29 CFR 1918.42**, Beam and Pontoon Bridles, published 6-19-74, **FR** Vol. 39, p. 22074;

(c) **29 CFR 1918.43**, Handling Beams and Covers, published 6-19-74, **FR** Vol. 39, p. 22074.

(6) Ship's Cargo Handling Gear:

- (a) **29 CFR 1918.51**, General Requirements, published 6-19-74, **FR** Vol. 39, p. 22074;
- (b) **29 CFR 1918.52**, Specific Requirements, published 6-19-74, **FR** Vol. 39, p. 22074;
- (c) **29 CFR 1918.53**, Cargo Winches, published 6-19-74, **FR** Vol. 39, p. 22074;
- (d) **29 CFR 1918.54**, Rigging Gear, published 6-19-74, **FR** Vol. 39, p. 22074;
- (e) **29 CFR 1918.55**, Cranes, published 6-19-74, **FR** Vol. 39, p. 22074.
- (7) Cargo Handling Gear and Equipment Other Than Ship's Gear:
 - (a) **29 CFR 1918.61**, General, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (b) **29 CFR 1918.62**, Fiber Rope and Fiber Rope Slings, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (c) **29 CFR 1918.63**, Wire and Wire Rope Slings, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (d) **29 CFR 1918.64**, Chains and Chain Slings, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (e) **29 CFR 1918.65**, Shackles, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (f) **29 CFR 1918.66**, Hooks Other Than Hand Hooks, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (g) **29 CFR 1918.67**, Pallets, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (h) **29 CFR 1918.68**, Chutes, Gravity Conveyors and Rollers, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (i) **29 CFR 1918.69**, Powered Conveyors, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (j) **29 CFR 1918.70**, Portable Stowing Winches, published 6-19-74, **FR** Vol. 39, P. 22074;
 - (k) **29 CFR 1918.71**, Rain Tents, published 6-19-74, **FR** Vol. 39, P. 22074;
 - (l) **29 CFR 1918.72**, Tools, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (m) **29 CFR 1918.74**, Mechanically-Powered Vehicles Used Aboard Vessels, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (n) **29 CFR 1918.74**, Cranes and Derricks Other Than Vessel's Gear, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (o) **29 CFR 1918.75**, Notifying Ship's Officers Before Using Certain Equipment, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (p) **29 CFR 1918.76**, Grounding, published 6-19-74, **FR** Vol. 39, p. 22074.
- (8) Handling Cargo:
 - (a) **29 CFR 1918.81**, Slings, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (b) **29 CFR 1918.82**, Building Drafts, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (c) **29 CFR 1918.83**, Stowed Cargo, Tiering and Breaking Down, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (d) **29 CFR 1918.84**, Bulging Cargo, published 6-19-74, **FR** Vol. 39, p. 22074;
 - (e) **29 CFR 1918.85**, Containerized Cargo, published 6-19-74, **FR** Vol. 39, p. 22074;

(f) **29 CFR 1918.86**, Hazardous Cargo, published 6-19-74, **FR** Vol. 39, p. 22074;

(g) See OAR 437-005-0200, Actual Gross Weight.

(9) General Working Conditions:

(a) **29 CFR 1918.90**, Hazard Communication, published 8-24-87, **FR** 52, p. 31877; amended 4-27-88, **FR** 53, p. 15035; 2-15-89, **FR** 54, p. 6888; 6-7-89, **FR** 54, p.24334; 2-9-94, **FR** vol. 59, no. 27, pp. 6126-6184; 4-13-94, **FR** vol. 59, no. 71, pp. 17478-17479; 12-22-94, **FR** vol. 59, no. 245, p. 65947.

(b) **29 CFR 1918.91**, Housekeeping, published 6-19-74, **FR** Vol. 39, p. 22074;

(c) **29 CFR 1918.92**, Illumination, published 6-19-74, **FR** Vol. 39, p. 22074;

(d) **29 CFR 1918.93**, Ventilation and Atmospheric Conditions, published 6-19-74, **FR** Vol. 39, p. 22074;

(e) **29 CFR 1918.94**, Sanitation and Drinking Water, published 6-19-74, **FR** Vol. 39, p. 22074;

(f) **29 CFR 1918.95**, Longshoring Operations in the Vicinity of Repair and Maintenance Work, published 6-19-74, **FR** Vol. 39, p. 22074;

(g) **29 CFR 1918.96**, First Aid and Lifesaving Equipment, published 6-19-74, **FR** Vol. 39, p. 22074;

(h) **29 CFR 1918.97**, Qualification of Machinery Operators, published 6-19-74, **FR** Vol. 39, p. 22074;

(i) **29 CFR 1918.98**, Grain Fitting, published 6-19-74, **FR** Vol. 39, p. 22074;

(j) **29 CFR 1918.99**, Commercial Diving Operators, published 7-2-77, **FR** Vol. 42, p. 37673;

(k) **29 CFR 1918.100**, Retention of DOT Markings, Placards and Labels, published 7-19-94, **FR** vol. 59, no. 137, p. 36700

(10) General Working Conditions:

(a) **29 CFR 1918.101**, Eye Protection, published 6-19-74, **FR** Vol. 39, p. 22074;

(b) **29 CFR 1918.102**, Respiratory Protection, published 6-19-74, **FR** Vol. 39, p. 22074;

(c) **29 CFR 1918.103**, Protective Clothing, published 6-19-74, **FR** Vol. 39, p. 22074;

(d) **29 CFR 1918.104**, Foot Protection, published 6-19-74, **FR** Vol. 39, p. 22074;

(e) **29 CFR 1918.105**, Head Protection, published 6-19-74, **FR** Vol. 39, p. 22074;

(f) **29 CFR 1918.106**, Protection Against Drowning, published 6-19-74, **FR** Vol. 39, p. 22074;

(g) Appendix 1 -- Cargo Gear Register and Certificates, published 6-19-74, **FR** Vol. 39, p. 22074;

(h) Subject Index for 29 **CFR** 1918, Longshoring.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available at the Department of Consumer and Business Services, Oregon Occupational Safety and Health Division, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1992, f. 9-24-92, cert. ef. 11-1-92; OSHA 4-1994 f. & cert. ef. 8-4-94; OSHA 1-1995, f. & cert. ef. 1-19-95; OSHA 5-1995, f. & cert. ef. 4-6-95

437-005-0005

General Oregon Definitions

For the purposes of administration of the Oregon Safe Employment Act, the following terms mean:

- (1) "Act" means the Oregon Safe Employment Act, ORS Chapter 654.
- (2) "Administrative Rules" means Chapter 437, Division 1, General Administrative Rules (Rules for the Administration of the Oregon Safe Employment Act), and Oregon Revised Statutes (ORS), Chapter 183.
- (3) "Agency" means the Oregon Occupational Safety and Health Division, Department of Insurance and Finance.
- (4) "Assistant Secretary" means the Administrator of the Oregon Occupational Safety and Health Division or designated representative.
- (5) "Assistant Secretary of Labor for Occupational Safety and Health" means the Administrator of the Oregon Occupational Safety and Health Division or designated representative.
- (6) "Occupational Safety and Health Administration" or "OSHA" means the Oregon Occupational Safety and Health Division (OR-OSHA), Department of Consumer and Business Services.
- (7) "Office of the Solicitor of Labor" means Legal Counsel for the Oregon Occupational Safety and Health Division.
- (8) "Standards" mean any occupational safety and health standard which has been adopted and promulgated by a nationally-recognized standards-producing organization, the federal government, or the State of Oregon and shall have the same meaning as, and include the terms "code(s)" and "rule(s)".

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1992, f. 9-24-92, cert. ef. 11-1-92

437-005-0010

Applicable Oregon Rules

- (1) The following Oregon Occupational Safety and Health Division rules apply to industries regulated by OAR Chapter 437, Division 5, Maritime Activities:
 - (a) OAR Chapter 437, Division 1, General Administrative Rules;
 - (b) OAR 437, Division 2/G, 1910.95, Occupational Noise Exposure;
 - (c) OAR 437, Division 2/J, 1910.147, Control of Hazardous Energy (Lockout/Tagout);
 - (d) OAR 437, Division 2/K, OAR 437-002-0161, Medical and First Aid;
 - (e) OAR 437, Division 2/L, Fire Protection, and OAR 437-002-0182, Oregon Rules for Fire Fighters;

(f) OAR 437, Division 2/N, OAR 437-002-0228 through 235, and 1910.179 through .184, pertaining to Cranes; and

(g) OAR 437, Division 001, General Provisions.

(2) The following Oregon Occupational Safety and Health Division rules also apply to industries regulated by OAR Chapter 437, Division 005, Maritime Activities, 29 **CFR** 1915, Shipyard Employment:

(a) OAR Chapter 437, Division 2/M Compressed Gas and Compressed Air Equipment; and

(b) OAR 437, Division 2/N, OAR 437-002-0223, Oregon Rules for Commercial and Industrial Trucks.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available at the Department of Consumer and Business Services, Oregon Occupational Safety and Health Division, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1992, f. 9-24-92, cert. ef. 11-1-92; OSHA 19-1993 f. & cert. ef. 12-29-93; OSHA 2-1995, f. & cert. ef. 1-25-95

437-005-0025

Ladders to Dock

Ladders or other means of access reaching from low water mark to the dock floor shall be provided for each 400 feet or portion thereof of the water side of all wharves and piers. Where portable ladders are used, a secure method of fastening them shall be provided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1992, f. 9-24-92, cert. ef. 11-1-92

437-005-0030

Oregon Rules for Air Contaminants

An employee's exposure to any substance listed in Oregon Tables Z-1, Z-2, or Z-3 of this section shall be limited in accordance with the requirements of the following paragraphs of this section.

(1) Oregon Table Z-1.

(a) Substances with limits preceded by "C" -- Ceiling Values. An employee's exposure to any substance in Oregon Table Z-1, the exposure limit of which is preceded by a "C", shall at no time exceed the exposure limit given for that substance. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15-minute time weighted average exposure which shall not be exceeded at any time during the working day.

(b) Other substances -- 8-hour Time Weighted Averages. An employee's exposure to any substance in Oregon Table Z-1, the exposure limit of which is not preceded by a "C", shall not exceed the 8-hour Time Weighted Average given for that substance in any 8-hour work shift of a 40-hour work week.

(c) Other Substances - Excursion Limits. Excursions in worker exposure levels may exceed 3 times the PEL-TWA for

no more than a total of 30 minutes during a workday, and under no circumstances should they exceed 5 times the PEL-TWA, provided that the PEL-TWA is not exceeded.

(d) Skin Designation. To prevent or reduce skin absorption, an employee's skin exposure to substances listed in Oregon Table Z-1 with an "X" in the Skin Designation column following the substance name shall be prevented or reduced to the extent necessary in the circumstances through the use of gloves, coveralls, goggles, or other appropriate personal protective equipment, engineering controls or work practices.

(2) Oregon Table Z-2. An employee's exposure to any substance listed in Oregon Table Z-2 shall not exceed the exposure limits specified as follows:

(a) 8-hour time weighted averages. An employee's exposure to any substance listed in Oregon Table Z-2, in any 8-hour work shift of a 40-hour work week, shall not exceed the 8-hour time weighted average limit given for that substance in Oregon Table Z-2.

(b) Acceptable ceiling concentrations. An employee's exposure to a substance listed in Oregon Table Z-2 shall not exceed the acceptable ceiling concentration for the given substance in the table at any time during an 8-hour shift except: Acceptable maximum peak above the acceptable ceiling concentration for an 8-hour shift. An employee's exposure to a substance listed in Oregon Table Z-2 shall not exceed the acceptable maximum peak above the acceptable ceiling concentration, and shall not exceed the maximum duration for the given substance during an 8-hour shift.

(c) Example: [Table not included. See ED. NOTE.] During an 8-hour work shift, an employee exposed to benzene may be exposed to an 8-hour time weighted average (TWA) of 10 ppm. Concentrations of benzene during the 8-hour work shift may not exceed 25 ppm, unless that exposure is no more than 50 ppm and does not exceed 10 minutes during an 8-hour work shift. Such exposures must be compensated by exposures to concentrations below 10 ppm so that the 8-hour time-weighted average is less than 10 ppm.

(3) Oregon Table Z-3. An employee's exposure to any substance listed in Oregon Table Z-3, in any 8-hour work shift of a 40-hour work week, shall not exceed the 8-hour time weighted average limit given for that substance in the table.

(4) Computation formulae. The computation formula which shall apply to employee exposure to more than one substance for which 8-hour time weighted averages are included in OAR 437, Division 5/Z, Toxic and Hazardous Substances, in order to determine whether an employee is exposed over the regulatory limit is as follows:

(a) [Equation not included. See ED. NOTE.]

(A) The cumulative exposure for an 8-hour work shift shall be computed as follows:

Where :

E is the equivalent exposure for the working shift.

C is the concentration during any period of time T where the concentration remain constant.

T is the duration in hours of the exposure at the concentration C.

The value of E shall not exceed the 8-hour time weighted average specified in **subpart Z of 29 CFR part 1915** for the substance involved.

(B) To illustrate the formula prescribed in paragraph (4)(a)(A) of this section, assume that Substance A has an 8-hour time weighted average limit of 100 ppm (Oregon Table Z-1). Assume that an employee is subject to the following exposure:

Two hours exposure at 150 ppm

Two hours exposure at 75 ppm

Four hours exposure at 50 ppm

Substituting this information in the formula, we have

$$[(2 \times 150) + (2 \times 75) + (4 \times 50)] \div 8 = 81.25 \text{ ppm}$$

Since 81.25 ppm is less than 100 ppm, the 8-hour time weighted average limit, the exposure is acceptable.

(b) [Equation not included. See ED. NOTE.]

(A) In case of a mixture of air contaminants an employer shall compute the equivalent exposure as follows:

Where: [Equation not included. See ED. NOTE.]

E_m is the equivalent exposure for the mixture.

C is the concentration of a particular contaminant.

L is the exposure limit for that substance specified in **Subpart Z of 29 CFR Part 1915**.

The value of E_m shall not exceed unity (1).

(B) To illustrate the formula prescribed in paragraph (4)(b)(A) of this section, consider the following exposures:

Substituting in the formula, we have:

$$E_m = (500 \div 1000) + (45 \div 200) + (40 \div 200)$$

$$E_m = 0.500 + 0.225 + 0.200$$

$$E_m = 0.925$$

Since E_m is less than unity (1), the exposure combination is within acceptable limits.

(5) To achieve compliance with paragraphs (1) through (4) of this section, administrative or engineering controls must first be determined and implemented whenever feasible. When such controls are not feasible to achieve full compliance, protective equipment or any other protective measures shall be used to keep the exposure of employees to air contaminants within the limits prescribed in this section. Any equipment and/or technical measures used for this purpose must be approved for each particular use by a competent industrial hygienist or other technically qualified person. Whenever respirators are used, their use shall comply with OAR 437, Division 2/I, 1910.134, Respiratory Protection.

[ED. NOTE: The Tables referenced in this rule are not printed in the OAR Compilation. Copies are available from the agency.]

[ED. NOTE: The equations referenced in this rule are not printed in the OAR Compilation. Copies are available from the agency.]

[Publications: The Tables referred to or incorporated by reference in this rule are available at the Department of Consumer and Business Services, Oregon Occupational Safety and Health Division, and the United States Government Printing Office.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 19-1993, f. & cert. ef. 12-29-93; OSHA 5-1997, f. & cert. ef. 4-22-97

437-005-0035

Additional Oregon Rule for Asbestos

Deterioration. Periodic examination of all asbestos containing material should be performed to detect deterioration. Asbestos which has become damaged or deteriorated shall be repaired, enclosed, encapsulated, or removed in accordance with the provisions of 29 **CFR** 1926. 1101 in OAR 437, Division 003, Construction.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 19-1993, f. & cert. ef. 12-29-93 OSHA 4-1995, f. & cert. ef. 3-29-95

437-005-0040

Oregon Rules for MOCA (4,4'-Methylene bis (2-chloroaniline))

(1) Application. This rule applies to any areas in which MOCA (4,4'-Methylene bis (2-chloroaniline)) (CAS# 101-14-4) is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under OAR 437-005-0040(5)(b), (c), and (d).

(2) Definitions:

(a) "Absolute filter" is one capable of retaining 99.97 percent of a monodisperse aerosol of 0.3 μ m particles.

(b) "Administrator" means the Administrator of the Oregon Occupational Safety and Health Division, or any person directed to act for the Administrator.

(c) "Authorized employee" means an employee whose duties require them to be in the regulated area and who has been specifically assigned by the employer.

(d) "Clean change room" means a room where employees put on clean clothing and/or protective equipment in an environment free of MOCA. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this rule.

(d) "Closed system" means an operation involving MOCA where containment prevents the release of MOCA into regulated areas, nonregulated areas, or the external environment.

(e) "Decontamination" means the inactivation of MOCA or its safe disposal.

(f) "Disposal" means the safe removal of MOCA from the work environment.

(g) "Emergency" means an unforeseen circumstance or set of circumstances resulting in the release of MOCA which may result in exposure to or contact with MOCA.

(h) "External environment" means any environment external to regulated and nonregulated areas.

(i) "Isolated system" means a fully enclosed structure other than the vessel of containment of MOCA which is impervious to the passage of MOCA and which would prevent the entry of MOCA into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(j) "Laboratory type hood" is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute;

designed, constructed, and maintained in such a way that an operation involving MOCA within the hood does not require the insertion of any portion of any employee's body other than their hands and arms.

(k) "Nonregulated area" means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(l) "Open-vessel system" means an operation involving MOCA in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of MOCA into regulated areas, nonregulated areas, or the external environment.

(m) "Protective clothing" means clothing designed to protect an employee against contact with or exposure to MOCA.

(n) "Regulated area" means an area where entry and exit is restricted and controlled.

(3) Requirements for areas containing MOCA.

(a) A regulated area shall be established by an employer where MOCA is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(A) Isolated systems. Employees working with MOCA within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(B) Closed system operation. Within regulated areas where MOCA is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while MOCA is contained within:

(i) Access shall be restricted to authorized employees only; and

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(C) Open vessel system operations. Open vessel system operations as defined in OAR 437-005-0040(2) are prohibited.

(D) Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system. In operations involving "laboratory type hoods," or in locations where MOCA is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this rule shall apply.

(i) Access shall be restricted to authorized employees only.

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean make-up air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in MOCA handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with OAR 437, Division 2/I, Personal Protective Equipment, 1910.134, Respiratory Protection. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious

containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under OAR 437-005-0040(5)(b), (c) and (d).

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(E) Maintenance and decontamination activities. In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with MOCA could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with OAR 437, Division 2/I, Personal Protective Equipment;

(ii) Be decontaminated before removing the protective garments and hood; and

(iii) Be required to shower upon removing the protective garments and hood.

(F) Premixed solutions. Where MOCA is present only in a single solution at a temperature not exceeding 220° F, the establishment of a regulated area is not required; however:

(i) Only authorized employees shall be permitted to handle such materials;

(ii) Each day employees shall be provided with and required to wear a clean change of protective clothing (smocks, coveralls, or long-sleeved shirts and pants), gloves, and other protective garments and equipment necessary to prevent contact with the solution in the process used;

(iii) Employees shall be required to remove and leave protective clothing and equipment when leaving the work area at the end of the work day, or at any time solution is spilled on such clothing or equipment. Used clothing and equipment shall be placed in impervious containers for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under OAR 437-005-0040(5)(b), (c) and (d).

(iv) Employees shall be required to wash hands and face after removing such clothing and equipment and before engaging in other activities;

(v) Employees assigned to work covered by OAR 437-005-0040(3)(a)(F) shall be deemed to be working in regulated areas for the purposes of OAR 437-005-0040(4)(a); (b)(A), (B); (c)(C), (D), and 437-005-0040(5) thru (7).

(vi) Work areas where solution may be spilled shall be:

(I) Covered daily or after any spill with a clean covering; or

(II) Cleaned thoroughly daily and after any spill.

(4) General Regulated Area Requirements:

(a) Emergencies. In an emergency, immediate measures including, but not limited to, the requirements of sections (A), (B), (C), (D), and (E) below shall be implemented:

(A) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(B) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(C) Special medical surveillance by a physician shall be instituted within 24 hours, for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with OAR 437-005-0040(6)(b).

(D) Where an employee has a known contact with MOCA, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(E) An incident report on the emergency shall be reported as provided in OAR 437-005-0040(6)(b).

(F) Emergency deluge showers and eyewash fountains supplied with running potable water shall be located near, within sight of, and on the same level with locations where a direct exposure to MOCA would be most likely as a result of equipment failure, or improper work practice.

(b) Hygiene Facilities and Practices.

(A) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(B) Where employees are required by OAR 437-005-0040 to wash, washing facilities shall be provided in accordance with OAR 437, Division 2/J, 1910.141, Sanitation.

(C) Where employees are required by OAR 437-005-0040 to shower, shower facilities shall be provided in accordance with OAR 437, Division 2/J, 1910.141 Sanitation.

(D) Where employees wear protective clothing and equipment clean change rooms shall be provided in accordance with OAR 437, Division 2/J, 1910.141, Sanitation, for the number of such employees required to change clothes.

(E) Where toilets are in regulated areas, such toilets shall be in a separate room.

(c) Contamination Control.

(A) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean make-up air in equal volume shall replace air removed.

(B) Any equipment, materials, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(C) Decontamination procedures shall be established and implemented to remove MOCA from the surfaces of materials, equipment, and the decontamination facility.

(D) Dry sweeping and dry mopping is prohibited.

(5) Signs, Information and Training.

(a) Signs.

(A) Entrances to regulated areas shall be posted with signs bearing the legend:

Cancer-Suspect Agent Authorized Personnel Only

(B) Entrances to regulated areas containing operations covered in OAR 437-005-0040(3)(a)(E), shall be posted with signs bearing the legend:

Cancer-Suspect Agent Exposed in This Area

Impervious Suit Including Gloves, Boots, and Air-Supplied Hood Required at All Times

Authorized Personnel Only

(C) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(b) Container Contents Identification.

(A) Containers of a carcinogen and containers required under OAR 437-005-0040(3)(a)(D)(v) which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with OAR 437-005-0040(5)(e) may have contents identification limited to a generic or proprietary name, or other proprietary identification, of MOCA and percent.

(B) Containers of MOCA and containers required under OAR 437-005-0040(3)(a)(D)(v) which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with OAR 437-005-0040(5)(e) shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry Number as listed in OAR 437-005-0040(1).

(C) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(D) Containers which have MOCA contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(c) Lettering. Lettering on signs and instructions required by OAR 437-005-0040(5)(a) and (b) shall be a minimum letter height of 2 inches. Labels on containers required under this division shall not be less than 1/2 the size of the largest lettering on the package, and not less than 8 point type in any instance; provided that no such required lettering need be more than 1 inch in height.

(d) Prohibited Statements. No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(e) Training and Indoctrination.

(A) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(i) The nature of the carcinogenic hazards of MOCA including local and systemic toxicity;

(ii) The specific nature of the operation involving MOCA which could result in exposure;

(iii) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-

examination;

(iv) The purpose for and application of decontamination practices and purposes;

(v) The purpose for and significance of emergency practices and procedures;

(vi) The employee's specific role in emergency procedures;

(vii) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of MOCA;

(viii) The purpose for and application of specific first aid procedures and practices; and

(ix) A review of OAR 437-005-0040 at the employee's first training and indoctrination program and annually thereafter.

(B) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(C) All materials relating to the program shall be provided upon request to authorized representatives of the Administrator.

(6) Reports.

(a) Operations. Not later than December 1, 1974, the information required in sections (A), (B), (C), and (D) below shall be reported in writing to the Administrator. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(A) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(B) The name(s) and other identifying information as to the presence of a carcinogen in each regulated area;

(C) The number of employees in each regulated area, during normal operations including maintenance activities; and

(D) The manner in which a carcinogen is present in each regulated area: e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(b) Incidents. Incidents which result in the release of MOCA into any area where employees may be potentially exposed shall be reported in accordance with this rule.

(A) A report of the occurrence of the incident and the facts obtainable at that time, including a report of any medical treatment of affected employees, shall be made within 24 hours to the Administrator.

(B) A written report shall be filed with the Administrator within 15 calendar days thereafter, and shall include:

(ii) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(iii) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(iv) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(7) Medical Surveillance. At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(a) Examinations:

(A) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(B) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(C) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(b) Records.

(A) Employers of employees examined pursuant to this rule shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Administrator.

(i) A specification of the amount of material released, the amount of time involved and an explanation of the procedure used in determining this figure;

(B) Records required by this rule shall be provided upon request to employees, designated representatives, and the Administrator in accordance with §1915.1120, Access to Employee Exposure and Medical Records.

(C) Any physician who conducts a medical examination required by this rule shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

NOTE: 1915.1028(j)(1)(ii) was amended by OR-OSHA. In Oregon, pipe labeling is required by OAR 437-005-0050, Pipe Labeling. For the Oregon Amendment to the following rule (1915.1028 (j)(1)(ii)), see OAR 437-005-0045 below.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 19-1993, f. & cert. ef. 12-29-93

437-005-0045

Oregon Amendment for Benzene

The employer shall ensure that labels or other appropriate forms of warning are provided for containers of benzene within the workplace. The labels shall comply with the requirements of **CFR** 1915.1200(f) and in addition shall include the following legend:

DANGER
CONTAINS BENZENE
CANCER HAZARD

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

437-005-0050

Oregon Rules for Pipe Labeling

(1) Scope and Application. This division shall apply to all piping systems containing hazardous substances or that use asbestos as a pipe insulation material in buildings, structures and workplaces. This division does not apply to buried piping.

(2) Definitions.

(a) Hazardous substances: any substance which is a physical or health hazard.

(b) Health Hazard: a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosive sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes or mucous membranes.

(c) Physical Hazard: a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, or oxidizer, pyrophoric, unstable (reactive) or water-reactive.

(d) Piping system: includes pipes, single or multiple, of any kind and, in addition, valves and pipe coverings.

(e) Pipes: conduits for the transport of gases, liquids, semiliquids or fine particulate dusts.

(3) Purpose. The purpose of this division is to prescribe minimum labeling requirements for all piping systems which contain hazardous substances, transport substances in a hazardous state, or which use asbestos as a pipe insulation material.

(4) Labeling.

(a) Pipes and piping systems which contain hazardous substances or transport substances in a hazardous state shall be labelled in accordance with subsections (A), (B), (C) and (D) or otherwise identified in accordance with subsection (c) of this rule:

(A) Positive identification of the hazardous contents of a piping system shall be by lettered labels. The label shall give the name of the contents in full or abbreviated form.

(B) Contents shall be identified by labeling with sufficient detail to identify the hazard.

(C) Label wording shall be brief, informative and simple.

(D) Labeling shall be accomplished by stencilling, the use of tape, adhesives, markers or approved alternative means.

(b) Pipes or piping systems which use asbestos as a pipe insulation material shall be labelled in accordance with subsection (b)(A), or otherwise identified in accordance with subsection (c) below:

(A) The label for pipe insulation containing asbestos shall include the following:

Danger

Contains Asbestos Fiber

Avoid Creating Dust

Cancer and Lung Disease Hazard

(c) The employer may use signs, placards, process sheets, batch tickets, operating procedures, or other such written materials in lieu of affixing labels to individual pipes, as long as the alternative method identifies the pipe(s) to which it is applicable and conveys the information required by this rule. The written materials shall be readily accessible to the employees in their work areas during each shift. (See Hazard Communication, 1915.1200.)

(5) Location of Labeling.

(a) Labeling shall be applied where confusion may occur, such as close to valves or flanges and adjacent to changes in direction, branches and where pipes pass through walls, floors or ceilings.

(b) Labeling shall be applied, at a minimum, at the beginning and end of continuous pipe runs.

(c) For asbestos insulation, labeling shall be at a minimum, on unobstructed continuous pipe runs, every 75 feet.

(6) Visibility.

(a) Where pipes are located above or below the normal line of vision, the lettering shall be placed below or above the horizontal centerline of the pipe.

(b) Where pipes are inaccessible and/or at a distance which precludes clear identification of the letters on labeling, alternatives to the labeling which meet all other requirements of this rule may be used (i.e., schematics posted on walls in work areas).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 19-1993, f. & cert. ef. 12-29-93

437-005-0100

Fall Protection

If grab lines or rails are **not** installed on the sides of permanent structures, then fall protection shall be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1992, f. 9-24-92, cert. ef. 11-1-92

NOTE: 29 CFR 1917.27(a)(2) was not adopted by OR-OSHA. In Oregon, the following rule, OAR 437-005-0105, applies.

437-005-0105

Hiring

All personnel hiring shall conform with the provisions of state and federal civil rights laws and regulations. The provisions of the Americans with Disabilities Act (ADA) of 1990 shall be followed by all employers who are subject to the ADA.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1992, f. 9-24-92, cert. ef. 11-1-92

437-005-0200

Actual Gross Weight

In addition to, and not in lieu of, the provisions in 1918.85(b)(4), when container consolidations take place at the marine terminal, and all the contents are barcoded with the weight by the manufacturer, the barcoded weight and the container tare weight may be added together to obtain the actual gross weight.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1992, f. 9-24-92, cert. ef. 11-1-92

NOTE: 29 CFR 1918.93(d) was NOT adopted by OR-OSHA. An identical rule, but with a higher percentage of oxygen, was adopted and applies in Oregon.

437-005-0205

Percentage of Oxygen

When it is ascertained as set forth in Paragraph (c) of 1918.93 that the atmosphere in which employees would be working is immediately dangerous to life, or if the atmosphere becomes immediately dangerous to life during cargo handling operations, no employee shall be permitted to enter or remain in the work place until the atmospheric condition has been made safe. Atmospheres immediately dangerous to life are those which contain less than 19.5 percent oxygen, or which by reason of the high toxicity of the contaminant, as in fumigation, or the high concentration of contaminants, as with carbon dioxide, would endanger the life of a person breathing them for even a short period of time.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 10-1992, f. 9-24-92, cert. ef. 11-1-92

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**Oregon Administrative Rules
1998 Compilation**

**DEPARTMENT OF CONSUMER AND BUSINESS SERVICES, OREGON
OCCUPATIONAL SAFETY AND HEALTH DIVISION**

DIVISION 6

FOREST ACTIVITIES

General Requirements

437-006-0001

Authority of Rules

These rules are promulgated under the Director's authority contained in ORS 654.025(2) and 656.726(3).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0001

437-006-0003

Applicability of Rules

(1) These rules shall establish occupational safety and health practices, for all forest activities including timber cruising, pulpwood and nonpulpwood logging, reforestation, marking, thinning, clearing, slash disposal, chipping, fire fighting, road construction and any other operations associated with forest products production, removal and transportation of wood from forest areas.

(2) Any situation or condition not specifically covered herein shall be subject to other applicable provisions of the Oregon Administrative Rules, Chapter 437, Oregon Occupational Safety and Health Code.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; WCD 5-1982, f. 6-21-82, ef. 8-1-82; WCD 8-1983, f. 10-17-83, ef. 12-1-83; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0003

437-006-0004

Scope of Rules

The rules in this Division shall apply to all government agencies and private employers who engage in forest activities as listed in OAR 437-006-0003(1).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0004

437-006-0005

Definitions

The following definitions shall apply to terms used in this Division:

- (1) "A-Frame" A structure made of two independent columns fastened together at the top and separated by a reasonable width at the bottom to stabilize the unit from tipping sideways.
- (2) "Alternate Communication System" A system by voice or media other than horn or whistle which provides a safe and reliable method of communication between crew members.
- (3) "Authorized Person" A person approved or assigned by the employer to perform a specific type of duty or duties or to be at a specific location.
- (4) "Arch" Any device attached to the back of a mobile vehicle and used for raising one end of logs to facilitate movement.
- (5) "Ballistic Nylon" A fabric of high tensile properties designed to provide protection from lacerations.
- (6) "Base of Tree" That portion of a tree not more than three feet above highest ground level.
- (7) "Bight of the Line" A hazardous zone created by running lines under tension. Any section of a line between the ends.
- (8) "Binder" A hinged lever assembly for connecting the ends of a wrapper to tighten the wrapper around the load.
- (9) "Brow Log" A log placed parallel to any roadway at a landing or dump to protect carriers while loading or unloading.
- (10) "Choker" Length of wire loop with attachments for encircling the end of a lot to be yarded.
- (11) "Competent Person" One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary or dangerous to employees and has authority to eliminate the hazard or to take corrective action.
- (12) "Cutter" One whose primary job is to fall, buck or limb trees before they are moved to the landing area.

- (13) "Danger Tree" A standing live or dead tree, including snags, with evidence of deterioration or physical damage to the root system, trunk or stem. When determining if a tree is dangerous, the degree and direction of lean shall be an important factor.
- (14) "DBH" Diameter at breast height.
- (15) "Deadman" Buried log or other object used as an anchor.
- (16) "Donkey" See "Yarder".
- (17) "Double Tree Intermediate Support System" A system for supporting a loaded skyline in a support jack suspended on a single piece of wire rope that is supported by two trees in a manner that provides for sharing the load between the two trees. (See **Figure 6-22.**)
- (18) "Dutchman" A block used to change direction of line lead (sideblocking).
- (19) "Dutchman (as used in falling)" A method used to pull a tree against its lean by leaving a section of the undercut on one corner of the face. The portion left consists of a single saw kerf in one side of the face, with the face completely removed on the opposite side of the face cut. A single saw kerf must never extend completely across the stump.
- (20) "Equipment" See Vehicle and Logging Machine.
- (21) "Experienced Person" A person who has sufficient training and experience in a given process to be knowledgeable with all aspects of that process.
- (22) Extreme weather conditions - Includes, but not limited to:
 - (a) Strong winds (applies to timbered areas only) Wind velocity that reaches sufficient force to blow limbs from standing trees or cause windfalls or prevent cutters from falling of trees in the desired direction;
 - (b) Impaired vision Conditions such as falling snow, sleet, mist, fog, rain, dust or darkness which substantially impairs visibility to the extent that employees cannot clearly see signals, moving vehicles, equipment and line, falling trees or other hazards;
 - (c) Hazardous snow or icing conditions Snow or ice conditions which prevent escape from hazards such as falling trees, moving logs, vehicles, or similar hazards; or
 - (d) Lightning.
- (23) "Emergency Scene" The site where the suppression or control of a fire or the emergency exists.
- (24) "Fire Fighting Equipment" All portable and fixed fire suppression and control equipment.
- (25) "Fair-Lead" Sheaves, rolls or a combination thereof arranged to receive a line coming from any direction for proper line spooling onto a drum.
- (26) "Fire Fighter" Any employee whose primary duty is fire suppression and control of fires on or around wildlife areas.
- (27) "Flame Resistance" The property of material, or combinations of component materials, to retard ignition and restrict the spread of flame.
- (28) "FOPS" Falling object protective structure.
- (29) "Guyline" A standing line used to support or stabilize a spar, tail/lift tree, or equipment.

- (30) "Gypsy Drum" A mechanical device wherein the hoisting line is not attached to the drum and is manually spooled to control the line movement on and off the drum.
- (31) "Head Tree" See "Spar Tree".
- (32) "High Lead" A system of logging wherein the mainline is threaded through the mainline block which is attached near the top of the spar to obtain a lift of the logs being yarded and is returned to the vicinity of the logs by a haul-back line.
- (33) "High Visibility Colors" White, bright or fluorescent colors that stand out from the surrounding background color so as to make them easily seen.
- (34) "In Proximity" That which is available immediately in the event of need and is not to be confused with "Readily Accessible".
- (35) "In the Clear" A position within the work area where the probability of hazardous contact with falling trees, moving logs, rootwards, chunks, material, rigging and equipment is minimized by distance from the hazards and/or use of physical barriers, such as stumps, trees, terrain or other objects providing protection.
- (36) "Kicker" Placing a piece of the face, or an equivalent object in one side of a face cut to pull the tree from its lean as it falls.
- (37) "Landing" Any designated place where logs are laid after being yarded, and are awaiting subsequent handling, loading and hauling.
- (38) "Landing Chute" The head of the skid trail or road where the logs are temporarily placed and are awaiting subsequent handling, loading and hauling.
- (39) "Lay" A unit of measure to describe the straight-line distance in which a strand of wire rope makes one complete spiral around the core of a rope.
- (40) "Lodged Tree" A tree leaning against another tree or object which prevents it from falling to the ground.
- (41) "Log Dump" An area in which logs are removed from the log truck or rail car. May be either dry land or water, parbuckled over a brow log or removed by machine.
- (42) "Logging" All operations relating to the felling of trees, cutting the felled trees into suitable lengths, yarding, limbing, debarking, grading, loading, hauling, unloading, storing in decks or ponds until processed from timber to wood products.
- (43) "Logging Machine" A specialized machine used or intended for use to yard, move or handle logs, trees, chunks, and related material or equipment. (See also "Tractor and Skidder".)
- (44) "Mainline" The line that moves the turn of logs toward the yarder in any given system.
- (45) "Metal Spar" A vertical or leaning metal tube or boom used to yard logs by various methods of cable logging.
- (46) "Nationally Recognized Testing Laboratory (NRTL)" An organization which is recognized by OSHA in accordance with 437, Division 002, Subdivision A, 1910.7, Appendix A, OSHA Recognition Process for Nationally Recognized Testing Laboratories.
- (47) "Pass Line" A small line threaded through a block at or near the top of a spar tree or metal spar pole to assist the high climber.
- (48) "Protective Clothing" Clothing or equipment worn to protect the head, body, feet and extremities from chemical and physical hazards.

- (49) "Qualified Person" One who, by possession of a recognized degree, certificate or professional standing, or who by extensive knowledge, training and experience; has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work or the project.
- (50) "Reach" Usually a rectangular steel tube which slides in the trailer tunnel and is used as a connection between a log truck and the trailer.
- (51) "Readily Accessible" Having transportation with a qualified first aid trained person at the victim's side in not more than 30 minutes.
- (52) "ROPS" Rollover protection system or structure.
- (53) "Rub Rails" Guarding on the exposed sides of elevated bridges, ramps or runways to prevent wheeled equipment from going over the edge.
- (54) "Rub Tree" A tree used to guide a turn around a certain area.
- (55) "Running Line" Any line which moves forward and backward.
- (56) "Safety Factor" The ratio of breaking strength to safe working strength or load.
- (57) "Siwash" The use of a natural physical object, such as a tree, to change the direction of a line rather than with a block.
- (58) "Skidder" A self-propelled machine, of the wheel or crawler design, or animal used to move logs or trees to a landing.
- (59) "Skidding" Movement of logs on surface of ground toward the place where they are to be loaded.
- (60) "Skyline" The line which is hung between two or more supports on which a carriage or block travels.
- (61) "Slack Line" A form of skyline where skyline is spooled on drum of donkey and can be raised or lowered.
- (62) "Slash Burning" The use of prescribed fire as a method of forest management.
- (63) "Snag" See "Danger Tree".
- (64) "Snubbing" Retarding or controlling the movement of logs or machines by attachment to another vehicle or stationary object.
- (65) "Spar Tree" A tree (rigged for high lead, skyline or slackline logging) used to yard logs by any cable method of logging.
- (66) "Square Lead" A horizontal angle of up to 90 degrees formed by the projected lines of the mainline from the drum of the logging machine through the block or fairlead and the yarding road.
- (67) "Strip" A stand of timber in a definite location on which a cutter (or cutters) is working in a planned patten.
- (68) "Supervisory Personnel" Agent of the employer, manager-superintendent-foreman or person in charge of all or part of the place of employment who directs the work activities of one or more employees.
- (69) "Swede Connection" A line configuration consisting of wrapping two choker lines in the same direction around a tree or log connecting the line nubbins to opposite line bells.
- (70) "Swing Cut" A back cut in which the holding wood on one side is cut through.

- (71) "Tail Hold" An anchor used for making fast any line or block other than a guyline or corner block.
- (72) "Tail/Lift Tree" The tree at the opposite end from the head tree spar, or landing area on which rigging is hung.
- (73) "Tight Line" When a force is exerted on both main line and haulback at the same time.
- (74) "Topping" Cutting off the top section of a standing tree prior to rigging the tree for a spar, lift or tail tree.
- (75) "Tractor" A self-propelled machine of wheel or crawler design used to exert a push or pull force through mounted equipment to move objects or material.
- (76) "Tree Jack (shoe) (Other than for directional falling use)" A grooved saddle of rollers contained within two steel side plates attached to a tree with a strap as a guide for skyline, sail guy or similar static line.
- (77) "Tree Plates" Steel bars sometimes shaped as elongated Js which are fastened to a tree to hold the guylines and prevent them from cutting into the tree when tightened. The hook of the J is also used to prevent the mainline block strap from sliding.
- (78) "Turn" Any log or group of logs or other material usually attached by chokers, grapples or other means of power and moved from a point of rest to the landing or landing chute area.
- (79) "V-Lead" A horizontal angle or less than 90 degrees formed by the projected lines of the mainline from the drum of the logging machine through the block or fairlead and the yarding road.
- (80) "Vehicle" Any carrier that is not manually propelled:
 - (a) Commercial-type vehicles Motor vehicles designed, used or maintained primarily for the transportation of persons or material over private or public roads;
 - (b) Industrial-type vehicles Tractors designed for nonhighway usage, primarily for pulling trailers or other mobile loads, straddle trucks such as lumber carriers, tractors and other types of vehicles especially designed for handling materials.
- (81) "Wildlands Fire Fighting" All activities, operations and equipment of employers and employees involved in the suppression or control of fires on wildlands. Does not include interior structural fire suppression or control.
- (82) "Wildlife Tree" A live, partially dead or snag tree in the forest riparian zone, or in a cutting unit that is left for wildlife habitat. May also be a danger tree.
- (83) "Within the Stakes" When 1/2 the log diameter is below the stake top.
- (84) "Work Areas" Any area frequented by employees in the performance of assigned or related duties.
- (85) "Wrapper" A cable assembly or chain used to contain a load of logs.
- (86) "Yarder" A machine with a series of drums used to yard logs.
- (87) "Yarding" Movement of logs from the place they are felled to a landing.

[ED. NOTE: The Figure(s) referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; WCD 5-1982, f. 6-21-82, ef. 8-1-82; WCD 8-1983, f. 10-17-83, ef. 12-1-83; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0005

437-006-0007

Purpose

The purpose of the rules contained in this division is to prescribe minimum safety and health requirements for all employees employed in forest activities work.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0007

437-006-0008

Site Planning

(1) Prior to the commencement of logging activity at a new job site, the employer shall conduct a jobsite safety survey which shall consider:

- (a) The topography of the land;
- (b) Snags, residual trees and other worksite hazards;
- (c) Conditions contained in the contract;
- (d) Method of harvesting to be used; and
- (e) Consultation with the responsible party on standing live or dead trees that can be safely retained as wildlife habitat.

(2) The employer shall conduct a safety briefing with employees to communicate the findings of the survey.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0010

Safety and Health Program

437-006-0015

Safety and Health Program

A safety and health program shall be developed and implemented by each employer. The program shall be in writing and at a minimum, the program shall include the following elements:

(1) Management commitment to the safety and health program, which shall include:

- (a) A written statement of commitment;
- (b) Management commitment of necessary safety personnel and resources to carry out the company's health and safety program;
- (c) Provisions for regular monthly inspection of all worksites, equipment, work methods, and work practices as the type of operation or character of the equipment requires, including a method for correction of hazardous conditions;
- (d) A system for investigation of all known safety and health related and recordable injuries or illnesses and prompt corrective action;
- (e) An accountability system for labor and management which provides for ongoing evaluation of employees' safety performance and a disciplinary policy for unsafe work practices; and
- (f) Assignment of responsibility and authority for safety of workers to all supervisory personnel.

(2) Supervisory practices which shall include:

- (a) Designation of an authorized person for each job with the authority and responsibility to supervise all employees at the site and to enforce the company's safety and health program; and
- (b) Periodic, informal review of the safety performance of each employee by the employer.

(3) Provisions for employee involvement in the safety and health program which includes:

- (a) Monthly safety meeting program for all employees. Meetings may be conducted individually, in separate crew meetings or in larger groups. Meeting minutes and attendance records shall be documented and made available to employees and Oregon OSHA upon request. Minutes and attendance records shall be maintained for three years from date of issue;

- (b) Provision for employee involvement in the safety and health program, through a system which encourages employees to report safety and health hazards and provides for prompt response and corrective action.

- (4) Training and followup training. Training and follow-up training shall be conducted which provide for job safety instruction and training for all employees. Prior to commencing any new work assignment, each employee shall be instructed, or shall previously have been trained, in the safe operation of any machinery, tools, equipment, processes or practice which the employee will use or apply.

- (5) Annual evaluation of safety and health program. Each employer shall make provision for an annual evaluation of the employer's safety and health program which shall include:

- (a) Methods and procedures to be used to assure that program deficiencies are identified and revised; and
- (b) Written findings of the annual evaluation which shall be maintained for three years from the date of issue.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0015

Work Conditions, Personal Protective Equipment, First Aid

437-006-0020

Checking System

A checking system shall be established, implemented and enforced to account for all employees at the end of each work shift. All employees shall be instructed in the checking system procedure.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0020

437-006-0023

Working Alone

The employer shall assume the responsibility of work assignments so that no employee shall be required to work in a position or location so isolated that that employee is not within visual, audible, or radio contact with another person who can render assistance in case of emergency. In any operation where cutting, yarding, loading or a combination of these duties is carried on, there shall be a minimum crew of two employees who shall work as a team and shall be in visual or audible signal contact with one another. (Motor noise is not acceptable as a signal.)

EXCEPTION: This does not apply to operators of motor vehicles, mechanized logging machines, watchers or certain other jobs which, by their nature, are single employee assignments.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0025

437-006-0025

Hazard Identification

The employer shall ensure that:

- (1) Hazards are identified and marked with bright red and white striped ribbon, which shall be used exclusively for this purpose;
- (2) A supply of bright red and white striped ribbon shall be available at the landing to employees and carried by all cutters. After January 1, 1993, the ribbon shall have skull and cross bones or "**Danger**" on it and be bright orange;
- (3) All employees are instructed in the recognition and use of hazard identification ribbon; and
- (4) Exposed employees are notified of existing marked hazards in their work area.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 43-1974, f. 11-5-74, ef. 12-1-74; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-83; WCD 10-85, f. 5-28-85, ef. 7-1-85; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0085

437-006-0028

Power Line Safeguards

(1) Minimum Distance:

(a) When any equipment is being moved or operated in the vicinity of an electric distribution line, a minimum clearance of ten feet shall be maintained between the electric distribution line and all elements of the machine;

(b) The ten foot requirement shall not be reduced by movement due to any strains impressed upon the structures supporting the high-voltage line and upon any equipment, fixtures, or attachments thereon.

(2) Warning Signs Required. The employer shall post and maintain in plain view of the operator on each logging machine which is capable of vertical, lateral, or swinging motion, a durable warning sign legible at 12 feet reading, **"Unlawful to operate this equipment within 10 feet of high-voltage lines"**.

(3) Notification to Power Company. The power company shall be notified when working within ten feet of a power line or when a tree may fall within ten feet of a power line.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92

437-006-0030

Weather Conditions

If the operation cannot be made safe because of inclement weather conditions or darkness, work shall be discontinued until these conditions change to allow safe operation except when doing fire fighting or under other approved emergency conditions.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0030

437-006-0035

Working Below Unstable Objects

(1) Each day in the course of regular logging operations, a general inspection shall be conducted of the areas to be worked that day to identify logs, rootwads, rocks, chunks or other objects that may roll, slide or fall towards the employees' work area. If any object is likely to move, it shall be removed, stabilized, or the work practices modified so that the unstable objects are no longer a hazard.

(2) Consideration shall also be given to rain, snow or other weather conditions that may increase the likelihood that objects may move.

(3) Employees shall be alert at all times for logs, trees, rootwads, rocks or other objects that could roll or slide towards them or others as a result of any work activity.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0035

437-006-0040

Night Logging

(1) Where work is conducted during the hours of darkness, the work area shall be provided with illumination which will allow employees to safely perform their duties. The illumination shall not be less than two foot candles (21.5 Lux) in the following activities. Grapple yarding, cable yarding, tractor and skidder log skidding operations, log sorting on land, log sorting and stowing on water using dozer boats, hand stowing on water, log checking or any other activity requiring close eye, foot and hand coordination.

(2) Where it is not practical to provide the required illumination by other means for the tasks to be performed, local sources of illumination, such as headlamps, shall be work by all employees required to work in areas where the light intensity is less than two foot candles (21.5 Lux).

(3) The sources of illumination shall be located and directed so as to create a minimum of shadows and glare.

(4) At log yarding and log skidding sites, all standing saplings shall be illuminated to their full height.

(5) If using a portable tailhold, lights shall be directed on the equipment to permit the employee to visually ascertain that the tailhold equipment remains stabilized.

(6) In addition to the requirements in OAR 437-006-0045(3), employees working at night shall wear reflective stripes or band material on their hard has or upper body cover.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0040

437-006-0045

Personal Protective Equipment

(1) Personal protective equipment shall be maintained in a safe and effective condition or removed from service or use.

(2) Employees engaged in logging activities or working in areas where there is possible danger of head injury from impact or from falling or flying objects, shall wear an approved hard hat meeting the provisions of **American National Standard, ANSI Z89.1-19886, Protective Headwear for Industrial Workers -- Requirements.**

EXCEPTION: Employees working in or under a vehicle cab or canopy are excluded from wearing a hard hat while in or under such vehicle.

(3) All employees exposed to the hazard of moving lines, falling timber, logs, vehicles or other moving equipment or materials including stationary rotating equipment shall wear colored hard hats or upper body cover of a high-visibility color, which contrasts with the background color(s), to enable equipment operators to readily see them.

(4) Footwear:

(a) All employees whose duties require them to walk on logs or boomsticks, shall wear sharp-caulked shoes, or the equivalent, except when conditions such as ice, snow, etc., render caulks ineffective. When caulks are ineffective and other footwear does not afford suitable protection, workers shall not be required to work on logs or boomsticks;

(b) When nonslip-type shoes or boots afford a greater degree of employee protection than caulk shoes, such as at scaling stations, log sorting yards, etc., then this type footwear may be work in lieu of caulk shoes providing firm ankle support and secure footing are maintained.

(5) Cotton gloves or other hand protection suitable for the need shall be worn whenever employees handle lines, rough material or when the nature of the work requires protection to the hands.

(6) All employees who operate power chain saws shall wear flexible ballistic nylon pads or other equivalent protection sewn or otherwise fastened to the trousers, or wear protective chaps, which will protect the legs from the thigh to below the knee from injury due to inadvertent and accidental contact with a moving power saw chain.

EXCEPTION: Section (6) of this rule shall **not** apply to an employee working aloft in trees when supported by climbing spurs and climbing belt.

(7) Eye or face protection shall be provided and used where chips, sawdust or flying particles present a hazard.

(8) Employees shall be protected in accordance with OAR Chapter 437, Division 2/G, Occupational Health and Environmental Control, and from the effects of noise exposures which exceed the noise levels deemed to be safe as defined in 1910.95 (b)(1).

(9) When operating chain saws, or other noise producing equipment or when working on lands, employees shall wear hearing protection unless monitored under typical work conditions and found to be exposed to a noise level of less than 85 db.

(10) All employees using power chain saws who do single employee cutting such as, but not limited to, cutting pre-commercial thinning, brush clearing and slashing shall carry a shrill sounding whistle such as a police whistle. The whistle shall be used only to summon help in case of an emergency.

(11) Dust masks in accordance with the **American National Standard, ANSI Z88.2-1980, Practices for Respiratory Protection**, shall be provided for use where conditions warrant.

(12) When working on log ponds, employees shall be provided with and shall wear approved buoyant protective equipment as required by Division 2/I, OAR 437-002-0139.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0045

437-006-0050

Medical Services and First Aid

- (1) The employer shall provide for the immediate and emergency care of ill or injured employees.
 - (2) The following minimum first aid supplies shall be in proximity to all employees. (The quantities of each item listed are minimum amounts to be available. Either bulk pack or unit pack supplies are acceptable. First aid supplies from other states may be acceptable if such supplies are the reasonable equivalent of those required by these rules.):
 - (a) Eight gauze pads individually wrapped (3" x 3" at least);
 - (b) Two large gauze pads which are or can be folded to an approximate size of 8" x 10", or equivalent;
 - (c) One box adhesive bandages;
 - (d) One package gauze roller bandage at least 2" wide or equivalent;
 - (e) Two triangular bandages;
 - (f) Wound-cleaning agent, such as sealed, moistened towelettes or soap and water;
 - (g) Scissors;
 - (h) One stretcher or equivalent weatherproof litter at any three or more person work site, and at all logging sites; and
 - (i) Two blankets, one of which shall be of cloth-type material.
 - (3) First aid supplies shall be regularly inspected and replenished as needed.
 - (4) First aid supplies shall be stored in containers adequate to protect the contents from damage, deterioration or contamination. The container shall be clearly marked and available when needed. The container shall not be locked, but may be sealed. Soap and water, stretcher or basket and blankets may be stored separately, but shall be in proximity to each workplace.
 - (5) The township, range and section numbers to all work sites of more than one day duration shall be posted at both the worksite and the communication base near the two-way radio or other communication device to give direction for assistance in case of an emergency.
 - (6) When employers are subject to both federal and state occupational health regulations, the more comprehensive first aid list shall apply.
 - (7) All employees shall be informed of the location of first aid supplies.
 - (8) Minimum first aid supplies, as approved in writing by the employer's consulting physician, may be provided in lieu of those minimum first aid supplies specified in section (2) of this rule.
 - (9) A qualified first aid person shall be available to any place of employment which is not in proximity to an emergency care service to render first aid as well as to ensure that the emergency medical is carried out, unless a physician approves a first aid and medical plan which does not include the requirements for a first aid person.
- EXCEPTION:** This does not apply to places of employment with lone employees.
- (10) The names of the first aid person(s) and the location of the first aid supplies shall be posted in conspicuous areas of permanent places of employment.
 - (11) If an emergency care service which is used for the treatment of all injured employees is in proximity to the workplace, no readily accessible qualified first aid person is required.
 - (12) In permanent places of employment (such as, but not limited to, shops and logging camps), space shall be

designated to permit an ill or injured employee to lie down until disposition of need. Cots, beds, stretchers or pads are acceptable for this purpose.

(13) Such space shall not be used for a storage area or any other purpose that would make it available for immediate use in rendering prompt first aid care.

(14) At temporary work locations, in lieu of the requirements set forth in section (12) of this rule, provisions shall be made to protect a sick or injured employee from the elements.

(15) An emergency medical plan to ensure the rapid provision of medical care to employees with major illnesses and injuries shall be developed and implemented to include the following provisions:

(a) If a physician or an ambulance with emergency medical technicians is readily accessible to the place of employment, the minimum emergency medical plan shall contain the following elements which shall be posted conspicuously at the place of employment:

(A) Name and telephone number of ambulance service; and

(B) Name and telephone number of hospital.

(b) If the place of employment is **not** readily accessible (within 30 minutes travel time) to a physician or an ambulance with emergency medical technicians, the employer shall have, in addition to the information required in subsection (15) (a) of this rule, a definite plan of action to be followed in the event of serious injury to an employee. This plan of action shall include the following:

(A) Each worksite not within 30 minutes travel time to a physician or ambulance with emergency medical technicians, shall have at least one serviceable and operable two-way radio, phone or radio/phone combination available to reach ambulance service. Citizens' band radios are permitted only as a secondary means of communication:

(i) Crew buses used by isolated employees, such as cutters, shall carry a communication unit as described above. The crew bus shall be parked as close and centrally located as possible to the employees using the vehicle;

(ii) Each operating site or crew located in a communication "dead" area shall have a mobile communication unit or plans made in advance to relay emergency calls through another site operating in the vicinity.

EXCEPTION: This rule does not apply to road graders, log and dump trucks, crew buses that service locations where a communication unit is already available (e.g., yarders, loaders), and similar mobile equipment.

(B) Availability of transportation to a point where an ambulance can be met or to the nearest suitable medical facility. Vehicles provided for this purpose shall be available at all times, shall have right-of-way over all vehicles or equipment under the control of the employer, and shall be equipped so that due consideration can be given to the proper care and comfort of the injured employee;

(C) Qualified medical personnel at destination.

(16) All employees shall be knowledgeable concerning the first aid and emergency medical plans.

(17) All supervisory personnel, all cutters and a minimum of one of every five employees shall be trained in first aid.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0050

Tools, Explosives and Extinguishers

437-006-0055

Hand and Portable Power-Driven Tools

- (1) The employer shall be responsible for the safe condition of tools regardless of tool ownership. The employee shall inspect each tool to assure safe condition and shall report any unsafe condition to the employer.
- (2) Wooden handles shall be sound, straight grained and tight fitting.
- (3) Heads of shock or impact-driven and driving tools shall be dressed or ground to remove any mushrooming. When such tools show a tendency to chip, they shall be removed from service.
- (4) Cutting edges of tools shall be kept sharp and properly shaped.
- (5) Tools shall be appropriate for their use and shall be used in a safe manner.
- (6) Racks, boxes, holsters or equivalent means shall be provided and arranged so passengers and driver will not be endangered by tools or equipment being transported, loaded or removed. Tools and materials shall be secured in the racks and boxes provided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 43-1974, f. 11-5-74, ef. 12-1-74; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0055

437-006-0060

Explosives and Blasting Agents

The storage, transportation, handling and use of explosives and blasting agents shall be in accordance with Chapter 437, Division 002, Subdivision H, Explosives and Blasting Agents.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0080

437-006-0065

Power Saws

- (1) Power saws shall be inspected daily when in use and kept in good repair at all times. Saws with cracked or loose handle bars or defective vital parts shall not be used.
- (2) Power chain saw engines shall be stopped while being fueled.

- (3) Power chain saws shall have an operable chain brake if originally designed and equipped with a chain brake.
- (4) Chain brakes, and other manufacturer's safety features shall remain operational at all times.
- (5) Power chain saws shall be equipped with an automatic throttle control which will return the engine to idling speed upon release of the throttle. "Idling" is when the chain is not moving while the engine is running.
- (6) Power saws shall meet all applicable requirements of American National Standard, ANSI B175.1-1985, Safety Requirements for Gasoline-Powered Chain Saws, except where exempted by these rules.
- (7) When falling a tree, the power saw engine shall be at idle or shall be shut off when completed. Where terrain or brush creates a hazardous condition, the power saw engine shall be shut off while the operator is traveling to the next cut.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0095

437-006-0068

Fire Extinguishers

- (1) At least one 2-1/2 pound size A, B, C rated fire extinguisher or equivalent protection shall be provided on each vehicle, or machine or in proximity to the work areas where the machines or vehicles are operated. Fire extinguishers or protection system shall be of the type approved by a nationally recognized testing laboratory (see OAR 437, Division 2/A, 1910.7, for definition of NRTL).
- (2) Fire extinguishers shall be fully charged and maintained in operable condition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0060

Fire Protection/Suppression and Prescribed Burning

437-006-0080

Fire Suppression by Employees Other Than Fire Fighters

- (1) All forest activity employees who may be called upon to do fire suppression in wildland areas shall, within 60 days of employment:
 - (a) Receive basic fire suppression training, as outlined in **Appendix 6-D**; and
 - (b) This training shall be given prior to the commencement of fire activities, and shall include instruction in:

(A) The safe use of basic fire fighting tools and equipment; and

(B) What to do in an emergency to escape a fire area.

(2) When forest activity employees whose primary duty is **not** fire suppression are called upon to fight wildland fire, they shall wear the following protective clothing:

(a) Pants and long-sleeve shirt;

(b) 8-inch high top leather lace-up boots or other suitable footwear. The sole and heel of boots shall be of slip resistant material;

(c) Hand protection of at least cotton gloves; and

(d) Head protection as required by OAR 437-006-0045(2) and (3).

(3) When employees are required to wear other than the basic listed protective clothing as required by section (2) of this rule, all such special protective clothing and equipment shall be provided by the employer at no cost to the employee.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92

APPENDIX 6-D

BASIC FIRE CONTROL TRAINING FOR LOGGING CREWS

COURSE OUTLINE

BLOCK 1: INTRODUCTION

1. Fire Protection System in Oregon

2. Need for This Training Course

3. Summary

BLOCK 2: BASIC FIRE BEHAVIOR

- 1. How a Fire Burns
- 2. How a Fire Spreads
- 3. The Fire Environment
- 4. Summary

BLOCK 3: BASIC FIRE CONTROL

- 1. Preplanning for an Operation Fire
- 2. Size-up
- 3. Control
- 4. Use of Water
- 5. Mopup
- 6. Safety

BLOCK 4: INDUSTRIAL FIRE PREVENTION STATUTES AND RULES

NOTE: An example of training in Basic Fire Control for Logging Crews is published by the Oregon Department of Forestry.

437-006-0082

Wildlands Fire Suppression and Prescribed Burning by Fire Fighters

Scope: OAR 437-006-0082 through 437-006-0091 shall apply to all employees whose primary duty is fire suppression or prescribed burning of wildland areas (i.e., professional fire fighters.)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92

437-006-0084

General Requirements

(1) Organizational statement. The employer shall prepare, adopt and maintain a written policy which includes basic organizational structure and functions, in addition to the type, amount, and frequency of training to be provided to fire fighters. This statement shall be made available to OR-OSHA and to employees or their designated representatives upon request.

(2) The employer shall review and evaluate the physical capability of each employee to determine their ability to perform duties which may be assigned during emergencies. The review and evaluation shall be accomplished through aerobic capacity step testing, satisfactory physical performance demonstrated during training or through work activities.

(3) The employer shall not permit an employee with known heart disease, epilepsy, or emphysema to participate in activities at the emergency scene unless a physician's certificate of the employee's fitness to participate in such activities is provided. This shall not limit the employer's ability to assign personnel to support activities (vs. fire suppression activities).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92

437-006-0086

Fire Fighting Training and Education

(1) The employer or employer representative shall establish and implement a policy for the delivery of education and training designed to develop and maintain an appropriate level of knowledge, skill, and abilities related to fire behavior, fire suppression and control tactics as demonstrated through training evaluation and/or demonstrated skills. Such education and training shall include pre-emergency strategy and shall be provided to fire fighters before they perform fire fighting activities and at least annually thereafter.

(2) The employer shall provide education and training in the safe use of fire fighting equipment, including vehicles.

(3) Supervisors, crew leaders and training instructors shall be provided education and training appropriate to their duties.

(4) The employer shall keep training records for each employee.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92

437-006-0088

Protective Clothing

(1) The employer shall provide at no cost to employees all required special protective clothing and equipment.

NOTE: The employer is not required to provide the minimum listed basic protective clothing, as listed in OAR 437-006-0080(2).

(2) Hand protection shall consist of protective gloves or gloves system which will provide protection against cut, puncture and heat penetration.

(3) Body protection shall consist of pants and long sleeve shirts of cotton, wool, denim or of flame resistant material.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92

437-006-0090

Head, Eye and Ear Protection

(1) Head protection shall be as required by OAR 437-006-0045(2) and (3).

(2) When working around helicopters, hats shall be secured by chin straps.

(3) Hard hats shall not be required when working in areas not subject to falling items, such as helicopter service areas and dip tank areas.

(4) Protective eye and/or face devices shall be used by all employees when performing operations where hazards of flying or falling materials that may cause eye or face injuries are present. Protective eye and/or face devices provided as accessories to protective head gear are permitted.

(5) All employees shall be protected in accordance with OAR Chapter 437, Division 2/G, Occupational Health and Environmental Control, and from the effects of noise exposures which exceed the noise levels deemed to be safe as defined in OAR Chapter 437, Division 121.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92

437-006-0091

Fire Fighting Equipment

(1) The employer shall maintain and inspect all fire fighting equipment to assure the safe operational condition of the

equipment:

- (a) Fire fighting equipment shall be inspected for defects prior to each emergency use and inspected after each emergency use and shall be maintained in accordance with the manufacturers' recommendations;
- (b) Fire fighting equipment that is defective or damaged so as to render it hazardous to operate shall be removed from service and not returned to service until repairs are completed.
- (2) In addition to these rules, all vehicles shall be used and maintained in accordance with OAR 437, Division 2/N, Material Handling and Storage, 437-002-0223, Oregon Rules for Commercial and Industrial Vehicles.
- (3) No employee shall be permitted to ride on the outside of a vehicle unless the vehicle is fighting a field fire and is being operated in low gear, and the employee is strapped into an enclosure especially built for that purpose.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92

Roads and Vehicles

437-006-0095

Roads

- (1) Haul roads shall be of sufficient width and evenness to ensure the safe operation of equipment and shall be in compliance with OAR 437-002-0223, Oregon Rules for Commercial and Industrial Vehicles, in OAR 437, 2/N, Material Handling and Storage.
- (2) An ample supply of nonskid materials, such as coarse sand or finely crushed rock or salt, shall be available and used on slippery and icy road surfaces.
- (3) Haul road grades shall not exceed 20 percent unless special equipment and safety measures are used to accommodate the steep grade or the logging equipment or truck is specifically designed and approved by the manufacturer for operation on grades in excess of 20 percent.
- (4) Broken planking, deep holes, large rocks, logs or other dangerous surface defects on roads shall be corrected before any equipment is used thereon.
- (5) All danger trees that can fall or slide onto roadways shall be felled a safe distance back from the roadway. Loose rocks, stumps and other materials which present a hazard, shall be cleared from banks. Brush and other materials that obstruct the view at intersections or on sharp curve shall be cleared. (This section is applicable only to those portions of roads under direct control of the employer and/or landowner.)
- (6) All bridge structures shall be adequate to support the maximum imposed loads without exceeding the maximum safe working unit stresses.
- (7) Bridges shall have rub rails and be maintained in good repair, and shall comply with the provisions of OAR 437, Division 2/N, Material Handling and Storage. Rub rails shall be at least 6" x 6" timbers or equivalent members set on 4" by 6" blocks and secured to the bridge deck.

(8) On single lane roads, the citizen's band (CB) radio channel used by the logging company shall be posted on the logging road when log trucks are hauling on the road to control traffic.

(9) Employee(s) shall be assigned to flag on roads or other equivalent protection provided where hazardous conditions are created from logging such as but not limited to:

(a) Running wire rope lines or rigging across road grades, excluding guylines; or

(b) The movement of logs, chunks or debris across or suspended over road grades.

EXCEPTION: Where there is no through traffic, such as on a deadend road or where the property owner's permission or proper authority is granted to close a section of road, warning signs and barricades may be used instead of flagger(s).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0065

437-006-0100

Fuels - Storage, Handling and Marking

Fuels and oils shall be stored, handled and marked in accordance with OAR 437, 2/H, Hazardous Materials, 1910.106, Flammable and Combustible Liquids, and applicable State Fire Marshal regulations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0070

437-006-0105

Transportation of Employees

Employees shall be transported in accordance with OAR 437, Division 2/N, Material Handling and Storage.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0075

437-006-0110

Seat Belts

All motor vehicles (except buses which were not manufactured with seat belts) designed, used or maintained primarily for the transportation of persons or materials over private or public roads, shall be equipped with seat belts which shall be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92

Rigging and Climbing Equipment

437-006-0120

General Requirements for Rigging

- (1) Rigging shall be arranged and operated so that rigging and loads will not foul or saw against lines, straps, blocks or other equipment or material.
- (2) When not in use, rigging shall be stored so as to not present a hazard to employees.
- (3) Reefing or similar practices to increase line pull is prohibited.
- (4) Tongs, grapples, logs and materials shall not be swung or suspended over employees.
- (5) All employees shall stay in the clear of running lines, standing skylines, moving rigging or suspended loads until the rigging or loads have completely stopped.
- (6) All employees are prohibited from riding hooks, lines, or any other rigging or logs suspended in the air or being moved, except when being lifted by approved devices.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0160

437-006-0125

Inspection of Rigging

A thorough inspection by an authorized qualified person shall be made of all blocks, straps, guylines, butt rigging and other rigging before they are used. Inspections shall include an examination for damaged, cracked or worn parts, loose nuts and bolts, need for lubrication and the condition of straps and guylines. All necessary repairs or replacements for safe operation shall be made before the rigging is used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0165

437-006-0130

Molles and Shackles

- (1) Molles shall not be used as a temporary connection between two spliced eyes of a load-supporting running line.
- (2) Shackles used to hang blocks, jacks or rigging on trees or loading booms shall have the pins secured with a nut and cotterkey or a nut and molle. When used, molles shall be as large as the pinhole will accommodate and with the loose ends rolled in.
- (3) Shackles, including sleeve type, used for purposes other than those covered by section (2) of this rule shall be of the screw-pin type or with the pin secured with a nut and cotterkey or a nut and molle, except as specified elsewhere for specific purposes.
- (4) Flush pin, straight-sided shackles shall be used for mainline and skyline extensions and shall be one size larger than the line used.
- (5) Shackles, including sleeve type, may be used with a knockout pin (see **Figure 1**, Guyline Sleeve with Knockout Pin) one size larger than the line attached for skyline when the pin is secured by a molle as large as the pinhole will accommodate.
- (6) The minimum sizes of shackles required to hang or attach single sheave blocks or jacks shall be not less than those shown in **Table 1**, and shackles shall be of alloy steel which develops 120,000 PSI ultimate tensile strength or better:

NOTE: The manufacturer's rated breaking strength of its shackles may be used in determining oversize requirements when the shackle in question can be identified as to its make, size and steel classification.

Table 1

Wide Bell Shackles

Wire Rope Size Shackle Size

- 1/2" 3/4"
- 9/16" 13/16"
- 5/8" 7/8"
- 3/4" 1-1/8"
- 7/8" 1-1/4"
- 1" 1-3/8"
- 1-1/8" 1-1/2"
- 1-1/4" 1-3/4"

- 1-3/8" 1-7/8"
- 1-1/2" 2-1/4"
- 1-3/4" 2-1/2"
- 2" 2-3/4"

(7) The minimum sizes of shackles, except flush pin, straight-sided shackles for skyline extensions (See section (4) of this rule, required for joining or attaching lines) shall be not less than those shown in **Table 2** and shall be of alloy steel:

NOTE: The manufacturer's rated breaking strength of its shackles may be used in determining oversize requirements when the shackle in question can be identified as to its make, size and steel classification.

Table 2

Safety Pin Style Shackles with Medium Bell or Straight Sides

Wire Rope Size Shackle Size*

- 1/2" 5/8"
- 9/16" 11/16"
- 5/8" 7/8"
- 3/4" 1"
- 7/8" 1-1/8"
- 1" 1-1/4"
- 1-1/8" 1-3/8"
- 1-1/4" 1-1/2"
- 1-3/8" 1-5/8"
- 1-1/2" 2"
- 1-3/4" 2-1/4"
- 2" 2-1/2"

*Not less than 120,000 PSI Ultimate Tensile Strength

- (8) Shackle pin diameter shall be 1/8 inch larger than the indicated shackle size up to 1-3/4 inch. From 1-3/4 inch up through three inches shackle size, the pin diameter shall be 1/4 inch larger.
- (9) Pins with a nut secured with cotterkey or molle shall secure the shackle jaw width.
- (10) The size of the opening between the jaws of shackles used to hang blocks, jacks, rigging and for joining or attaching lines, shall not be more than one inch greater than the size of the rope, swivel, shackle or similar device to which it is attached.
- (11) Shackles used to join lines shall be hung with the pin and "U" part of the shackle through the eyes of the lines.
- (12) Shackle pins and nuts shall be replaced when worn or when threads are worn or stripped.
- (13) Mainline loading blocks shall be hung as close as possible to the guylines.

[ED. NOTE:The Figure(s) referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-83; WCD 10-1985, f. 5-28-85, ef. 7-1-85; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0170

437-006-0135

Straps

(1) Straps or chokers used to hang or support blocks, jacks, tree shoes, or rigging shall be sized in accordance with Table 3:

Table 3		
Strap Size		
Running Line	Block Hung in Both Eyes	Block Hung in Single Eye**
5/16"	1/4"	1/2"
3/8"	3/8"	9/16"
7/16"	5/16"	5/8"
1/2"	3/8"	3/4"
9/16"	7/16"	7/8"
5/8"	5/8"	1"
3/4"	3/4"	1-1/8"

7/8"	7/8"	1-1/4"
1"	1"	1-3/8"
1-1/8"	1"	---***
1-1/4"	1"	---
1-3/8"	1"	---
1-1/2"	1-1/8"	---
1-5/8"	1-1/4"	---
1-3/4"	1-1/4"	---
1-7/8"	1-3/8"	---
2"	1-3/8"	---

* For standing skyline only

** For standing or running skyline

*** Block hung in single eye not allowed for larger line sizes

NOTES:

- 1-Both strap ends must be under equal tension.
- 2- Side blocks may use either type strap on running skyline.
- (2) When a two-part strap, or two chokers are used to hang a block, jack, tree shoe, or rigging both eyes or ends shall be under equal tension.
- (3) Where two equal length chokers are used in lieu of one choker, to gain extra breaking strength, they shall be arranged as a swede type connection.
- (4) Straps or chokers used to hang or support blocks, jacks, tree shoes, or rigging shall be replaced when there is evidence of damaged or broken wires and shall be made of new wire rope or meet the pull test strength of new wire rope.
- (5) Sleeve-type shackles or choker bells shall be used where choked lines are permitted.
- (6) Nylon straps shall be used in accordance with the manufacturer's recommendations and only at a flat or downward angle unless wrapped one full turn around the tree support so as not to allow the strap to ride up on the support.
- (7) Nylon straps shall be removed from service when the wear reaches the limits prescribed by the manufacturer or when deterioration is evident.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-83; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0175

Blocks

(1) Load-bearing blocks shall:

- (a) Not be used for heavier strains or lines than those for which they are constructed;
- (b) Be fitted with line guards and be designed and used in a manner that prevents fouling;
- (c) Be kept in proper alignment when in use;
- (d) Have bearing and yoke pins of a material that will safely withstand the strains imposed and shall be securely fastened; and
- (e) Have sheaves of a size designed for the size of the wire rope used.

EXCEPTION: Subsections (b) and (e) of this section do not apply to small rig-up ("Tommy Moore") blocks.

(2) Blocks with cracked or excessively worn sheaves shall not be used.

(3) Block bearings shall be kept well lubricated.

(4) Wood spar lead blocks used for yarding, swinging, loading and unloading shall:

- (a) Be of the type and construction designed for this purpose;
- (b) Be bolted with not less than two bolts through the shells below the sheaves in a manner that will retain the sheave and line in case of bearing pin fracture (this does not apply to haulback lead blocks); and
- (c) Have a sheave diameter of not less than 20 times the diameter of the mainline.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0195

437-006-0145

Hanging Blocks

(1) Sufficient corner or tail blocks to distribute the stress on anchors and attachments shall be used on all logging systems.

(2) Blocks used to lead lines directly to yarding, loading or unloading machines other than passline or strawline blocks shall be hung by one of the following methods:

- (a) The block shall be hung in both eyes or "D"s of the straps (threaded straps are prohibited); or
- (b) If chokers are used, the ferrule shall be properly seated in the socket of the bell or hook so as to prevent the ferrule from coming unbuttoned and shall comply with the requirements of OAR 437-006-0135(1) for proper size.
- (3) Tail, side or corner blocks used in yarding shall be hung in both eyes of straps. Chokers or single straps may be used if in compliance with OAR 437-006-0135(5).

(4) Wood spar haulback and mainline loading blocks shall be hung as close as possible to support guylines.

(5) The yoke pin of haulback blocks shall be inserted with the head facing the direction from which the rigging approaches.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0200

437-006-0150

Pass Lines, Chains and Blocks

(1) All wood head spar trees shall be equipped with passlines that shall:

(a) Be not less than 5/16-inch and not be over 1/2-inch in diameter;

(b) Not be subjected to any sawing on other lines or rigging, and kept clear of all moving lines and rigging;

(c) Be of one continuous length and in good condition with no splices, knots, molles or eye-to-eye splices between the ends;

(d) Be long enough to provide three wraps on the drum before the climber leaves the ground; and

(e) Have three tuck eyes only.

(2) Drums used for passlines shall have sufficient flange depth to prevent the passline from running off the drum at any time.

(3) Passline chains shall:

(a) Be not less than 5/16-inch alloy or 3/8-inch high test chain and shall not contain cold shuts or wire strands;

(b) Be attached to the end of the passline with a screw-pin shackle, a slip-pin shackle with a nut and molle, or a ring large enough to prevent going through the pass block; and

(c) Be fitted with links or rings to prevent employees from being pulled into the passline block.

(4) Pass blocks shall:

(a) Be inspected before placing in each spar and the necessary replacements or repairs made before they are hung;

(b) Have the shells bolted under the sheaves;

(c) Have the bearing pin securely locked and nuts keyed or the block be of the type which positively secures the nut and pin;

(d) Be equipped with sheaves not less than six inches in diameter; and

(e) Comply with OAR 437-006-0140 and 437-006-0145 pertaining to blocks.

(5) When employees are required to go up vertical metal spars, passlines, chains and blocks shall be provided and used

in accordance with OAR 437-006-0150(1) through (4).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0200

437-006-0155

Selection of Tail and Intermediate Support Trees

- (1) Spar, tail and intermediate support trees shall be examined carefully for defects before being selected. They shall be sound, straight, green and of sufficient diameter to withstand the strains to be imposed.
- (2) Trees having defects that impair their strength shall not be used for spar, tail or intermediate support trees. Raised trees shall be identified and marked as such.
- (3) Douglas fir or spruce shall be used as spar, tail or intermediate support trees when they are available. If other species must be used, additional guylines, tree plates or other precautions shall be taken to ensure that the tree will withstand the strains to be imposed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0140

437-006-0160

Preparation of Tail and Intermediate Trees

- (1) All climbers shall have proper knowledge and training on safe rigging procedures for each applicable climb duty.
- (2) Trees shall not be topped during windy weather.
- (3) At no time shall topping, rigging up or stripping work be done when visibility is impaired.
- (4) An extra set of climbing equipment shall be immediately available at the worksite and an additional employee with sufficient climbing skills to render assistance to the climber in an emergency shall be available in the immediate area.
- (5) Yarding of any type shall not be conducted within reach of the guylines of a tree in which a climber is working.
- (6) An experienced employee, stationed out of danger of falling objects, shall be assigned to transmit the climber's signals. Neither the signalers nor the machine operator shall be otherwise engaged while the climber is in the tree.
- (7) Noisy equipment such as power saws, tractors and other logging machines shall not be operated around the area where a climber is working when such noise will interfere with the climber's signals.
- (8) Lines attached to a tree in which a climber is working shall not be moved except on a signal from the climber.
- (9) A climber's rope (chain) shall encircle the tree before the climber leaves the ground except when the climber is

riding the passline.

(10) While the climber is working in the tree, employees shall keep at a sufficient distance from the tree to be clear of falling objects.

(11) The climber shall give warning in case any equipment or material is in danger of dropping, or is to be dropped deliberately.

(12) When power, other than from a pass-line drum, is used to move the passline, shackles or equivalent means shall be used as the attachment to the power source.

(13) When a climber is using the pass line, an employee shall attend the passline drum to make certain the passline is evenly spooled onto the drum at all times.

(14) When used, passline fair-leads shall be kept in alignment and free from fouling at all times.

(15) Climbers shall select the place for hanging rigging before topping a tree, and in no instance shall more than 16 feet nor less than six feet of the topped tree extend above the top guylines.

(16) Loose equipment, rigging or material shall either be removed from the tree or securely fastened.

(17) Tail and intermediate support trees shall either be topped or employees shall not be permitted to work within reach of the tree when any stress is imposed on the working lines.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0145

437-006-0162

Climbing Equipment

(1) Climbing and pass line equipment shall not be used for other purposes.

(2) Defective climbing equipment shall be immediately removed from service.

(3) The climber shall be equipped with a climbing equipment assembly having a breaking strength of not less than 5,400 pounds. The equipment shall include:

(a) A safety belt with double "D" rings;

(b) Steel spurs long and sharp enough to hold in any tree in which they are used; and

(c) The climber shall be secured to the tree with a high quality steel safety chain of 3/16-inch size or larger whenever a chain saw or axe is used.

(4) The climbing rope or chain shall be attached to both of the "D" rings at the side of the belt or passed through the "D" rings and around the body. A secondary safety device shall be used when snap hooks are used.

(5) Lineman hooks shall not be used as spurs.

(6) When power saws are used in topping or limbing standing trees, the weight of the saw shall not exceed 30 pounds.

(7) Tools used by the climber, except the power saw, shall be safely secured to the belt when not in use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0135

437-006-0165

Erecting and Lowering Spars

(1) A qualified and authorized person shall direct each raising and lowering of each portable spar.

(2) All employees not engaged in the actual raising or lowering of portable spars shall stay in the clear during these operations.

(3) Portable spars shall be leveled to provide proper line spooling and avoid excessive stress on component parts.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0255

437-006-0170

Metal Spars

(1) Each portable metal spar shall have an identification plate permanently attached to its base or on the yarder in a position that can be easily read by a person standing on the ground or on the base platform.

(2) All plates shall contain the following information:

(a) Name and address of manufacturer and model number; and

(b) The maximum and minimum inclination at which the spar is designed to operate.

(3) In addition, all identification plates on metal spars manufactured after July 1, 1980, shall contain the following information:

(a) The maximum breaking strength and size of mainline for which the spar is designed;

(b) The maximum breaking strength and size of haulback line for which the spar is designed;

(c) The number, breaking strength and size of guylines or any other lines required; and

(d) If the spar is designed for a skyline, slackline or modified slackline system, the maximum breaking strength and size of skyline, mainline and haulback line that can be used.

(4) All spar poles shall be operated within the manufacturer's capacity:

- (a) As specified on the identification plate; or
- (b) As modified by the manufacturer; or
- (c) As designed and specified by a registered engineer; or
- (d) A tension limiting device installed on the yarder that automatically slacks the skyline or mainline to within the manufacturer's line strength specifications and is tamper proof, inspected and maintained in good operating condition; or
- (e) A line fuse installed in the skyline or main line. Line fused systems shall meet the following conditions; or
 - (A) Line fuses shall have a design breaking strength equal to or less than the maximum line rating of the spar pole as listed on its identification plate; or
 - (B) The fuses shall be certified and stamped as to their breaking strength and notice given to the crew that line fuses are being used; and
 - (C) Operation procedures shall be established to limit line loads (pull) on the spar pole to below the maximum identification plate rating for the spar pole. The operating procedures may be accomplished by a variety of means, but must be observable or documentable.
- (f) Guylines installed that have a breaking strength rating equal to or greater than the skyline or mainline breaking strength; and
 - (A) All other rigging is upgraded accordingly, i.e., tags, safety strap, shackles, etc.; and
 - (B) Any locking or dogging device on the brake or elsewhere is removed; and
 - (C) Operating procedures are used to limit the load on the tower to a load (line pull) no greater than that indicated on the yarder specification plate. These operating procedures can be accomplished by a variety of means, but must be observable or documented.

EXCEPTIONS:

- 1-** Wire rope dimensionally larger than that specified by the yarder manufacturer shall not be used for skyline, mainline, skidding line and/or haulback line; and
- 2-** Wire rope dimensionally smaller than that specified by the yarder manufacturer shall not be used for guylines except where the guylines are at least equal in strength to the skyline or mainline and the required number of guylines is exceeded.
- (5) Equipment used for yarding which is specifically designed to be self-stabilizing during operation may be used without guyline(s) provided the equipment uses guylines when required by the manufacturer.
- (6) Portable metal spars and their appurtenances shall be inspected by a qualified person each time the spar is lowered and at any time its safe condition is in doubt. When damage from overstress or any other source is noted or suspected, the part in question shall be inspected by a suitable method and found to be safe or the part repaired by a qualified person or replaced before the spar is again used.
- (7) Structural modifications or additions which affect the capacity or safe operation of metal spars shall be made only under the direction of the manufacturer or a registered professional engineer. If such modifications or additions are made, the identification plate required in section (1) of this rule shall reflect such changes.
- (8) When moving metal spar logging machines, the spar shall be lowered except when needed for mobility and shall be adequately supported so that the stability of the machine is not impaired during movement.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0285

437-006-0175

Metal Spar Guyline Safety Straps

(1) A metal spar guyline safety strap or equivalent device shall be installed at the top of metal spars to prevent guylines from falling vertically more than five feet in case of structural or mechanical failure of the guyline attachment.

(2) Metal spar guyline safety straps or equivalent devices shall be equal to the strength of one guyline being used.

(3) The use of cable clips or clamps for joining the ends of metal spar guyline safety straps is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0185

NOTE: Rules 437-006-0176 through 0204 are reserved.

437-006-0205

Wire Rope

Wire rope shall be taken out of service when any one of the following conditions exist:

(1) Kinking, crystallization, bird-caging, or any other damage resulting in weakening of the rope structure;

(2) Evidence of any heat damage from any cause;

(3) Wear or damage beyond the point of safety. Wire rope shall be removed from service when 12-1/2 percent of the wires are broken within a distance of one lay;

(4) Evidence of chafing or sawing; or

(5) Corroded, damaged or improperly applied end connections.

EXCEPTION: this rule does not apply to chokers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0205

437-006-0210

Cutting, Splicing and End Fastenings

- (1) Hard hammers shall not be used for cutting cable with a wire axe or when splicing.
- (2) Eye protection shall be used when cutting lines.
- (3) Marlin spikes or needles shall be used when splicing. They shall be large enough for the size of the line being spliced and maintained in good condition.
- (4) Short splices, eye-to-eye splices, cat's paws, and knots are prohibited except for use in the moving of nonload-bearing lines. Rolled eyes (farmers eye) may be used when of the four-tuck type. Knots may be used on single drum tractors, grapple pickup lines and dropline carriage systems using slider bells when the knot is tied on the end of the dropline. The knot shall be pulled as tight as possible and the ends trimmed in accordance with **Table 4**:

Table 4

Splice Data for Straight (Endless) Wire Rope

Rope Diameter	To be Unraveled	Rope Diameter	To be Unraveled
3/4"	15' 1-1/4"	25'	
7/8"	18' 1-1/2"	30'	
1"	20' 1-3/4"	35'	
1-1/8"	23' 2"	40'	

- (5) Wire rope 1/2 inch in diameter or less shall be tucked at least two times provided the rope is used only as a strawline.
- (6) Eye splices in all regular lay lines and straps shall be tucked at least three times.
- (7) Eye splices in lang lay lines shall be tucked at least four times.
- (8) Splices, other than eye splices, in lang lay loading lines are prohibited.
- (9) Long splices shall be used for permanently joining regular lay running line.
- (10) The length of line strand to be unravelled to make a long splice in wire rope shall be as shown in **Table 5**. The full length of the splice shall be twice the length of the rope to be unraveled.
- (11) Wire strand ends shall be trimmed to within:

Table 5

Strand Ends

Strange End Line Size

2" up to 5/8"

6" 3/4" to 1"

8" 1-1/8" and over

(12) The recommendations of the manufacturer shall be followed in attaching sockets and similar end fastenings.

(13) The use of cable clips or clamps for joining lines is prohibited, except where used for transferring of slack lines from one place to another.

(14) When U-bolt wire clips are used to form eyes, **Table 6** shall be used to determine the number and spacing of clips:

Table 6

Number and Spacing of U-Bolt Wire Rope Clips

Number of Clips

Improved Plow Steel Rope	Drop Forge	Other Material	Minimum Spacing
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3/8 to 5/8"	3	4	3-3/4"
3/4"	4	5	4-1/2"
7/8"	4	5	5-1/4"
1"	5	6	6"
1-1/8"	6	6	6-3/4"
1-1/4"	6	7	7-1/2"
1-3/8"	7	7	8-1/4"
1-1/2"	7	8	9"

(15) When U-bolt wire rope clips are used, the following additional requirements apply:

(a) When used for eye splices, the U-bolt wire rope clip shall be attached so that the "U" section is in contact with the dead or short end of the rope;

(b) U-bolt wire rope clips shall be spaced at least six rope diameters apart to obtain the maximum holding power. Nuts shall be tightened evenly and tightened again after application of the first sustained load. After the rope has been used and is under tension, the clips shall be tightened again to take up any looseness caused by the tension reducing the rope diameter;

(c) When high strength wire rope is used, one more U-bolt wire rope clip shall be added for each grade above improved plow steel; and

(d) Eyes formed with U-bolt wire clips shall not be used with running lines or straps.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-83; WCD 10-1985, f. 5-28-85, ef. 7-1-85; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0210

437-006-0215

Chokers and Butt Rigging

(1) Chokers shall be at least one size smaller than the mainline. If a drop line is used, it shall have a breaking strength equal to a line one size smaller than the main line.

(2) All butt hook rigging shall be used in a manner to prevent loss of choker.

(3) Molles or cold shuts shall not be used in butt rigging as a load bearing connection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0215

Guylines, Skylines, Spars and Anchors

437-006-0220

Guylines -- General

(1) Guylines shall be used with any logging equipment when required by the equipment manufacturer.

(2) Guying both in number and angle shall not be less than the minimum recommended by the equipment manufacturer.

(3) Unless otherwise specified by the equipment manufacturer, guylines shall be of the following sizes:

(a) In highlead logging, the head spar guylines shall be equal in breaking strength to the mainline;

(b) In skyline logging, if the skyline is 1-3/8 inch or greater, the head spar guylines shall be at least 1-3/8 inch. If the skyline is less than 1-3/8 inch, the head spar guylines shall be equal in breaking strength to the skyline;

(c) On tail/lift and intermediate support tree, guylines shall have a combined strength greater than or equal to the breaking strength of the mainline;

(d) On all other cable logging, the guylines shall have a breaking strength at least equal to the mainline.

(4) When guylines are required for spars they shall be positioned according to **Table 7** or according to the manufacturer's specifications.

Table 7

Guyline Positioning

Number of Guys on Spar	Number of Guys Sharing Load	Positioning Figure Number
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1	1	6-4
2	2	6-5
3	3*	6-6

2	6-7	
4	2	6-8
5	2	6-9

3	6-10	
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6	2	6-11
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3**	6-12	
7	3	6-13
8	2	6-14

4**	6-15	
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* For metal spars designed to operate without snap guy.

** For setup with guys not equally spaced; most appropriate for metal spars; however, the operator may choose between this setup and footnote.

- (5) Guylines shall be made of plow steel or better material and shall be maintained in good condition.
- (6) Load bearing guyline angles shall be no greater than 50 degrees measured horizontally. If suitable anchors are unavailable or the terrain is so steep that the guyline angle exceeds 50 degrees, an additional guyline shall be rigged to oppose the load.
- (7) Guylines shall be kept securely tightened while the spar, tree, equipment or rigging they support is in use.
- (8) All trees that interfere with proper alignment, placement or tightening of guylines shall be felled.
- (9) Guylines shall be hung in a manner to prevent a bight or fouling when they are tightened.
- (10) The use of loops or molles for attaching guylines is prohibited.
- (11) The U part of shackles or sleeves shall be around the guyline and the pin passed through the eye of the guyline.

- (12) Splicing of guylines is prohibited except to make an eye splice.
- (13) All spliced guyline eyes shall be tucked at least three times.
- (14) Extensions to guylines shall be:
 - (a) Equal in breaking strength to the guyline in which they are attached; and
 - (b) Connected only by a shackle connecting two spliced eyes, pressed eyes or by double-end hooks. Connections shall have at least 1-1/2 times the strength of the guyline.
- (15) When hanging a block or jack on a guyline, only sleeve-type safety pin shackles shall be used. The shackle sleeve shall have not less than 2-1/2 times the line diameter bearing on the guyline.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0275

437-006-0225

Tail/Lift Tree Guying

- (1) When rigging is placed on a tail/lift tree (as defined in OAR 437-006-0005, it shall be supported by guylines as follows:

Maximum		
Tree Size	Rigging Height	Guyline
DBH*	Above Ground	Requirements

18" - 36" 5 times DBH ** none

18" - 36" Greater than minimum of 2

5 times DBH

36" - 48" 25' ** none

36" - 48" Above 25' minimum of 2

48" - 60" 35' ** none

48" - 60" Above 35' minimum of 2

60" or 45' ** none

greater

60" or Above 45' minimum of 2

greater

* Diameter Breast Height

* When the angle between a lift tree and a tail hold is greater than 20° and there is greater than 8° offset between the line angles as they enter and leave the lift tree, guylines must be provided.

(2) Guylines on tail/lift trees may be anchored to standing trees when there is no danger that the anchor tree will enter the work area if pulled.

(3) Whenever the tail/lift tree is within reach of the work area, a minimum of two guylines shall be used:

(a) When the angle between the horizontal and skyline coming into the tree (angle A in **Figure16**), is less than the angle between the horizontal and the skyline leaving the tree towards the anchor point (angle B in **Figure16**), the guylines shall be positioned in back of the tail/lift tree as specified in **Figure19**;

(b) If angle A is greater than angle B, then the guys shall be placed in front of the tail/lift tree. This situation usually occurs when a tail/lift tree is used during downhill yarding as shown in **Figure 17**. Placing the guys on the uphill side only helps to pull the tail/lift tree over uphill;

(c) If a suitable anchor is not available within a specified shaded zone, two guylines may be used in lieu of one guyline, provided a guyline is placed on either side of and as near as possible to the affected shaded zone.

(4) Tail and lift trees shall be supported by additional guylines, if necessary to ensure stability of the tree.

[ED. NOTE: The Figure(s) referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0290

437-006-0230

Intermediate Support Trees

(1) Trees used as intermediate supports shall be sound and straight from the ground up to the point of strap attachment; and shall be rigged such that:

(a) Carriage clearance, as measured at the base of the support tree(s) shall be a minimum of five feet;

(b) The jackline (see **Figure 21**) is a single piece of line that is 1/8-inch larger than the tong or skidding line or rigged to provide a strength equal to a line 1/8-inch larger than the tong or skidding line.

(2) Vertical support trees shall be firmly rooted.

(3) The base of all leaning tree supports shall be prevented from moving by:

(a) Retaining 20 percent of the stump diameter in holding wood;

(b) Other suitable rigging arrangements.

(4) Double tree supports shall be rigged such that (See **Figure 22**):

(a) The minimum and maximum heights of the jack relative to the height of the block shall be as shown in **Figure 22**;

(b) The angle the block line makes with the center line of the support tree shall be as follows:

(A) For skyline sizes 1-1/8-inch and smaller, ten degrees in any direction;

(B) For skyline sizes larger than 1-1/8-inch, deflection of the block must be in the direction of the jack and shall not exceed ten degrees.

(c) The loaded support tree does not displace more than two feet at the point of rigging attachment.

(5) Single tree supports shall be guyed as follows:

(a) For skyline sizes 1-1/8-inch and less as shown in **Figure 4**;

(b) For skyline sizes larger than 1-1/8-inch as shown in **Figure 6**.

(6) Double tree supports shall be guyed as follows:

(a) For skyline sizes 1-1/8-inch and less no guys are required;

(b) For skyline sizes larger than 1-1/8-inch as shown in **Figure 4**.

[ED. NOTE: The Figure(s) referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0295

437-006-0235

Skylines

(1) A skyline shall not make an angle greater than 50 degrees measured from the horizontal as it leaves the tail/lift tree.

(2) When rigged in a tail/lift tree, the skyline shall be anchored no more than eight degrees offline from the rearward projection of the skyline. If a suitable anchor is not available within the specified zone, a more suitable anchor outside the zone may be used, if the tail/lift tree is stable.

(3) A skyline shall not be considered a guyline.

(4) Extensions to skylines shall be equal in breaking strength to the skyline to which they are attached and shall not alter the safe capacity of the tower. In addition, if the carriage runs over the extension, the extension shall be attached only by a regular long splice or by a flush pin straight side shackle connecting the two eyes.

(5) Live, running or standing skylines shall be anchored by one of the following methods:

(a) Directly to a stump or suitable manufactured anchor;

(b) Directly to the base of a standing tree provided the point of attachment is no more than three feet above the ground and no part of the tree will enter the work area if pulled over; or

(c) By passing the skyline through a jack or block hung on a tail/lift tree before being anchored.

(6) Skylines or mainlines shall be secured by one of the following methods:

(a) With at least 2-1/2 wraps, well spiked, or properly clamped; or

(b) Choked by using a large sleeve-type knockout pin shackle or an approved safety-pin-type shackle over the skyline or mainline with the pin through the eye; or

(c) With an approved strap having both eyes hung in a shackle and the knockout pin or safety pin through the eye of the skyline of mainline.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCB 2-1972, f. & ef. 3-15-92; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0310

437-006-0240

Anchoring

(1) Stumps used for anchoring guylines and skylines shall be carefully chosen as to position, height and strength. When necessary, stump anchors shall be tied back in a manner that will distribute the load.

(2) Stump anchors when spiked shall be barked where attachments are to be made.

(3) Stump anchors shall be notched to a depth not greater than 1-1/2 times the diameter of the line to be attached. Additional deeper notching of swells, burls and other irregularly shaped stumps shall be allowed so that the line will be properly secured in solid wood.

(4) Employees shall not stand close to the stump or tree or in the bight of lines as the guyline or wraps are being tightened.

(5) When spiked, guylines or skylines shall be anchored with at least 2-1/2 wraps around the stumps. Wraps shall be well secured with at least eight spikes or six stapes in sound wood on the last wrap, or the end of the line shall be secured with wire rope clips in accordance with OAR 437-006-0210(14) and (15). (See **Figure 24.**)

(6) Guylines shall not be directly attached to deadman anchors. A suitable strap or line of equal size and strength to the guyline with approved eyes in each end shall be used with one bight around the deadman and both eyes attached to the

guyline with an approved shackle. The eye connections of the deadman anchor strap shall be visible for inspection.

- (7) Within a standing tree group, each tree used as a guyline anchor, shall be at least eight inches in diameter at breast height (DBH).
- (8) A single standing tree if less than 12 inches, shall not be used as guyline anchors, except when using skylines of 1/2-inch or less in size.
- (9) Guyline anchor trees, when located so they will not fall into the work area or haul road, need not be tied back if stable.
- (10) Standing trees which are solid, have a sound undisturbed root system, and if felled, would be suitable for a guyline stump as required in OAR 437-006-0240(1), may be used for guyline anchors under the following conditions, and Table 8:
 - (a) The guyline is attached at the base of the standing tree at a height of 30 inches or less above ground level (see **Figure 25**);
 - (b) The tieback line has a breaking strength equal to 50 percent of the breaking strength of the mainline or skyline, whichever is greater;
 - (c) The point of attachment of the tieback line to the anchor tree is not less than 17 feet above the adjacent ground line (see **Figure 25**);
 - (d) The tieback tree is equal or greater in size than the anchor tree. If the anchor tree is 30 inches or larger in diameter, then the tieback tree shall be at least 20 inches in diameter at breast height; and
 - (e) Guyline angles to standing trees do not exceed 50 degrees.

Table 8

Wire Rope Anchor

Breaking Tree

Cable Wire	Strength	Diameter
Type	Rope	Plow Steel** DBH***

Mainline over over
or skyline* 1-1/8" 130,000 lbs. Over 24"

Mainline 1-1/8" 130,00 lbs. Over 18"
or skyline or less

Mainline 1" 103,400 lbs 12" or
or skyline or less greater

Running 7/8" 79,600 lbs. 18" or
skyline or less greater

Running 3/4" 58,800 lbs. 12" or
skyline or less greater

* Whichever line has the greatest breaking strength will be used to calculate the anchor tree size.

** Extra Improved

*** Diameter Breast Height

(f) Standing trees used as guyline anchors do not have dead tops or lean toward the landing.

(11) Standing trees shall not be used for tailhold or corner block anchors when using a haulback line larger than 7/8-inch and having a breaking strength greater than 80,000 pounds. High lead logging machines using haulbacks of greater size or breaking strength may use a fuse link between the butt-rigging and haulback provided the line in the fuse link has a designed breaking strength of 80,000 pounds or less.

(12) Rock bolt anchors shall be grouted and installed, tested and maintained in accordance with the rock bolt manufacturer's recommendations.

(13) Anchors shall be regularly inspected while the operation is in progress. Insecure or hazardous anchors shall be immediately corrected.

(14) When used, artificial earth anchors shall be installed and used in accordance with their design specifications and manufacturer's recommendations.

(15) Crawler tractors that are stabilized without guylines may be used for anchoring guylines or skylines under the following conditions:

(a) Guylines or skyline angle shall not exceed 40 degrees from the horizontal;

(b) The tractor must be equipped with a blade. The dozer blade must be dug in so that at least 1/2 the depth of the blade is below natural ground or two feet, whichever is greater (see **Figure 26**) or some alternative method which will ensure stability of the machine for all applied loads;

(c) The standing skyline or guyline must be attached to the machine at the drawbar or drum and cannot pass under the blade. The edges of the cat blade or other sharp edges that would chafe or cut the line must be smooth or provisions made with blocking or excessive line size to control the chafing or cutting;

(d) The following table shall be used to size equipment anchors:

Table 9

Equipment Weight Skyline or Guyline

30,000 lbs. or D6 Class Up to and including 7/8"

40,000 lbs. or D7 Class Up to and including 1"

65,000 lbs. or D8 Class Up to and including 1-3/8"

(16) Crawler tractors that are used as mobile tail anchors and are stabilized with a guyline(s) shall be guyed in accordance with OAR 437-006-0220(4), (5), (6), and (7).

[ED. NOTE: The Figure(s) referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0315

437-006-0245

Released Spiked Guylines and Spiked Skylines from Anchors

When removing spiked guylines or spiked skylines from stumps reversed safety wrap shall be put on and secured before loosening the last wrap, an authorized employee shall be in charge of loosening guylines or skylines, using all precautions and giving warning before lines are released and safety holdbacks shall be used when necessary for the safety or employees.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0320

Logging Machines

437-006-0260

General Requirements

(1) Logging machines shall be started and operated only by authorized personnel.

- (2) Equipment operators shall be instructed as to the manufacturer's recommendations for equipment operation, maintenance, safe work practices and site operating procedures.
- (3) The equipment operator shall start and operate equipment only from the operator's station or from a safe area recommended by the manufacturer and shall follow the manufacturer's specification for safe operation in all instances.
- (4) Machine operators shall inspect their equipment each day before starting work. All repairs and adjustments necessary for safe operation shall be made before any strain or load is placed upon the equipment.
- (5) Boom-type logging machines shall be provided with a boom stop to prevent over-topping of the boom.
- (6) Logging machine sleds or bases shall be of sufficient strength to withstand any stresses imposed upon them.
- (7) Logging machines and their components shall be securely anchored or otherwise stabilized to prevent unintended movement during operation.

EXCEPTION: This does not apply to tractors or skidders.

- (8) Logging machines shall be kept free of excess flammable material which may create a fire or other hazard.
- (9) A safe and adequate means of access and egress to all parts of logging machines where employees must go shall be provided and maintained in a safe condition. (See OAR 437-006-0260(34).)
- (10) Enclosed-type cabs installed on mobile logging machines shall have two means of exit. One may be deemed as an emergency exit and be available for use at all times regardless of the position of the side arms or other movable parts of the machine. An easily removable window will be acceptable as the emergency exit if it is of adequate size through which an employee may readily exit.

EXCEPTION: This does not apply to mobile logging machines manufactured before July 1, 1980.

- (11) All gas powered logging machine engines shall be stopped during fueling inspection or repair except where operation is required for adjustment.
- (12) Blades, grapples, delimber masts, forks and other similar devices shall be lowered to the ground or other stable surfaces while the operator is out of the normal operating work station.
- (13) Mobile tree falling equipment shall be designed to cause, or have attachments installed which will cause, the tree to fall in the intended direction.
- (14) Items of employee property, tools or other miscellaneous materials shall not be stored on or within three feet of any logging machine if such items would expose an employee to the hazardous pinch point area.

EXCEPTION: These items are allowed when stored in a locked box or otherwise secured and under the exclusive control of the equipment operator.

- (15) Employees shall approach the hazardous pinch point area only after informing the operator of that intent and receiving acknowledgement from the operator that the operator understands the employee's intention. All logging machines shall be stopped while any employee is in the hazardous pinch point area.
- (16) An unimpaired horizontal clearance of not less than three feet shall be maintained between the rotating superstructure of any logging machine and any adjacent object or surface. If this clearance cannot be maintained, a safety zone barrier shall be used to isolate the hazardous area. The safety zone barrier may consist of a warning line constructed of rope or ribbon, supported or stanchions.
- (17) Operating a logging machine with defective steering, braking or other parts or components necessary for safe operation is prohibited.

- (18) Logging machines shall not be operated until all guards have been reinstalled, safety devices reactivated and maintenance equipment removed after adjustments or repairs have been made.
 - (19) Fairleads shall be properly aligned at all times and shall be of a design that will prevent line damage.
 - (20) Riding on arches, reaches, turns of logs or any part of a machine except in the driver's seat is prohibited except where a seat under the canopy guard is provided.
 - (21) Tractors, skidders, arches or logs being yarded shall not run over or rub against anchored lines, tailhold stumps or other rigging.
 - (22) Ends of lines attached to drums on logging machines shall be secured by end attachments that develop the ultimate strength of the line unless three wraps of line are maintained on the drum at all times.
- EXCEPTION:** This does **not** apply to tractors or skidders.
- (23) Wire rope shall be wound on drum spools in a manner to prevent excessive wear, kinking, chafing or fouling.
 - (24) A guide pulley, tool, stick, iron bar or other mechanical or manual means shall be used when guiding lines onto drums. Guiding lines onto drums with any part of the body in direct contact with the line is prohibited.
 - (25) A limit switch shall be installed on electric-powered log loaders to prevent the lift arms from traveling too far in the event the control switch is not released in time.
 - (26) All forklift-type log handling machines shall be equipped with a grapple system and the arms shall be closed whenever logs are being carried.
 - (27) When forklift-type machines are used to load, unload or handle trailers, a positive means of holding the lifting attachment on the fork shall be installed and used.
 - (28) Loads on forklift-type log handling machines shall be transported as low as safely operable without obstructing visibility.
 - (29) When a log handling machine is left unattended, the power shall be shut off and the brakes set. The forks, lift arms or blade shall be lowered to the lowest position before the operator leaves the seat.
 - (30) Guyline drum controls and outrigger controls shall be separated and clearly identified in a manner that will prevent the engaging of the wrong control.
 - (31) Guards shall be provided on machines to protect employees from flying chunks, logs, chips, bark, limbs and other material and to prevent the workers from contacting moving parts.
 - (32) Access covers and doors to chippers shall not be opened until the drum or disk is at a complete stop.
 - (33) Infeed and discharge parts on chippers shall be designed to prevent contact by personnel with disc, knives, or blower blades.
 - (34) Steps, ladders, handholds, catwalks, or railings shall be provided where necessary for mounting and maintenance purposes on all logging machines. Machine access shall comply with the Society of Automotive Engineers' **SAE-J185-1988**, Access Systems for Off-Road Machines.
 - (35) Il exposed moving parts such as shafts, pulleys, belts, conveyers and gears on machinery and equipment shall be guarded in accordance with OAR 437, Division 2, Subdivision 0, Machinery and Machine Guarding. Guards shall be in place at all times when machines are in use.

(36) When mobile log loading machines are equipped with lattice booms to be used to deck logs, load logs, clear stream beds, clean or deepen ponds, and other such activities, the requirements for similarly equipped cranes in OAR 437, Division 2/N, Material Handling and Storage, will be in effect.

(37) Machine decks, operating foot controls and other surfaces where workers walk or stand shall be covered with a non-slip material suitable for footwear worn.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCB 43-1974, f. 11-5-74, ef. 12-1-74; WCB 7-1977, f. 5-20-77, ef. 6-15-77; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0220

437-006-0265

Exhaust Pipes

(1) Exhaust systems shall comply with OAR 437-002-0223, Division 2/N, Material Handling and Storage, except as noted in section (2) of this rule.

(2) Exhaust pipes shall be insulated or located so as to protect employees from accidental contact with the pipes and shall permit spark arrester clean out.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0225

437-006-0270

Glass

Glass installed on logging machines shall:

- (1) Be free of deposits or defects that could endanger the operator or other employees;
- (2) Be safety glass or a type that provides equal protection;
- (3) Be removed or replaced if defective or broken glass impairs the vision of the operator; and
- (4) Have an additional metal screen or guard installed where glass does not provide adequate operator protection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0230

437-006-0275

Brakes

- (1) Brakes or dogs shall be installed on all machine drums and maintained in effective working condition.
- (2) Drum brakes shall be provided with an independent locking device that will hold the drum when the operator leaves the machine and the machine is not operating.
- (3) Brakes shall be protected from direct exposure to the elements or shall be of a design or construction which will render them impervious to such exposure.
- (4) The logging machine operator shall apply the parking brake, brake locks or other equivalent means provided to hold the machine stationary before dismounting.
- (5) At the start of each shift, logging machine operators shall test all brakes before taking a load.
- (6) Self-propelled logging machines manufactured on or after July 1, 1985, shall be equipped with braking systems as follows:
 - (a) A service braking system, which shall be the primary means of stopping and holding the equipment;
 - (b) An emergency stopping system which shall be a secondary means of stopping the equipment in the event of any single failure of the service system; and
 - (c) A parking brake system, which shall be used to continuously hold a stopped machine stationary within the limits of traction on any grade on which it is operated so as to allow the operator to leave the vehicle without the vehicle moving, and to prevent subsequent movement of the vehicle while unattended. The parking brake system shall maintain this parking performance despite any contraction of brake parts, failure of the source of application, energy or leakage of any kind.
- (7) The braking systems required in section (6) of this rule shall be installed, tested and maintained in accordance with the following applicable Society of Automotive Engineers' (SAE) Recommended Practices:
 - (a) **J1026-1982** -- Braking Performance -- In-Service Crawler Tractors and Crawler Loaders;
 - (b) **J1473-1984** -- Braking Performance -- Rubber-Tired Construction Machines;
 - (c) **J1178-1980** -- Minimum Performance Criteria for Braking Systems for Rubber-Tired Skidders.
- (8) Self-propelled logging machines manufactured prior to July 1, 1985, shall have braking systems installed, tested and maintained in as effective a condition as originally intended by the manufacturer.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 10-1985, f. 5-28-85, ef. 7-1-85; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0235

437-006-0280

Outriggers

All outriggers shall have a stable base under the outrigger or equivalent leveling pads as recommended by the equipment manufacturer.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0240

437-006-0285

Hydraulics

(1) Defective hydraulic hoses, lines and fittings shall be immediately replaced.

(2) Abrasive contact with hydraulic hose, tubing or fittings shall be eliminated before further use.

(3) Hydraulic outriggers shall have a positive holding device (velocity fuse, load check valve, manually operated valve or equivalent) to prevent movement of the piston in the event of a hose, fitting or other failure in the hydraulic system.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0245

437-006-0290

A-Frames

(1) A-frames shall be guyed or braced to provide stability and prevent tipping.

(2) A-frame bases shall be secured against displacement and the tops shall be securely bolted or lashed to prevent displacement.

(3) Where guylines are used, A-frames shall be provided with not less than one snap guy and two guylines securely attached, anchored and spread to form an angle 70 degrees to 90 degrees opposite the direction of stress or strain.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0250

437-006-0295

Moving of Logging Machines

- (1) Logging machines shall not be moved or operated until all employees are in the clear.
- (2) At any time when moving logging machines, the driver shall have a clear and unobstructed view of the direction of travel. When this is not possible, a signal person with a clear and unobstructed view of the direction of travel shall be designated and used to direct the movement of the machine or the machine shall be equipped with an audible alarm which shall be sounded.

EXCEPTION: This does not apply to tractors, skidders or tree harvesters during normal yarding operations.

- (3) When moving to areas within the immediate landing area, all employees shall stay in the clear of the logging machine(s) or shall inform the operator of the intent to approach or be near the machine(s).
- (4) Mobile yarders and wheel or crawler loaders shall not travel on road grades greater than 15 percent unless they are securely snubbed or towed, or have a braking system designed for such travel by the manufacturer.
- (5) Crawler-type, track-mounted logging machines with manual transmissions shall be equipped with a ratchet or other device which will prevent unintended disengagement or reversing of the machine and the operator shall be informed of the proper technique.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-83; WCD 10-1985, f. 5-28-85, ef. 7-1-85; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0260

437-006-0300

Tractors and Skidders

- (1) Rubber tire skidders shall not be operated on slopes in excess of 30 percent unless the path of travel is limited to straight up and straight down the slope. When skidding ground is in excess of 30 percent slope, a supervisor shall lay out and closely monitor the operation.
- (2) Crawler tractors shall not be operated on slopes in excess of 40 percent, unless the path of travel is limited to straight up and straight down the slope.
- (3) In no case shall tractors or skidders operate on slopes exceeding 60 percent except for fire fighting and fire trail construction.
- (4) The percent of slopes listed above in sections (1) through (3) of this rule are maximums. Operation must be adjusted for unfavorable weather, ground conditions or other adverse conditions which affect the safe operation of the skidder or tractor.
- (5) Winch lines on logging tractors or skidders shall be attached to the drums with a breakaway device.
- (6) Arches shall be equipped with line guards.
- (7) A turnaround, if needed for skidders, shall be provided on all skidding roads every 500 feet.
- (8) For pulpwood logging operations, towed equipment, such as skid pans, pallets, arches, and trailers shall be attached to the vehicle in a manner which will allow a full 90 degree turn to prevent overrunning of the towing vehicle, and to assure the operator is always in control of the towed equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 10-1985, f. 5-28-85, ef. 7-1-85; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0265

437-006-0310

Protective Structures for Operators

- (1) Sheds, roofs, cabs or screens sufficient in strength and dimension to afford adequate protection for the operator shall be provided on all logging machines. Such structures shall be constructed so that they do not impair the operator's view.
- (2) Barriers or bulkheads to protect the operator shall be provided on all logging machines where the design, location or use of such machines exposes the operator to materials or loads being handled.
- (3) Barriers or bulkheads provided on logging machines shall be of a size and strength capable of withstanding impact of materials handled.
- (4) Operator controlled skidding machines manufactured after April 1, 1992, shall have adequate protection for the operator of 1/4-inch woven wire mesh with openings no greater than two inches in size or other materials provided equivalent or greater protection.
- (5) Every tractor, skidder, front-end loader (other than high mast forklifts as otherwise required), scraper, grader and dozer manufactured on or after July 1, 1969, shall be equipped with a roll-over protective system installed, tested and maintained in accordance with Division 2/N, OAR 437-002-0223, and the Society of Automotive Engineers' **SAE 1040(c)-1979**, Performance Criteria for Roll-Over Protective Structures (ROPS) for Construction, Earthmoving, Forestry and Mining Machines, if manufactured after July 1, 1980.

EXCEPTION: This rule does not apply to log stackers used exclusively to lift, transport or stack logs in sorting yards or transfer stations.

- (6) Every tractor, skidder, front-end loaders, scraper, grader and dozer manufactured after July 1, 1980, shall be equipped with a falling object protective structure (FOPS) for overhead protection installed, tested and maintained in accordance with the Society of Automotive Engineers' SAE J231-1981, Minimum Performance Criteria for Falling Object Protective Structures (FOPS).
 - (7) Vehicles equipped with ROPS or FOPS as required in sections (5) and (6) of this rule shall comply with the Society of Automotive Engineers' **SAE J397-1979**, Deflection Limiting Volume for Laboratory Evaluation of Roll-Over Protective Structures (ROPS) and Falling Object Protective Structures (FOPS) of Construction and Industrial Vehicles.
 - (8) The ROPS shall be of sufficient height and width so that it will not impair the movements of the operator or prevent immediate escape from the vehicle in emergencies and shall allow the operator as much visibility as possible.
 - (9) The ROPS structure shall have a shear or deflecting guard extending from the leading edge of the forward arch to the front park of the tractor frame. If longitudinal arches are used, they shall extend from the rear of the tractor to the front frame of the tractor and each arch shall have an intermediate support located approximately at the dash so that operator access or egress will not be impeded.
- EXCEPTION:** This rule does not apply to rubber-tired loaders, scrapers and graders.
- (10) Older style tractors that cannot be fitted with complete ROPS may be used for cleaning debris off landings, snubbing vehicles and logging machines or as an anchor, provided no regular clearing, road construction or yarding is performed.

(11) Certified roll-over protection systems shall be identified by a metal tag permanently attached to the ROPS in a position where it may be easily read. The tag shall be permanently and clearly stamped, etched or embossed indicating the name and address of the certifying manufacturer or registered professional engineer, the ROPS model number (if any), the vehicle make, model or series number that the ROPS is designed to fit, the maximum weight of the machine for which the structure is certified and the SAE tag criteria number.

(12) Seat belts shall be provided and used on all vehicles with ROPS and shall have buckles of the quick release type which shall be designed to minimize the possibility of accidental release. Seat belts shall be maintained in an effective condition and shall comply with **SAE Standard J386-1985**.

(13) Clearance between the deck and the ROPS of the vehicle at points of egress shall not be less than 52 inches. There shall be a second means of egress from all logging machines manufactured after July 1, 1980.

(14) Structural members of the ROPS shall present smooth, rounded edges and the covering shall be free from projections which would tend to puncture or tear flesh or clothing.

(15) The opening in the rear of the ROPS structure shall be covered with 1/4-inch woven wire having not less than 1-1/2 inch or more than two inch openings or other material providing equivalent or greater protection. This covering shall be affixed to the structural members so that ample clearance will be provided between the screen and the back of the operator.

(16) Side screens of the same strength as the back screen or vertical barrier bars spaced at intervals not greater than six inches O.C. and constructed of not less than one inch double strength pipe shall be installed on all logging machines equipped with ROPS in addition to the back screen.

(17) Side barriers shall be extended forward to the front edge of the operator's seat or as far forward as possible from the rear corners of the canopy sides to a structural member behind the front edge of the seat.

(18) Rollover protection systems shall be maintained in a manner that will preserve their original strength. Welding shall only be performed by qualified welders.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. -2-1-81; WCD 10-1985, f. 5-28-85, ef. 7-1-85; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0270

Timber Cutting

437-006-0350

General Requirements

(1) Cutters shall be located so they will not endanger themselves or other employees from falling or rolling trees or snags, sidewinders, leaners, logs or other hazards.

(2) Other employees shall not approach a faller within reach of the trees being felled unless a signal has been given and acknowledged by the faller that it is safe to approach.

- (3) The power chain saw engine shall be stopped or the engine shall be idling when warnings are given or answers are being received.
- (4) Employee(s) shall be assigned to flag on roads where hazardous conditions are created from falling trees. Where there is no through traffic, such as on a deadend road, warning signs and barricades may be used instead of a flagger(s).
- (5) Trees shall not be felled or bucked within a unit of standing timber prior to any cutting operation if such felling or bucking creates a hazardous condition for the original or subsequent cutters or operations.
- (6) Only experienced and qualified fallers shall be assigned to work as danger tree fallers.
- (7) Inexperienced employees shall not fall trees or buck logs unless working under the close supervision of an experienced cutter.
- (8) Cutters shall check for overhead hazards while falling, bucking or limbing.
- (9) If the cutter has determined a tree cannot be safely felled, work shall not proceed until the cutter has conferred with a supervisor or an experienced cutter, such as the head faller, and the safest possible work method or procedure has been determined. The supervisor shall assure that the predetermined work method or procedure is used.
- (10) Spring poles and limbs under stress shall be cut in such a manner that the employee is clear when tension is released.
- (11) Trees shall not be felled directly uphill when the possibility of the tree sliding back past the stump exists. Trees felled uphill shall be quartered to the slope, to a degree that prevents workers from being exposed to the possibility of sliding or rolling trees or logs.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0090

437-006-0355

Falling

- (1) The minimum distance between cutters, or any other personnel, shall be twice the height of the trees being felled.

EXCEPTION: This does not apply to a team of cutters working on the same tree.

- (2) At no time shall cutters work if the wind is strong enough to prevent the falling of trees in the desired direction.
- (3) When vision is impaired by inclement weather or darkness, the falling operation shall stop.
- (4) Cutters shall be informed of the movement and location of buckers or other employers placed, passing or approaching within two tree lengths of trees being felled.
- (5) Fallers shall give audible warning when falling trees indicating the direction of fall and taking notice that all employees are out of reach of the tree and in the clear of logs, fallen trees, snags or other trees which may be struck by the falling tree.

EXCEPTION: Audible warnings are not required when falling trees under 18 inches DBH, if the cutter has an unobscured view of the entire area

which could be affected by the tree being felled and is assured there is no one within the area.

(6) If, for any reason, the cutter believes a tree cannot be safely felled, bucked and left in a safe and stable position, the tree shall not be felled.

(7) Lodged trees shall be dislodged either by falling another tree into it or a determination shall be made by the cutter and the supervisor as to the safest possible procedure.

(8) Employees shall not work under lodged trees.

(9) When a lodged tree must be left unattended, the hazardous area shall be distinctly marked by hazard identification ribbon as specified in OAR 437-006-0025.

(10) No tree or danger tree shall be felled by one cutter where and when the assistance of a fellow employee is necessary to minimize the dangers or hazards involved.

(11) A crew of at least two employees shall be required in falling danger trees or trees four feet or more in diameter.

(12) An escape route shall be determined and arranged before the tree is felled so that the cutter can get at least 25 feet away from and to the side of the base of the tree when necessary. The escape route shall be kept clear of brush, tools and other material that would impede a quick escape. Fallers shall look up the front and back of each tree immediately before beginning the face cut and check for hazardous limbs and tops.

(13) Cutters shall be in the clear as the tree falls.

(14) Trees shall be felled into the open whenever practical.

(15) Precautions shall be taken to prevent falling trees into powerlines. If a tree makes contact with a powerline, the power company shall be notified immediately and all employees shall remain clear of the area until power company personnel advise that conditions are safe.

(16) The undercut shall not be made while buckers or other employees are in an area into which the tree could fall.

(17) Undercuts are required on all trees or snags over eight inches DBH and shall be large enough to safely guide the trees and eliminate the possibility of splitting. In trees of sound wood and no perceptible lean, the undercut shall be no less than 1/4 the diameter of the tree and the face opening shall be no less than 1/5 the diameter of the tree.

(18) Undercuts shall be completely removed and cleaned out except when a Dutchman is required on either side of the cut.

(19) Care shall be taken to hold enough wood to guide the tree of snag and prevent it from prematurely slipping or twisting from the stump. Holding wood shall not be completely cut through under any circumstances except that swing cuts may be used on trees 18 inches in diameter or larger.

(20) Undercuts and back cuts shall be made at a sufficient height above the highest ground level to enable the cutter to safely make the cut, control the tree and have freedom of movement for a quick escape to be in the clear from a falling tree.

(21) Back cuts shall be made parallel to the face cut, and above the face cut except in tree pulling operations, the back cut may be below and on a parallel plane with the horizontal face cut.

(22) Trees with undercuts or back cuts shall not be left standing unless marked as a danger tree.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; WCD 10-1985, f. 5-28-85, ef. 7-1-85; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0110

437-006-0360

Wedges

- (1) Wedges shall be driven with a hammer or other suitable tool and not driven with the side of a double-bitted axe or combination axe/hoe tool.
- (2) All cutters shall carry at least two wedges on their person or shall have at least one of the wedges within arm's length of the tree being felled.
- (3) Wedges shall be used on all trees over 15 inches in diameter at stump height, without a predictable lean.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; WCD 10-1985, f. 5-28-85, ef. 7-1-85; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0100

437-006-0365

Bucking

- (1) Buckers shall keep the fallers informed of their positions, and when a faller's first warning is heard, buckers shall immediately answer the faller and move to a place where they are in the clear.
- (2) Buckers shall give timely warning to all employees within range of any log which may have a tendency to move after being cut off.
- (3) Only experienced cutters shall buck windfalls.
- (4) The buckers shall carefully examine a tree before making a cut to determine which way the logs will roll, drop or swing when the cut is completed.
- (5) The cut shall be made only from a position that will not expose the buckers to potential injury.
- (6) A buckers shall not work on the downhill side of the log being bucked unless absolutely unavoidable and only when the log is blocked or otherwise secured to prevent rolling.
- (7) Prior to bucking any log, the buckers shall evaluate the log to ensure that it can be safely bucked.
- (8) The buckers shall establish firm footing and clear away brush and other material which might interfere with a quick escape before starting the cut.
- (9) Logs shall be completely bucked through. If it becomes hazardous to complete a cut, the logs shall be conspicuously marked by a red and white candy striped ribbon.
- (10) Buckers shall not use the chain saw to cut directly overhead or at a distance that would require the operator to relinquish a safe grip on the saw.

(11) Two or more persons shall not buck a tree at the same time if the release will result in movement.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0130

437-006-0370

Tree-Jacking

(1) Hydraulic tree jacks manufactured after July 1, 1980, shall be equipped with:

(a) An internal operable load check valve, velocity fuse or equivalent device. When hoses are used with a jack, the device shall be installed between the ram and the first piece of hose out from the jack;

(b) An operable pressure gauge.

(2) If two or more tree jacks are used and operated with one pump, a one-way flow valve shall be used to isolate the hydraulic fluid from one jack to another jack should a failure in the system occur.

(3) The cutter shall determine if a tree can be safely jacked. If, for any reason, the cutter believes the tree jacking cannot be completed safely, the tree shall be conventionally felled.

(4) Hydraulic tree jacks shall have enough lift power and be sufficient in number for the trees to be jacked and felled.

(5) Two employees shall be present at the tree at all times during the use of hydraulic tree jacking to lend assistance.

(6) The jack set of hydraulic tree jacks shall be level.

(7) A metal plate or pad shall be placed between the ram and the saw cuts when using a hydraulic tree jack. The metal plate or pad shall be of sufficient area and have a surface design to prevent the plate or pad from sinking into the wood or from slipping.

(8) The hydraulic tree jack seat shall be on solid wood inside the bark ring.

(9) If the cutter is at the base of the tree pumping the jack, wedges shall be used as a follow-up method while using tree jacks, provided there is sufficient space to insert the wedges. The wedges shall be continuously moved in as the tree is jacked.

(10) No tree(s) shall be jacked straight uphill when the possibility of the tree sliding back past the stump exists.

(11) On slopes over 50 percent grade, tree(s) shall be at least quartered to a degree that prevents workers from being exposed to the possibility or sliding or rolling trees or logs to provide for the safety of the crew.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0115

437-006-0375

Tree-Pulling

- (1) The cutter and supervisor shall be responsible for determining if a tree can be safely pulled. If, for any reason, the cutter and supervisor believes the tree pulling cannot be completed safely, the tree shall be conventionally felled.
- (2) Positive communications shall be maintained at all times between the tree-pulling machine operator and the cutter while tree-pulling. Citizens' band radios are not considered positive communication.
- (3) An audible signal shall be sounded when the initial pull is made on the tree and the line is tightened.
- (4) A choker, choker bell or a line with a sleeve shackle shall be used as the means of attachment around the tree when tree-pulling. The bight on the line shall be only that necessary to hold the choker or line around the tree.
- (5) The tree-pulling machine shall be equipped with a torque converter, fluid coupler or an equivalent device to ensure a steady, even pull on the line attached around the tree.
- (6) The tree-pulling line shall have as straight and direct a path from the machine to the tree as possible. Physical obstructions which prevent a steady, even pull on the tree-pulling line shall be removed or the line shall be rerouted.
- (7) The use of siwashing, in lieu of using a block and strap, for the purpose of changing the tree-pulling lead, is prohibited.
- (8) On slopes over 50 percent grade, the supervisor and head faller shall decide if the tree-pulling can be safely done. A plan shall be developed that provides for the safety of the tree-pulling crew. The safety of the buckers shall be the determining factor when pulling timber on slopes over 50 percent grade.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0120

437-006-0380

Danger Trees

- (1) Danger trees within reach of landings, rigging or work areas shall be felled before the regular operations begin or work shall be arranged so that employees are in the clear. Danger trees leaning away from landings may be left if no hazard exists from the tree falling, rolling or sliding into the areas listed in this rule.
- (2) Particular care shall be taken in falling and working around danger trees. In addition:
 - (a) Loose bark within reach from the ground shall be removed from danger trees in preparation for falling;
 - (b) Stump height shall be that height which, in the judgment of the cutter, will allow maximum visibility and freedom of action during the falling operation;
 - (c) Whenever possible, danger trees shall be felled in the direction of lean, using as deep an undercut as possible to avoid vibration from using wedges.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0105

Yarding, Swinging and Loading

437-006-0400

Landing Areas

(1) Unless otherwise specified, landing areas shall:

(a) Be large enough to heel and swing logs without striking standing timber, rigging or other equipment or objects;

(b) Be large and level enough to land and deck the logs in the turns so that they will not slide or roll in the direction of employees or equipment. This is not intended to restrict the yarding or loading of logs for pole piling or an infrequent long break or tree length, provided the log is secured before unhooking the choker;

(c) Be large enough for safe movement of all machinery;

(d) Be kept chunked out and have an even surface; and

(e) Not have materials pushed, thrown or dumped over the edge in a manner or at a time that will endanger employees.

(2) When doing roadside thinning, logs stacked on the roadside without a landing, shall be placed in a stable condition.

(3) During uphill yarding, the landing chute shall be cleared of logs before the next turn of logs is landed unless:

(a) The logs are fully contained in the landing chute; or

(b) There is no possibility employees working below the landing may be struck by rolling objects coming off the landing.

(4) Roadside or continuous landings shall be large and wide enough to safely operate and maintain the yarding or loading equipment. Outrigger pads, tracks or wheels shall be on firm, stable ground.

(5) In logging operations where the yarder is set up in the haul road and logs are landed on the slope below the road, the following shall apply:

(a) If the landing chute slope is 20 percent or less, logs may be landed and decked in the chute provided the logs can be left in a stable position;

(b) If the landing chute exceeds 20 percent, decking is not permitted in the chute if a chaser is required to unhook the rigging from the logs or if employees are working below the landing chute and are exposed to rolling or sliding logs;

(c) If logs are to be decked below the road, the logs shall be effectively secured from rolling or sliding down the hill; or

(d) If the landing process or weather conditions (rain, snow, ice, mud) prevent the required log stability and exposes employees to the hazard of rolling or sliding logs, the logs shall be decked at a different location.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; Renumbered from 437-080-0325

437-006-0405

Yarding, Skidding, Landing of Logs

- (1) Running lines shall be arranged so that employees will not be required to work in the bight of the line. When this is not possible, employees shall move out of the bight of the lines before the signal to move the turn is given, or be in a position where they will be protected by standing timber, terrain, or other objects of sufficient size to assure their safety.
- (2) The angle between the machine, the high lead block and the yarding or swing road on tree-rigged systems shall not be less than 90 degrees.
- (3) A minimum of one choker setter in each crew shall be an experienced choker setter.
- (4) Choker holes shall be dug from the uphill side of the log when there is danger of the log rolling or moving.
- (5) Chokers shall be placed near the end, but not closer than two feet from the ends of logs. Chokers may be placed in the middle of the log ("gut shot") only if it will provide greater control when the turn is landed.
- (6) Employees shall be in the clear of logs, root wads, chunks, rolling material and rigging before the go-ahead signal is given and shall stay in the clear until all rigging movement has stopped.
- (7) Before lines are tensioned, employees shall move away from a tail lift tree, which has not been topped, a distance of at least 1-1/2 tree lengths.
- (8) Employees shall move away from the turn so as to be above or behind the turn and in the clear. They shall remain on their feet and face the turn before the go-ahead signal is given.
- (9) Standing on or near logs, root wads or other objects which may be moved by the log turn is prohibited.
- (10) When approaching or working around hand-ups, employees shall approach from above the hand-up, and be alert for the danger of logs rolling or sliding, widow makers and danger trees.
- (11) Chokers shall not be hooked or unhooked until all rigging is stopped completely.
- (12) Logs shall not be landed until all employees, trucks or equipment are in the clear.
- (13) Logs shall not be permitted to accumulate in the landing chute to the point where they become a hazard to the landing personnel.
- (14) Logs shall be stable and secure before being approached by employees and before chokers are unhooked.
- (15) An employee shall not buck, limb or trim logs from a position that will expose the employee to contact with moving lines.
- (16) Logs shall not be placed in, moved about or removed from the bucking area of the landing unless all employees are in the clear.
- (17) Branding, marking or limbing of logs which requires an employee to be placed in a hazardous position is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0330

437-006-0410

Log Decks

(1) Logs shall be placed in and removed from decks in a straight and orderly manner so as to minimize the hazards from rolling or shifting logs.

(2) Logs shall not be decked in a location which creates a hazard to employees

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0340

437-006-0415

V-Leads

Swinging or yarding with a V-lead is prohibited, except under the following conditions:

(1) No additional hazards to the logging machine operator or to other employees in the area, will be created because of this operating procedure.

(2) The spar must be equipped with fairleads for both main and haulback lines.

(3) Not less than six guylines must be used.

(4) Each guyline on the side opposite the direction of stresses imposed by yarding or swinging must have a breaking strength at least 20 percent greater than that of the mainline used or one extra guyline at least equal in strength to the mainline used must be placed to oppose the stresses imposed by yarding or swinging in a V-lead, and when the lead is changed, the required extra guyline must be repositioned to oppose the stresses due to this changed direction of pull.

EXCEPTION: These requirements for additional strength guylines or an extra guyline do not apply to those spars where the mainline and haulback drums are located within the base of the spar or where lines from these drums are led through sheaves located within the base of the spar. (For purposes of determining guyline requirements only, this method of leading main and haulback lines is not considered as creating a V-lead.)

(5) No yarding or swinging in a V-lead is performed at less than an angle of 67-1/2 degrees formed between the logging machine, fairlead and the yarding or swing road on either side of the spar, unless the machine controls and operator are located in a safe position beyond possible contact by chokers, lines, rigging or logs.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0335

437-006-0420

Tongs -- Hooks -- Grapples

- (1) Tongs shall be maintained in good condition, properly aligned and with sharp points.
- (2) Tongs shall not be carried by being rested on both shoulders with the tong points around the neck.
- (3) When loading logs, straps of sufficient size and length shall be used where there is a danger of tongs or hooks pulling out of the log.
- (4) When loading logs, tongs may be used on large logs provided the logs are barked and notched to assure as secure hold.
- (5) Where there is a danger of the grapple slipping off of logs, straps shall be used in loading logs that are too large for the grapple or tongs and shall be hung in both eyes.
- (6) The closing line shall be securely attached to the grapple in accordance with the manufacturer's recommendations.
- (7) Loading hooks and tongs shall be securely attached on the loading line with screw shackles or equivalent devices.
- (8) Voice communications by use of radio frequencies may be used to transmit instructions and directions to the yarder engineer when picking up an occasional log with the use of a choker on a grapple system during daylight hours with one choker setter and one whistle signaling device in the brush if:
 - (a) The choker setter is in clear view of the yarder operator;
 - (b) All lines are slacked to the ground prior to the choker setter approaching the rigging; and
 - (c) All lines remain stable until the choker setter returns to a safe location away from any running lines. In all other cases two choker setters and two signaling devices are required when setting chokers on grapple systems during daylight hours. At no time shall chokers be used on a grapple system during the hours of darkness or during periods of reduced visibility to such extent that the yarder operator cannot clearly see the employees setting the choker.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0345

437-006-0425

Helicopter Logging

- (1) A takeoff path from the log pick-up point shall be established and made known to all employees in the area before the first turn of logs is moved from a new job site or whenever there is a change in operating procedures.
- (2) The helicopter flight path to and from the drop zone shall be designated and no equipment or employees will occupy these areas during helicopter arrival or departure. A flagger will be stationed on each side of the flight path where it crosses a road or other means provided to close the road when helicopters are passing over the road.
- (3) The location of the drop zone, decking areas, loading areas, and designated safety zones shall be established by a pilot and a responsible supervisor taking into consideration current operating conditions. Anytime a change in operating

procedure is necessary all landing personnel shall be notified.

(4) The landing drop zone shall be large enough for the longest logs to be landed without crowding the landing crew.

(5) While logs are being delivered, landing personnel shall be in a safe area away from the drop zone that is at least a distance equal to 1-1/2 times the longest log being delivered. No personnel are to depart from the safety zone toward the drop zone until the load is placed flat on the ground.

(6) Landings shall be constructed with minimum slope for drainage in the drop zone and decking area to prevent logs from rolling.

(7) Hard hats worn in connection with helicopter logging operations shall be secured by a chin strap.

(8) The approach to the landing shall be kept clear as possible and long enough to prevent tree tops from being pulled into the landing.

(9) The helicopter shall not pass over an area in which cutters are working at an altitude which would cause the rotor wash to affect a cutter's ability to safely control a tree or cause dislodging of limbs.

(10) The yarding helicopter shall be equipped with a siren to warn employees of any hazardous situation.

(11) Landing personnel shall be notified when chokers are being picked up.

(12) Employees shall remain in the clear as chokers are being delivered. Under no circumstances will employees move under the helicopter that is delivering the choker or take hold of the chokers before they have been released by the helicopter.

(13) Log pick-up shall be arranged in a manner that the hookup crew will not work on slopes below felled and bucked timber. When working next to standing trees, hookup crews shall use extended chokers or have a spotter when hazardous conditions exist.

(14) If the load must be lightened, the hooker shall be on the uphill side of the load and slack given to the entire load before releasing the hook.

(15) Landing crew shall be in the designated safety zone before logs are released.

(16) All logs in the turn shall be on the ground before the chokers are released.

(17) If the load will not release from the hook, the load and the hook shall be on the ground or at eye level, whichever is safer, before employees approach to release the hook manually.

(18) There shall be radio communication available between the helicopter and the landing.

(19) Landing shall be kept as free of debris as possible.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0350

437-006-0427

Fueling Area

- (1) Separate areas shall be designated for landing logs and fueling the helicopter(s).
- (2) Under no circumstances shall the refueling of any type helicopter with either aviation gasoline or Jet B (turbine) type fuel be permitted while the engine is running.
- (3) Helicopters using Jet A (turbine kerosene) type fuel may be refueled with engines running provided the following criteria are met:
 - (a) No unauthorized employees shall be allowed within 50 feet of the refueling operation or fueling equipment; and
 - (b) Fire extinguishers shall be strategically located in the fueling area and shall have a combined rating of at least 16A:160BC.
- (4) All fueling employees shall be thoroughly trained in the refueling operation and in the use of the available fire extinguishing equipment they may be expected to use.
- (5) There shall be no smoking, open flames, exposed flame heaters, flare pots or open flame lights within 50 feet of the fueling area or fueling equipment. The fueling area shall be posted with "No Smoking" signs.

EXCEPTION: Aircraft preheaters are exempt. However, no fueling shall be performed while the heaters are in operation.

- (6) Due to the numerous causes of static electricity, it shall be considered present at all times. Prior to starting refueling operations, the fueling equipment and the helicopter shall be grounded and the fueling nozzle shall be electrically bonded to the helicopter. The use of conductive hose is not acceptable to accomplish this bonding. All grounding and bonding connections shall be electrically and mechanically firm to clean unpainted metal parts.
- (7) To control spills, fuel shall be pumped either by hand or power. Pouring or gravity flow shall not be permitted. Self-closing nozzles or deadman controls shall be used and shall not be blocked open. Nozzles shall not be dragged along the ground.
- (8) In case of a spill, the fueling operation shall be immediately stopped until such time as the person in charge determines that it is safe to resume the refueling operation.
- (9) Helicopters with their engines stopped while being refueled with aviation gasoline or Jet B (turbine) type fuel shall comply with sections (4) through (8) of this rule.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0350

437-006-0430

Loading Machines

- (1) Grapple arms or other positive means of keeping logs on the forks shall be used on forklift type loading machines.
- (2) Log loading machines shall be equipped with an audible signaling device which shall be of a different tone than other signaling devices in the area.
- (3) When self-loaders are used for loading logs they shall be considered loading machines.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0355

437-006-0435

Loading Logs

- (1) It shall be the responsibility of the employer who has control of the actual loading operation to comply with sections (2) through (20) of this rule which are applicable to log loading and to the requirements for hard hats.
- (2) A positive means of communication shall be established and used between the truck driver and the employee loading logs to control the movement of the log truck being loaded.
- (3) Only the driver and driver-trainee shall be permitted in the truck cab while logs are being loaded.
- (4) No employee shall enter the hazardous area alongside or underneath a log truck being loaded without establishing communication with the loading machine operator and truck driver that it is safe to enter the area, and that the logs are saddled within the stakes or secured by the log loader. The hazardous area shall include the area between the deck or decks from which the logs are being removed and the area over which the logs are carried to place them on the log truck, as well as along both sides of the log truck behind the cab guard.
- (5) Logs being moved or loaded shall not pass over any employee or an occupied vehicle, equipment or truck cab.
- (6) Standing between a truck cab and a log being loaded or unloaded is prohibited.
- (7) Logs shall not be lowered to the bunk while bunk or block adjustments are being made or until the employee making these adjustments is in the clear.
- (8) Standing underneath a suspended trailer or its reach is prohibited.
- (9) Loads shall be built up or loaded in a manner to be stable without the use of wrappers. Wrappers shall be considered only as precautionary measures to ensure stability of the load.
- (10) Logs shall be loaded in a manner to prevent excessive strain on wrappers, binders, bunk stakes, bunk chains or straps.
- (11) Logs in any tier or layer unsecured by stakes or cheese blocks shall be well-saddled and have their diameter centers inside the diameter centers of the outer logs of the next lower tier or layer.
- (12) Bunk and wing logs shall extend not less than 12 inches beyond the front and rear bunks or stakes. When fixed bunks are used, logs shall extend not less than six inches beyond the front and rear bunk or stake.
- (13) Double-ended logs above the stakes shall not be loaded on the side of the load from which the binders or wrappers are intended to be released.
- (14) Logs on motor trucks shall be loaded so that not more than 1/3 of the length of the logs extends beyond the trailer bunks.
- (15) Logs shall be loaded so that not more than 1/3 of the length of any log shall extend beyond the end of the logs supporting it.

- (16) Logs shall be loaded in a manner that will not impair full and free movement of the truck.
- (17) Wrappers shall be placed and tightened around the completed load before it is balance shifted.
- (18) Not more than the upper half of any log shall extend above the stakes unless securely saddled.
- (19) All logs shall be contained within the stakes or shall be secured with at least two wrappers before the truck is moved more than 1-1/2 truck and trailer lengths in front of the loading area.
- (20) All of the required wrappers must be placed on the load within sight of the landing so immediate emergency assistance can be given if necessary.
- (21) Loads or logs shall not be moved or shifted while binders are being applied or adjusted.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0360

437-006-0440

Cross-Haul Systems

- (1) In cross-haul (parbuckle) or roll-on loading systems, the skid timbers shall be of sufficient strength to support the logs being loaded and of sufficient length to remain in place while the log is being loaded.
- (2) Loaders on cross-haul systems shall work beyond the ends of the logs being loaded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0370

Transportation of Logs

437-006-0460

General Requirements

- (1) The movement of motor trucks and railroad cars around landings and other places where employees are working shall be controlled by signals. Vehicles shall not be moved until all employees are in the clear.
- (2) Trucks shall not approach a landing while there is danger from incoming logs.
- (3) All vehicles, where vision of the operator in the direction to be traveled is impaired by the load or vehicle, shall be moved only on a signal from an employee who shall have a clear view of the direction in which the vehicle is to be moved.

(4) When audible signals are used to control the movement of trucks at the landing or deck, the following audible signals shall be used:

Table 10

Audible Signals to Control the Movement of Trucks

1 Short STOP

1 Short AHEAD

2 Shorts BACK

2 Shorts then 2 Shorts WRAPPER

3 Shorts CHECK SCALES

1 Long-Repeated DANGER

(5) Truck drivers or other employees shall not approach the danger area alongside trucks being loaded until communication has been established with the loading machine operator and the area determined to be safe.

(6) Working and walking surfaces on vehicles shall be of a material and design to eliminate slippery conditions.

(7) The area between the truck frame members, extending from the cab rearward as far as necessary to provide a safe work area, shall be covered with suitable nonslip type material. Log trucks which have logs scaled at stations shall be provided with a platform on each side extending outward from the frame members at least 18 inches and shall be 18 inches long or as near this dimension as the design of the truck will permit. The treading surface of the platforms shall be on nonslip type material and the platform shall be capable of safely supporting a 500 pound load.

(8) Steps or an extension of the running boards shall be provided on both sides of the vehicle for easy access to the space behind the truck cab. Log trucks that travel only on private off-highway roads may omit the step or extension of the running board on the passenger side of the vehicle.

(9) To protect the vehicle operator from shifting loads, a substantial bulkhead shall be provided which shall extend up to the height of the cab. (See PUC requirements for the design and construction of bulkheads.)

(10) Riding on any part of a log truck except in the cab is prohibited. If a signaler is required when extremely high loads are being carried (such as a donkey, but not logs), the signaler may ride elsewhere if a safe place for doing so is provided.

(11) Tire chain hooks shall present no hazard to workers. The arrangement and location of the tire chain hooks may include, but are not limited to:

(a) Under the scaler platform with the tips toward the center of the truck; or

(b) Inside an enclosure, such as a bottomless box attached to the truck frame; or

(c) Shielded with guards (such as hinged metal covers) with present no hazard.

(12) When spare tire racks are provided on logging trucks behind the cab guard, they shall comply with one of the following:

(a) A spare tire shall remain in the rack; or

(b) The rack shall be removed when not in use; or

(c) The construction shall be such that the lower portion of the rack will fold back and rest against the upper portion of the rack.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 6-1981, f. 8-5-81, ef. 9-5-81; WCD 10-1985, f. 5-28-85, ef. 7-1-85; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0375

437-006-0465

Self-Loading Log Trucks

(1) Self-loading log trucks manufactured after July 1, 1980, shall be equipped with:

(a) A load check valve (velocity fuse) or similar device installed on the jib boom; and

(b) A set that is offset from the point of attachment of the boom. The seat and boom structure shall rotate concurrently.

(2) The operator of a self-loading log truck shall **not**:

(a) Heel the log over the operator's head; or

(b) Heel the log on the operator side of the boom if the seat is offset from the point of attachment of the boom.

(3) A safe and adequate means of access to and egress from the loading work station on self-loading log trucks shall be provided.

(4) A self-loading log truck shall not load itself or another truck when the loading process is:

(a) Under or within a spar guyline circle or similar overhead hazard; or

(b) Out of a hot deck.

(5) Self-loading log truck operators shall not unload their own load unless positive means of securing the logs have been provided when binders are removed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0385

437-006-0470

Vehicle Inspection, Repair and Maintenance

A daily complete inspection shall be made of trucks and trailers with particular attention to steering apparatus, lights and reflectors, brakes, boosters, brake hoses and connections, reaches, bunks, stakes, bunk blocks and couplings. Defective parts that make the vehicle unsafe to operate shall be replaced or repaired before the vehicle is placed back in service.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 6-1981, f. 8-5-81, ef. 9-5-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0380

437-006-0475

Safety Chain or Cable

- (1) Each log truck and trailer combination shall be equipped with one or more safety chains or cables with a rated breaking strength of not less than the gross weight of the towed vehicle.
- (2) Each log truck and independent trailer combination (mule train) shall be equipped with one or more safety chains or cables with a rated breaking strength of not less than the gross weight of the towed vehicle.
- (3) Means of attachment for safety chains or cables shall:
 - (a) Be permanently attached to the frame of the truck or the extension of the truck frame;
 - (b) Form a separate continuous connection between the truck frame or extension of the truck frame and the reach;
 - (c) Be attached not more than 12 inches from the eye of the reach;
 - (d) The safety chain shall be of a length to prevent the trailer reach from contacting the ground in the event of disengagement from the truck;
 - (e) Be of a design to provide a positive connection that cannot be rendered inoperative by any condition of use or exposure; and
 - (f) Provide strength equivalent to that rendered by the chain or cable.
- (4) Safety chains and cables shall be replaced immediately if they contain cut, cracked or excessively worn links, or frayed, stranded or otherwise defective wire rope.
- (5) Welding of safety chain links is prohibited except for permanently closing cold-shut links.
- (6) Cold-shut links may be used provided they are welded and one size larger than the chain being used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0390

437-006-0480

Couplings (Hitches)

(1) All log trucks and trailer combinations shall be equipped with couplings (hitches) which shall:

(a) Be capable of withstanding, in any direction, the potential stresses imposed;

(b) Have two independent locking devices, protected from dirt and debris or be of a design which would not be rendered inoperative by dirt and debris and shall be locked securely and positively; and

(c) Be attached to the truck frame or extension of truck frame by means of not less than four machine bolts and nuts (120,000 P.S.I. material or better) 3/4-inch in diameter or larger secured by locked nuts.

(2) Couplings (hitches) or parts that are broken, cracked, deformed over 1/4 inch or otherwise defective shall be immediately removed from service or made to comply with the manufacturer's specifications.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0395

437-006-0485

Brakes

(1) A vehicle brake test shall be made before moving with any load.

(2) Defective vehicle brakes shall be repaired or replaced before the vehicle is operated.

(3) Brake drums shall not be welded.

(4) Engine-type brakes shall be considered as auxiliary controls; not as a substitute for adequate braking systems.

(5) Air or vacuum brake lines shall be of the type intended for such use and shall have approved fittings which will not be interchangeable with water or other lines.

(6) Splices in air brake lines shall be made only with fittings approved for air brake line service and shall not restrict air flow below the minimum required for the line size.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0400

437-006-0490

Reaches -- General

(1) The reaches of unloaded trailers being towed shall be provided with and use a one inch pin near the end or an

equally effective means to prevent pulling or stripping through the tunnel.

(2) Reach locks or tighteners shall be of the type that will securely lock the reach in the tunnel.

(3) No reach of less than the maximum size usable in the tunnel of a trailer shall be permitted.

(4) Alteration of a trailer tunnel to permit reduction of reach size is prohibited.

(5) A grab iron or an adequate handhold shall be installed on both sides near the coupling end of trailer reaches and be maintained in good repair.

(6) The portion of reaches within the tunnel shall be visually inspected at least once a month for defects unless welded or otherwise fixed to the trailer so as not to be removable for inspections.

(7) Reaches that are bent, cracked, excessively worn or otherwise defective shall be immediately removed from service.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0405

437-006-0495

Trailers

(1) Trailer hoisting or unloading straps shall be constructed and installed in a manner to enable the unloading machine to engage the strap with a minimum of personal contact and shall be kept in good repair.

(2) Trailer unloading straps, links or chains shall be fastened securely to the trailer frame and used in hoisting the trailer. These connections shall be maintained in good condition and shall not be attached to the trailer bunk. They shall not be used for any other purpose.

(3) Trailers loaded on trucks designed for highway use shall be securely fastened by not less than one binder in such a manner as to prevent the trailer from falling, rolling or sliding off the truck while in transit. Trucks and trailers that are designed for off-highway use are not required to have the trailers tied down provided the truck trailer ride channels and cab guard channels are designed and constructed to prevent unintended movement of the loaded trailer.

(4) In unloading trailers from motor trucks, trailers shall be hoisted clear, the truck driven a safe distance and the trailer lowered to within one foot of the roadway before employees approach the trailer or reach.

(5) Adequate protection shall be provided for the trailer steerer.

(6) A signal device or other means of communication shall be installed on all steered trailers so that the trailer steerer may communicate with the driver of the truck.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0410

437-006-0500

Bunks and Stakes

- (1) Every truck or truck and trailer engaged in the transportation of logs loaded lengthwise shall be equipped with bunks and bunk blocks or stakes.
- (2) All stakes, stake extensions and bunks installed on log trucks and trailers, together with the means provided for securing and locking the stakes in hauling position, shall be designed and constructed of materials of such size and dimension that will withstand operational stresses without yield or permanent set.
- (3) Defective stakes, stake extensions, bunks or means provided for securing and locking the stakes in hauling position shall be removed from service.
- (4) Stakes or blocks which release shall be constructed in such a manner that the releasing mechanism is activated from the opposite end of the bunk.
- (5) All swivel-type bunks shall have locks or another method for keeping bunks perpendicular to the reach until the first full bunk tier of logs is loaded.
- (6) Bunk blocks shall be disengaged before starting to haul the load.
- (7) Bunk blocks shall have a minimum height of eight inches above the top edge of the bunk.
- (8) Bunk blocks and stakes shall not extend beyond the end of the bunk.
- (9) Stake extensions shall be secured to the stake to prevent accidental detachment.
- (10) The bunks or bolsters of any truck or trailer shall be either straight or curved upward. Bunks with ends lower than their centers are prohibited.
- (11) Sufficient clearance between the bunk and the bunk rider shall be maintained to prevent bunk binding.
- (12) Log bunks on trucks and trailers shall be sufficiently sharp to keep the logs from slipping endways. The channel of the bunk shall be kept reasonably free of debris.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0415

437-006-0505

Bunk Chains and Cables

- (1) Chains or cables used to secure bunk blocks shall be rated by the manufacturer to have a safe working load of not less than 6,600 pounds. Three-eighths inch alloy steel chain, or 7/16-inch high-test steel chain (both of welded link construction), and 5/8-inch improved plow steel cable in 6 x 19 and 6 x 37 construction, when in compliance with the 6,600 pound requirement, will be acceptable.
- (2) Stake chains or cables shall be equal to or better than high-test steel chain or plow steel wire rope.
- (3) Bunk chains containing cut, cracked, excessively worn or otherwise defective links shall be immediately removed

from service.

- (4) Loose ends of bunk chains shall be securely fastened to prevent their swinging free and creating a hazard.
- (5) Molles, cold shuts (welded or otherwise) or bolts are not permitted in bunk chains.
- (6) The use of frayed, stranded or otherwise defective wire rope for bunk block cable or stake straps is prohibited.
- (7) Only repair links which will develop a strength equivalent to the chain are permissible for repairs or attachments for chains.
- (8) Chains or cables used to secure stakes or bunk blocks shall be secured in a manner which will not necessitate hammering directly on them to release the stakes. Keyhole slots and similar methods of securing chains are prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0420

437-006-0510

Binders and Wrappers

(1) Binders, chains, cables, fasteners or other attachments of the wrapper shall have a minimum breaking strength of not less than 15,000 pounds. Three-eighths inch high-test steel chain, or 5/16-inch alloy steel chain (both of welded link construction), 3/8-inch and 7/16-inch improved plow steel wire rope of 6 x 19 and 6 x 37 construction, when in compliance with the 15,000 pound requirement, are acceptable. When two wrappers are used on loads for private roads, binders, chains, cables, fasteners or other attachments of the wrapper shall have a minimum breaking strength of 20,000 pounds.

EXCEPTION: Nylon straps and ratchet binders having an equivalent breaking strength may be used when securing pulpwood loads on (hay rack) log hauling systems.

- (2) Binders placed in service after January 1, 1992, shall have the manufacturer's name and minimum breaking strength stamped on the binder.
- (3) Wrappers which are used for securing loads shall not be used for any other purpose.
- (4) Wrappers shall be removed from service when any of the following conditions exist:
 - (a) Excessively worn links on chains;
 - (b) Deformed or stretched chain links;
 - (c) Cracked chain links; or
 - (d) Frayed, stranded knotted or otherwise defective wire rope.
- (5) Only chain links approved for welding (and properly welded) or repair links which will develop a strength equivalent to the chain are permissible for repairs or attachments for binder chains.
- (6) Defective binders, fasteners or attachments shall be removed from service.

- (7) At least five binders and five wrappers shall be carried on all log trucks.
- (8) Tying knots in wrappers is prohibited.
- (9) Binders for securing wrappers shall be fitted with hooks of proper size and design for the wrapper being used.
- (10) Extension handles (swedes) for tightening or securing binders shall be not over 36 inches in length.
- (11) Extension handles (swedes) shall cover at least ten inches of the binder handle or be of the safety swede type.
- (12) Tighteners and other means of securing or attaching binder chain or cable shall be used only in the manner for which they were intended and shall be immediately removed from service when defective.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; WCD 6-1981, f. 8-5-81, ef. 9-5-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0425

437-006-0515

Securing Loads

- (1) All logs shall be secured by at least two evenly placed wrappers before the log truck leaves the loading area **except** as noted in OAR 437-006-0435(19). The wrappers shall be placed near the bunk stakes with extra wrappers used as necessary to ensure that each log is secured.
- (2) Logs loaded on top or outside saddles of a load shall not be transported unless secured by at least two wrappers. Wrappers shall be placed near each end of the logs.
- (3) Loads consisting of four logs or less shall be secured with not less than one wrapper at or near each bunk. Ends of short logs not secured by such a wrapper shall be secured with extra wrappers.
- (4) Loads consisting of five logs or more that are 26 feet or more in length shall be secured by not less than four evenly spaced wrappers around the load, one of which may be used as a gut wrapper. This requirement shall apply if any log in the load is over 26 feet in length.

EXCEPTION: On trucks and trailers designed for off-highway use, where traffic control is enforced on private haulroads, all perimeter logs shall be contained by no less than two wrappers. Wrappers shall be placed near each end of the log.

- (5) If logs are loaded crosswise and the truck or trailer is not provided with solid ends of a height sufficient to prevent any log in the load from rolling off, the following method of securing the load shall be used:
 - (a) Not less than two chock blocks shall be used at each open end of the vehicle;
 - (b) The load shall be held with at least two wrapper cables; and
 - (c) The wrappers shall be firmly attached to the ends of the truck or trailer.
- (6) Attaching grab hooks directly to wrapper cables is prohibited.
- (7) Warning shall be given before throwing wrappers over the load and care shall be taken to prevent striking other employees.

- (8) All required wrappers shall be kept tight in transit.
- (9) All wrappers, except for gut wrappers or a one-log load wrapper, shall entirely surround the load.
- (10) All loose ends of wrappers shall be securely fastened to prevent their swinging free and creating a hazard.
- (11) Unless otherwise required, binders shall be arranged so that they must be released from the side of the vehicle away from the brow log or dumping side in unloading.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; WCD 6-1981, f. 8-15-81, ef. 9-5-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0430

Log Dumps and Ponds

437-006-0530

General Requirements for Log Dumps and Ponds

- (1) It shall be the responsibility of both the employer and owner or lessee or other person in control of the log dump to assure compliance with OAR 437-006-0535(3).
- (2) Methods of unloading logs shall be arranged and used in a manner to provide full protection to all employees.
- (3) Road beds at log dumps shall be hard-packed gravel, heavy planking or equivalent material and shall be of sufficient width and evenness to provide for safe operation of equipment.
- (4) An adequate brow log, skid timbers or the equivalent shall be used in dumping logs. This does not apply to railroad-type dumps when located where logs are dumped directly into the water, or to dumps where entire loads are lifted from vehicles.
- (5) Where logs are unloaded onto skids, sufficient space shall be provided between the top of the skids and the ground or deck to clear the prone body of a person.
- (6) When a brow log is used with a parbuckle system, all employees are prohibited from going between the brow log and a load of logs at any time.
- (7) The operator of the unloading machine shall have an unobstructed view of the dump and the logs being unloaded or shall receive a signal before dumping the logs.
- (8) Unloading lines shall be arranged so that it is not necessary for the employees to attach them from the pond or dumphside of the load, except when entire loads are lifted from vehicles.
- (9) Logs shall not be unloaded with peavies or similar manual methods, unless means are provided and used that will eliminate danger from rolling or swinging logs.
- (10) All employees shall be in the clear and a signal given before logs are dumped.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0435

437-006-0535

Removal of Wrappers/Barriers

- (1) An extra wrapper or metal band of equal strength shall be placed to hold the logs when it becomes necessary to remove a wrapper to prevent it from being fouled by the unloading machine.
- (2) The operator's attention shall not be distracted from duties while engaged in operating a log-handling machine and all persons shall be in the clear before the machine is operated and/or binders are released.
- (3) No employee shall enter the area next to the log truck except when the truck is unloaded, when protected by a barrier or log handling machine, or when the load is contained by the wrappers.
- (4) Before binders are released on log truck loads, all logs shall be securely held in place by a log barrier or log handling machine.
- (5) When a barrier is used, it shall be at least 15 feet high, and be designed to move forward to contact and hold the logs in place on the log truck while the binders are being removed. Controls for the barricade shall be on the release side of the unloading station and be located forward of the truck cab guard and out of the swing radius of the logs.
- (6) Binders shall be released and wrappers removed from the side of the load on which the unloader operates, with the following exceptions:
 - (a) Binders and wrappers may be removed from log loads on the side opposite the unloading machine only when all of the following methods are used:
 - (A) A minimum of one binder shall be maintained on all short logs above the stakes or bunk blocks prior to the placement of the unloading grapple arms;
 - (B) A minimum of two binders shall be maintained on all loads of long logs above the stakes or bunk blocks. It is recommended that the wrappers nearest the truck and trailer bunks be retained to allow clearance for the unloading grapple arms;
 - (C) The grapples shall prevent displacement of all logs before the remaining binders and wrappers are removed.
- (7) The employee removing the wrappers shall be in the clear and in full view of the unloading operator before giving a signal to move the unloading machine or the load of logs.
- (8) A clear space, free of obstructions, not less than ten feet wide shall be maintained the length of and parallel to the log load on the side opposite the unloader.
- (9) Barricades and the area surrounding the structure shall be kept free of accumulations of bark, mud and other debris.
- (10) Drivers shall ensure that the truck is stopped in close proximity to the barricade to minimize the need for the employee releasing the binders to extend the employee's upper torso beyond the front of the protective structure.
- (11) When logs are to be unloaded at different destinations, vehicles shall not be moved after each partial unloading until the requirements for binders and loading are met unless:

- (a) The logs are unloaded at different points within the same mill yard or dumping grounds; and
 - (b) All remaining logs in the load are securely contained within the stakes; and no employees are exposed.
- (12) Wrappers shall not be removed at weigh stations or other points of transit unless the load is protected by a barrier, log handling machine or otherwise protected to prevent the logs from rolling off the log truck.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0440

437-006-0540

Hoists

- (1) Trailer loading hoists shall have an upper limit switch installed and maintained to prevent the hook or other end fittings from contacting the upper sheaves. In addition:
- (a) The upper limit switch shall not be used as an operating control; and
 - (b) If the upper limit switch does not function properly, the hoist shall not be used until repairs have been made.
- (2) Electric-powered hoists using handheld cord remote controls in grounded locations shall be actuated by circuits operating at less than 50 volts to ground.
- (3) Electric-powered hoists shall be equipped with an operable overtravel limit switch installed in the hoisting direction.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0445

437-006-0545

Log Ponds and Boom

- (1) At no time shall one employee be permitted to work alone at any log dump while logs are being unloaded. Stowing, sorting or any kind of boom work shall also require a minimum of two persons except when one employee is feeding the slip (hot lane) from a designated area. At least one of the two people shall be an experienced operator of the unloading machine.
- (2) All employees working on logs or around boom sticks in water shall wear sharp caulked shoes or slip-on sharp-caulked shoes. When weather conditions render caulks ineffective, other effective footwear may be worn.
- (3) Wood pike poles shall be of straight-grained select material. Metal or conductive pike poles shall not be used around exposed electrical conductors. Defective poles, blunt or dull pikes shall not be used. Pike poles shall be restricted to the use for which they are intended.

- (4) Sufficient walkways and floats shall be installed and securely anchored to provide safe passage for employees.
- (5) Decks or floats or other walkways shall be kept above the waterline at all times, and shall be capable of supporting four times the load to be imposed.
- (6) All regular boom sticks and foot logs shall be reasonably straight, free of protruding knots and have the bark removed. They shall also be capable of supporting, above the waterline at either end, any necessary weight of an employee and equipment.
- (7) Gaps between ends of boom sticks shall not exceed 24 inches.
- (8) All wire shall be removed from booms and chains before they are reused or hung in rafting stalls.
- (9) Permanent cable swiftners shall be so arranged that it will not be necessary to roll boom sticks in order to attach or detach them.
- (10) When cable swiftners or dogging lines become hazardous from an excessive amount of jiggers, they shall be discarded.
- (11) Stiff booms shall be constructed of not less than two float logs or equivalent timbers and shall have a minimum width of 36 inches. Float logs or equivalent timbers shall be securely joined together by not less than four by six inch cross timbers.
- (12) Stiff booms shall be planked over with not less than two inch planking, securely fastened and kept in good repair, at all sorting gaps or locations where mechanical devices are operated.
- (13) Walkways alongside sorting gaps shall be at least four feet wide. Other planked walkways shall be at least 22 inches wide.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0450

437-006-0550

Pond Boats and Rafts

- (1) Gasoline-powered inboard motorboats shall be equipped with a mechanical exhaust system for ventilating the engine compartment and bilges. Such system shall ensure ventilation of combustible fumes prior to starting the engine.
- (2) Mechanical exhaust systems shall be powered by nonsparking fans or the fan motor shall be located outside the bilge and engine compartment.
- (3) Gasoline-powered inboard motorboats shall not be started until the bilges and engine compartment have been mechanically vented of combustible fumes that may have accumulated.
- (4) Decks of pond boats shall be covered with a material that will effectively prevent foot slippage of employees.
- (5) Pond rafts shall be removed from service when they are no longer capable of supporting a 500 pound load on any edge while remaining above water.
- (6) Powered pond boats or rafts shall be provided with at least one five pound ABC fire extinguisher and a lift ring with

line attached. No life ring is required in small pond boats designed to transport only one employee.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0455

437-006-0555

Dry Land Log Dumps

- (1) When dry land log dumps use unloading methods similar to those of water dumps, OAR 437-006-0545(1) through (13) shall apply.
- (2) Dry deck storage areas shall be kept orderly and shall be maintained in a condition which is conducive to safe operation of mobile equipment.
- (3) Bark and other debris shall not be allowed to accumulate in such a manner that it becomes a hazard.
- (4) Logs in cold decks or piles shall be placed in a straight and orderly manner which will eliminate as far as possible the hazards from rolling or shifting logs.
- (5) No employee shall approach the immediate vicinity of a forklift-type log handling machine without first notifying the operator of the intention to approach the machine.
- (6) Only authorized employees shall operate any vehicle in a dry deck storage or unloading area.
- (7) Riding on any part of a log handling machine, other than the driver's seat, is prohibited **except** where a seat under the canopy guard is provided and used, or when an employee is being trained.
- (8) All employees shall be in the clear and in view of the log unloader operator before the lift forks are moved under the load.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0460

Signaling and Signal Systems

437-006-0565

General Requirements for Signaling and Signal Systems

- (1) Standard yarding system whistle signals shall be used at cable logging operations. A new signal may be adopted for an unusual or new situation not covered in the standard signals provided the new signal shall be used only for that specific situation and all employees are informed of the new signal.

- (2) The standard signals and alternate signals in use shall be posted on the yarder and other places where crews congregate.
 - (3) The crew shall thoroughly understand and be alert for all signals at all times.
 - (4) Each unit of the signal or control system in use shall be tested daily before operations begin. Audible signals used for test purposes shall not include signals used for movement of lines or materials.
 - (5) Only one employee in any crew shall give signals or voice communication at the point where chokers are being set. Any person is authorized to give a stop signal when an employee is in danger or any other emergency condition is apparent.
 - (6) At least two members of the rigging crew shall carry transmitters on their persons where chokers are being set when there is more than one person on the rigging crew. One transmitter is permitted when the rigging crew is comprised of only one employee. Other spare transmitters shall be guarded against accidental activation.
 - (7) Machine operators shall not move any logs, loads or rigging unless the signal received is clear and distinct. If in doubt, the operator shall repeat the signal as understood and wait for confirmation.
 - (8) A whistle or horn, clearly audible and distinguishable to all employees in the affected area, shall be installed and used on all machines operating as yarders, swings, loaders or tree pullers.
 - (9) All radio-controlled carriages and motorized skycars shall have a warning horn which shall be sounded before any lines or loads are moved.
 - (10) An audible signal shall always be sounded before any line is moved. This does not apply to grapple or other special yarding systems wherein employees are not exposed to logs or rigging movement.
 - (11) When chokers are used on a grapple system, standard whistle signals shall be used.
 - (12) Voice communication may be used to move rigging and control movement of logs. The communication system and frequencies shall be approved by the Federal Communications Commission (FCC). Talkie Tooter voice frequencies 154.57 or 154.60 MHz shall **not** be used to move rigging or to control movement of logs.
 - (13) Audible signals for logging operations shall be sounded upon:
 - (a) The initial movement of the rigging line or balloon toward the landing with the turn; and
 - (b) When stopping the rigging line or the balloon's return to the rigging crew for the next turn.
- NOTE:** All other maneuvers may be done by voice communications without audible signals.
- (14) Throwing of any type of material as a signal is strictly prohibited.
 - (15) The use of a jerk wire whistle system for any type of yarding operation is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCB 5-1971, f. 6-23-71, ef. 6-25-71; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0465

437-006-0570

Hand Signals

- (1) Hand signals may be used at any time as an emergency stop signal.
- (2) Hand signals are permitted instead of standard whistle system signals provided they are executed in plain sight of and within 300 feet of the machine operator.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCB 5-1971, f. 6-23-71, ef. 6-25-71; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0470

437-006-0575

Voice Communication on Combined Signal/Voice Transmitters

Voice communication on the same radio frequencies used to transmit skyline, high-lead, slackline or skidder whistle signals (154.57 and 154.60 MHz channels), shall be limited to the reporting of injuries, fire and emergency situations where special tools or precautions are needed to prevent or alleviate a hazardous situation. In addition:

- (1) Voice transmissions shall not be used to move the rigging and shall be used only when the rigging is standing still;
- (2) The rigging crew shall call the yarder engineer by name to ensure that proper contact is established;
- (3) The yarder engineer shall acknowledge the call with a whistle "stop" signal before the caller starts transmitting the voice message;
- (4) Voice transmission shall be kept as brief and to the point as possible; and
- (5) After receiving the voice message, the yarder engineer shall again acknowledge with a whistle "stop" signal that the message has been received and is clearly understood.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0475

437-006-0580

Electrical Signal Systems

- (1) Where an electrical signal system is used, all wire and attachments shall be weatherproof.
- (2) Electric signal systems shall be installed and adjusted to protect against accidental signaling and shall be maintained in good operating condition.
- (3) Electrical signal bugs shall be so designed that they cannot be accidentally tripped.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCB 5-1971, f. 6-23-71, ef. 6-25-71; WCD 11-1979, f. 12-24-79, ef. 3-1-80; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0480

437-006-0585

Radio Signal Systems

(1) When space transmission of radio signals is used to initiate any whistle, horn, bell, or other audible signaling device, or when such transmission of radio signals is used to activate or control any machine, material-handling device or other equipment hazardous to employees, the following shall apply:

(a) An operational whistle signal must be maintained;

(b) A permit assigning tone frequencies and area of use for each radio unit to be used for the control and activation of any signal, machine or equipment shall be obtained from Department of Insurance and Finance, Oregon Occupational Safety and Health Division (Oregon OSHA), by an owner prior to placing the unit in operation. Permits shall be issued on the basis of compliance with the criteria contained in **Appendix 1**;

(c) Radio equipment shall not be used without displaying a permit as required by this rule. The permit must be prominently displayed on the receiver of the unit or on the transmitter in the yarder for radio-controlled carriages;

(d) Applicants for permits shall submit the following information concerning the equipment to the Department of Insurance and Finance, Oregon OSHA:

(A) Name and address of applicant;

(B) The assigned radio frequency;

(C) The manufacturer of the unit;

(D) The serial number of the receiver;

(E) The tone frequencies upon which the unit operates;

(F) The intended use or function of the unit; and

(G) The designated area in which the equipment will be used.

(e) Before moving any unit from one assigned area to another, a new permit shall be secured from the Department of Insurance and Finance, Oregon OSHA. (See the Radio Signal Permit Area Map in **Appendix 1**.);

(f) Users shall notify the Department of Insurance and Finance, Oregon OSHA, within 15 days after the radio signaling device is:

(A) Permanently retired (in what manner);

(B) Sold (to whom); or

(C) Stolen.

(g) Upon receipt and approval of a properly completed application, OR-OSHA shall issue a permit within 30 days; or if OR-OSHA is unable to issue a permit within 30 days of receipt and approval of a properly completed application, the applicant shall be notified of the proposed date of issuance.

- (2) Additional systems shall be certified in advance as spares, providing they are used only as replacements for malfunctioning systems during the time required to repair the original equipment.
- (3) Each radio receiver shall have its tone frequencies in hertz (cycles per second), the manufacturer's name and serial number and the assigned radio frequency clearly and permanently indicated on the outside of the case. When the duration or width of the tone frequencies performs a function, the duration or width shall also be permanently indicated on the outside of the case.
- (4) Single tone frequency shall not be used on radio equipment designed to initiate whistle or other audible signal, or to activate or control any machine, material-handling device or other equipment hazardous to employees.
- (5) All adjustment, repair or alteration of radio signaling devices shall be done only by or under the immediate supervision and responsibility of a person holding a first or second class commercial radio operator's license (for either radio telephone or radio telegraph) issued by the Federal Communications Commission. All replacement parts shall be of such quality as to cause the unit to meet the minimum performance specifications outlined in **Appendix 1**.
- (6) At least one model of each radio system shall be tested and certified that it meets or exceeds the minimum requirements for performance as specified in **Appendix 1**. This model shall be a random selection from stock. A copy of such performance report shall be signed by the person or persons who tested the unit and submitted to Department of Insurance and Finance, Oregon OSHA.
- (7) Radio-controlled devices shall be tested each day before work begins. If, at any time, any part of the equipment fails to function properly, or if interference, overlap, fadeout or blackout of radio signals is encountered, the system shall not be used until the source of trouble is detected and corrected.
- (8) Two or more whistle signal receivers on the same tone frequency is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCB 3-69, f. 5-12-69, ef. 5-15-69; WCB 5-1971, f. 6-23-71, ef. 6-25-71; WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; WCD 8-1982, f. 7-9-82, ef. 9-1-82; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0485

APPENDIX 1

RADIO PERMITS AND RADIO SIGNAL PERMIT AREA MAP

(See OAR 437-006-0585, Radio Signal Systems)

RADIO PERMITS

Permits for either radio-activated signaling or machine functions in cable logging operations will be issued by the Department of Consumer and Business Services, Oregon Occupational Safety and Health Division (Oregon OSHA), on the following basis:

- (1) Radio equipment, in use at cable logging sites, which is primarily used for voice communication shall be on a

separately assigned frequency from radio equipment primarily used to initiate whistles or other audible signaling devices or to control any machine, material handling device or other equipment hazardous to employees.

(2) Any radio frequency, governed by the Federal Communications Commission, for tone coded control of audible signal or machine functions will be issued permits contingent on compatibility with other systems in use and upon compliance with OAR 437-006-0565(1) through 437-006-0590(1) and the criteria listed in this Appendix (6A).

(3) 154.57, 154.60, 75.48 and 75.56 MHz channels are to be used as 2 tone sequential coded channels for activation of the audible signaling devices and machine functions in cable logging with a maximum 1/2 watt output measured at the antenna terminals. 75.56 MHz is to be used for machine functions only.

(4) All radio devices, tone coded for either signal or machine functions, associated with logging except those used for voice communications, shall meet or exceed the following requirements, specifications, tolerances and tests:

(a) Transmitters used for voice transmission will comply with Federal Communications Commission requirements;

(b) Tone-coded radio systems which activate audible signals or machine functions shall transmit and decode only by the use of multi-tone frequencies assigned by the Department of Consumer and Business Services, Oregon OSHA;

(c) The receiver sensitivity shall be capable of attaining .6 microvolt, or greater, for 12 db SINAD ratio for VHF frequencies and .7 microvolt, or greater for UHF frequencies. Effective January 1, 1984, all radio systems receiver sensitivity shall be capable of attaining .4 microvolt, or greater, for 12 db SINAD ratio for VHF frequencies and .5 microvolt, or greater, for UHF frequencies. When interference is a factor, the receiver may be de-sensitized for the promotion of safety by a person qualified in accordance with OAR 437-006-0585.

(d) The receiver spurious response attenuation shall be at least 40 db on present systems. On all new radio systems put into service after the effective date of these rules, the receiver spurious response attenuation shall be at least 60 db. These measurements shall be made as specified by the Electronics Industries Association (E.I.A.).

(e) The receiver selectivity shall be more than 40-db at plus or minus 30 KHz. On all new radio signal systems put into service after the effective date of these rules, the receiver selectivity shall be at least 60 db at plus or minus 30 KHz. This measurement shall be made by E.I.A. standards.

(f) The receiver decoder tone frequency shall not exceed 6 Hertz above or below the assigned tone frequency;

(g) The drift of the transmitter encoder shall not exceed 6 Hertz above or below the assigned tone frequency;

(h) Radio systems shall operate within the specified tolerances at any temperature within the range of -30 degrees C to +60 degrees C;

(i) Radio-signaling systems which may be subjected to the entrance of moisture during use, shall be tested within 15 minutes after being subjected to the following conditions and shall continue to function properly. The transmitter and receiver shall be placed in a humidity chamber for eight hours where the humidity has been maintained at not less than 90 percent and where a 40 degrees C temperature has been maintained.

(j) Switches of transmitters used to send whistle signals or activate equipment associated with cable systems of logging shall be designed in such a manner whereby two buttons, motions or a combination of these shall be required simultaneously to cause activation of the system. Arrangement of the activating switches shall be such that the operator can transmit signals easily by the use of either hand but cannot easily activate the transmitter accidentally.

(k) All receivers intended to be mounted on or in the yarder or similar equipment and all portable transmitters shall continue to maintain specified mechanical and electrical performance during and after being subjected to vibration of the magnitude and amplitude as follows:

The equipment shall meet all electrical requirements after being vibrated with simple harmonic motion having an

amplitude of 0.015" (total excursion of 0.030") with the frequency varied uniformly between 10 and 30 cycles per second, and an amplitude of 0.0075" (total excursion of 0.015") with the frequency varied uniformly from 30 to 60 cycles per second. The entire cycle of frequencies for each group, i.e., 10 to 30 cps and 30 to 60 cps, shall be accomplished in five minutes and repeated three times. The above motion shall be applied for a total period of 30 minutes in each of three directions, namely, the directions parallel to both axes of the base, and perpendicular to the plane of base.

(1) All portable transmitters shall continue to maintain specified mechanical and electrical performance after being subjected to a shock test as follows:

The equipment shall be dropped once on each of 5 surfaces from a height of 4' onto a smooth concrete floor.

437-006-0590

Citizens' Band Radios

Citizens' band (CB) radios shall not be used to activate any signal, machine or process either automatically or by voice. CB radios may be used for communication between the loader and the log truck driver during the loading process provided an audible signal is sounded before the truck moves. CB radios may be used for secondary communication between sides, vehicles, or for emergency situations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: WCD 11-1979, f. 12-24-79, ef. 3-1-80; WCD 1-1981, f. 1-30-81, ef. 2-1-81; OSHA 12-1991, f. 9-27-91, cert. ef. 1-1-92; Renumbered from 437-080-0490

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Oregon Administrative Rules 1998 Compilation

DEPARTMENT OF CONSUMER AND BUSINESS SERVICES, OREGON OCCUPATIONAL SAFETY AND HEALTH DIVISION

DIVISION 81

AGRICULTURAL OPERATIONS AND FARMING

General Provisions

Purpose, Scope, Application and Definition

437-081-0001

Purpose

The purpose of this division is to prescribe reasonable rules to assure as far as possible safe and healthful working conditions for employees engaged in farming activities. Authority for promulgation and enforcement of these rules is contained in ORS 654.003 through ORS 654.295.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-1

437-081-0002

Scope

(1) The rules contained in this division shall apply to every place of agricultural employment. All agricultural employers, workers, and other persons shall obey and comply with these rules and regulations, and shall abide by all safety orders issued by the Division or its authorized representatives. The rules in this division are minimum. More stringent rules may be required in unusual circumstances, if necessary to protect the physical safety of workers.

(2) Rules on labor camps in OAR Chapter 437, Division 002, Subdivision J, General Environmental Controls, OAR 437-002-0142, Labor Camps, shall apply to agricultural operations.

NOTE: For rules pertaining to Hazard Communication for Agriculture, see OAR 437-002-0377(2) in 1910.1200, Hazard Communication, in Division 2/Z, Toxic and Hazardous Substances.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-2 & 3; OSHA 13-1992, f. 12-7-92, cert. ef. 2-1-93

437-081-0003

Application

The right of inspection and examination at any time is reserved by the Board. Terms used in this division, other than those specifically defined, shall be interpreted in the most commonly accepted sense as used in production agriculture.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-4 & 5

437-081-0004

Definitions

The following general definitions apply to terms used in this division. Definitions applicable to specific subjects are contained within those specified areas.

(1) Adequate - Sufficient for the required purpose.

(2) Capacity - The maximum load or severity of service to which a tool, machine, equipment, structure, or material may be subjected without failure either to safely accommodate the loading, or by deformation, separation or fracture.

(3) Employee - Any individual, whether lawfully or unlawfully employed, who engages to furnish his services for a remuneration, financial or otherwise, subject to the direction and control of an employer. It includes any individual who is provided with workers' compensation coverage pursuant to ORS Chapter 656, whether by operation of law or by election. As used in this division, employee and worker are synonymous.

(4) Employer - Any person engaged in production agriculture who has one or more employees; or any sole proprietor or member of a partnership who elects worker's compensation coverage as a subject worker pursuant to ORS 656.128.

(5) Equipment - Machines, machinery, tools, devices, safeguards, and protective facilities used in connection with the operation and maintenance of an agricultural production enterprise.

(6) Farming - Agricultural production of field crops, fruits and nuts, horticultural specialties, livestock, and animal specialties of all types. "Farming" includes agricultural services such as soil preparation, planting, cultivating, crop production, harvesting and crop preparation for market. "Farming" includes veterinary and other services to animals,

farm labor and management services, landscaping and horticultural services, ornamental shrub and tree services, and greenhouse operations. A detailed listing of farming, i.e., Agricultural Production Enterprises is contained in the Appendix.

NOTE: Throughout this division, the terms "farming," "agriculture" and "production agriculture" are synonymous.

(7) Place of employment - Every place, whether fixed or movable or moving, whether indoors or out or underground, and the premises and structures appurtenant thereto, where either temporarily or permanently an employee works or in intended to work. It includes every place where there is carried on any activity related directly or indirectly to an employer's business, including a labor camp provided by an employer for his employees or by another person engaged in providing living quarters or shelters for employees.

NOTE: Place of employment does not include any place where the only employment involves nonsubject workers employed in or about a private home.

(8) Safeguard - Any form of safety device, equipment, personal protective equipment, guard, barricades, warning, danger sign, method or process prescribed or adopted for the protection of an employee.

(9) Shall and must - Used to indicate those actions, measures, steps or conditions specified or prescribed in this division which are mandatory.

(10) Substantial - Constructed with sufficient strength or installed so as to provide ample support to withstand loads to which the structure or device may be subject.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-6 - 15

Miscellaneous Provisions: Responsibilities of Employer and Employees

437-081-0006

Miscellaneous Provisions

Warning signs, danger signs, warning flags, warning lights, or similar devices shall be conspicuously posted at all locations where existing conditions not otherwise adequately guarded warrant their use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-16

437-081-0009

Miscellaneous Provisions - Safeguard or Device Maintenance

Any safeguard or device that is required by any rule in this division shall be maintained in operable condition to perform

its intended function; and it shall be used to perform its intended function.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-1-17

437-081-0013

Miscellaneous Provisions (Opening or Excavation Protection)

Protective barriers or suitable guards shall be erected when covers over openings are removed or excavations made in places which are accessible to workers or to vehicles.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-1-18

437-081-0016

Miscellaneous Provisions (Intoxicants)

The use of intoxicating liquor or mind altering drugs on the job is prohibited. Anyone whose ability to work safely is impaired by alcohol, drugs, or medication shall not be allowed on the job while in that condition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-1-19

437-081-0019

Miscellaneous Provisions (Prohibited Activities)

There must be no horseplay, scuffling, practical jokes, or any other activity of a similar nature.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-1-20

437-081-0023

Employers' Responsibilities

Every employer shall furnish employment and a place of employment which are safe and healthful for employees therein, and shall furnish and use such devices and safeguards, and shall adopt and use such practices, means, methods, operations and processes as are reasonably necessary to render such employment and place of employment safe and healthful, and shall do every other thing reasonably necessary to protect the life, safety and health of such employees.

NOTE: The above rule is an extract of ORS 654.010.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-21

437-081-0026

Employers' Responsibilities (Employee Qualifications)

The employer shall insure that every worker is qualified, capable, and competent to:

- (1) Safely perform any process or practice in which he will be involved; and
- (2) Safely operate any machinery, tools, or equipment which he is intended to operate.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-22

437-081-0029

Employers' Responsibilities (Employee Competence)

Employees shall be required to demonstrate their competence to safely perform assigned duties.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-23

437-081-0033

Employers' Responsibilities (Employee Compliance)

The employer shall provide supervision over employees adequate to insure and enforce compliance with safe operating procedures and practices in every activity of employment.

NOTE: It is not the meaning of this rule to require a supervisor on every facet of any operation, nor to prohibit workers from working alone.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-24

437-081-0036

Employers' Responsibilities (Employee Supervision)

The employer shall take all reasonable means to require employees:

- (1) To work and act in a safe and healthful manner;
- (2) To conduct their work in compliance with all applicable safety and health rules;
- (3) To use all means and methods, including but not limited to, ladders, scaffolds, guardrails, machine guards, safety belts and lifelines, that are necessary to safely accomplish all work where employees are exposed to a hazard;
- (4) Not to remove, displace, damage, destroy or carry off any safety device, guard, notice or warning provided for use in any employment or place of employment while such use is required by applicable safety and health rules.

NOTE: "Reasonable means" shall be defined as: "means which would be taken by a prudent person familiar with the circumstances of the industry to perform any function in a safe and healthful manner."

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCB (Safety) 11-1976, f. & cert. ef. 5-5-76; WCB (Safety) 15-1976, f. 7-6-76, cert. ef. 8-1-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-24

437-081-0039

Employers' Responsibilities (Employee Training)

A procedure prudent to the type of operation shall be used to check on the well-being of workers whose duties require them to work alone or in isolated circumstances. All workers shall be instructed as to the procedure.

NOTE: A two-way system of signals which is thoroughly understood by both parties, or other form of two-way communication may be used. Motor noise is not acceptable as contact or as an indication of well-being.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-25

437-081-0043

Employment of Minors

Work assignments and duties assigned to employees under 18 years of age shall be restricted to those for which the employee is specifically authorized under current Oregon Bureau of Labor rules.

NOTE: Interested persons may obtain information on current regulations governing the employment of minors from their local branch office of the Oregon Bureau of Labor, or by writing to: Wage and Hour Division, Oregon Bureau of Labor and Industries, State Office Building, Suite 1160, 800 NE Oregon St, Portland OR 97232, (Telephone (503) 731-4074)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-26

437-081-0046

Inspections

All places of employment shall be inspected by a qualified person or persons as often as the type of operation or the character of the equipment requires. Defective equipment or unsafe conditions found by these inspections shall be replaced, repaired or remedied promptly.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-27

437-081-0049

Extraordinary Hazards

When conditions arise that cause unusual or extraordinary hazards to workers, additional means and precautions shall be taken to protect workers or to control hazardous exposure. If the operation cannot be made reasonably safe, regular work shall be discontinued while such abnormal conditions exist, or until adequate safety of workers is ensured.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-28

437-081-0053

Investigation of Injuries

Each employer shall investigate every lost time injury that his workers suffer in connection with their employment, to determine means to prevent recurrence. He shall promptly install any safeguard or take any corrective measure indicated

or found advisable.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-1-29

437-081-0056

Employees' Responsibilities

NOTE: Additional safety rules for employees are contained in other rules within this division.

A foreman, supervisor, or person in charge of work is held to be the agent of the employer in the discharge of his authorized duties.

(1) As a supervisor, he shall insure that those persons under this supervision comply fully with the rules of this division.

(2) Since he is an employee as well, he shall comply fully himself with the rules of this division.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-1-30

437-081-0059

Employees' Responsibilities (Work Safety)

Employees shall conduct their work in compliance with the safety rules contained in this division.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-1-31

437-081-0063

Employees' Responsibilities (Reporting Injuries)

All injuries shall be reported immediately to the person in charge or other responsible representative of the employer.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-1-32

437-081-0066

Employees' Responsibilities (Preserving Safety Measures)

Workers shall not remove, displace, deface, damage or destroy any warning, danger sign, guard, barricade, safety device, or personal protective equipment; nor interfere, diminish, or degrade in any way the effectiveness of any form of safeguard which they or any other workers are using, or which is prescribed or furnished for use regardless of by whom the safeguards are furnished.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-33

437-081-0069

Employees' Responsibilities (Work Area Safety)

Workers shall make full use of safeguards provided for their protection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-34

437-081-0073

Employees' Responsibilities (Machine Guards)

Workers shall not operate a machine which is not fully or effectively guarded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-35

437-081-0076

Employees' Responsibilities (Reporting Machine Guards)

Workers shall report to their supervisor any missing, improperly adjusted or ineffective guards.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-36

437-081-0079

Employees' Responsibilities (Machine Maintenance)

Workers shall stop the engine or motor of a machine before lubricating, adjusting, or repairing unless it is provided with effective means to prevent contact with or injury from moving parts. Tag and lock-out procedures as described in this division shall be followed. (See Rules 437-081-0629 through 437-081-0636; 437-081-1789; 437-081-1833; 437-081-1836 and 437-081-1839)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCB (Safety) 11-1976(Temp), f. & cert. ef. 5-5-76; WCB (Safety) 15-1976, f. 7-6-76, cert. ef. 8-1-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-37

437-081-0083

Employees' Responsibilities (Machine Repair Safety)

Workers shall not use hands or any portion of their body to reach between moving parts or to remove hang ups, or jams.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-38

437-081-0086

Employees' Responsibilities (Proper Tool Use)

Workers shall not use tools or equipment which are defective. No tool or equipment shall be used for any purpose for which it is not suited and none shall be overloaded or forced beyond its safe capacity.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-39

437-081-0089

Employees' Responsibilities (Suspended Loads)

Workers shall not go, work, or reach under supported or suspended objects or elevated components which could accidentally fall (e.g., loads on jacks, raised dump beds, raised loader buckets or forks, etc.) until such objects are blocked or shored so as to prevent their falling.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-40

437-081-0093

Employees' Responsibilities (Safeguarding Suspended Loads)

Workers shall not work underneath or over others exposed to a hazard thereby without first notifying them and seeing that proper safeguards or precautions have been taken.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-41

437-081-0096

Employees' Responsibilities (Transporting Long Articles)

Except in open locations where no person would be endangered thereby, and which are free of obstruction, long or unwieldy articles shall not be carried or moved unless adequate means of guarding or guiding are provided to prevent injury.

NOTE: See Rules 437-081-0746 through 437-081-0766 for specific requirements and precautions to be taken where there are energized power lines.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-42

437-081-0099

Employees' Responsibilities (Warning Co-workers)

Workers observed working in a manner which might cause immediate injury to either themselves or other workers shall be warned of the danger.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-43

437-081-0103

Employees' Responsibilities (Notifying Co-workers)

Before leaving a job, workers shall correct, or arrange to give warning of, any condition which might result in injury to others unfamiliar with existing conditions.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-44

437-081-0106

Employees' Responsibilities (Reporting Hazard)

Hazardous conditions or practices observed at any time shall be reported as soon as practicable to the person in charge or some other responsible representative of the employer.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-45

Signals and Signal Systems, General

NOTE: Specific requirements on signals and signal systems peculiar to a certain operation will be found in other appropriate rules within this division.

437-081-0109

Signals and Signal Systems

When the nature of the work requires the use of signals, they shall be arranged and agreed upon by all parties involved before work is begun.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-46

437-081-0113

Signals and Signal Systems (Control Signals)

Control signals shall be given by only one person at a time.

- (1) When given, signals shall be made clear and distinct.
- (2) The person receiving the signals shall understand their meaning before taking action.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-47

437-081-0116

Signals and Signal Systems (Emergency Signals)

Emergency stop signals from whatever source shall be acted upon immediately.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-48

437-081-0119

Signals and Signal Systems (Prohibited Signals)

Throwing any type of material that can produce injury, such as rocks, wooden or metal objects, etc., as a signal is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-49

437-081-0123

Signals and Signal Systems (Safety Considerations)

Signals for the movement of materials or equipment shall not be given until those persons who would be endangered by such movement are in the clear.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-1-50

Requirements for Work Places and Structures

General

437-081-0126

General

Rules 437-081-0126 through 437-081-0406 prescribe safety standards to provide for protection against hazards incurred in or around structures and work locations in any place of agricultural employment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-1

437-081-0129

Definitions

The following definitions apply to Rules 437-081-0126 through 437-081-0406.

- (1) Equivalent - Alternative design or features, which will provide an equal degree or factor of safety.
- (2) Structure - Anything that is artificially built up of parts that are joined together in some definite manner. This term includes but is not limited to walkways, fences, corrals, ramps, platforms, bridges, silos, bins, hoppers, bunks, racks, shelters, sheds, and buildings.
- (3) Platform - A floor surface which is elevated above the surrounding floor or ground, providing space for storage of material or working space for persons; such as a balcony, or a platform for the operation of machinery or equipment.
- (4) Passageway - Any aisle, corridor, walkway, runway, ramp, incline or stairway which is or is a part of, or is within a structure, and which may be used to provide access to any area of an operation.
- (5) Runway - A passageway for persons, elevated above the surrounding floor or ground level, such as a footwalk along shafting or a walkway between buildings.
- (6) Ramp - An inclined plane surfaced passageway leading from one level of elevation to another. The terms "ramp",

"incline" and "inclined walkway" are synonymous.

(7) Floor - The surface of a structure, yard, or ground upon which one works, walks, treads, or travels.

(8) Floor hole - An opening measuring less than 12" but more than 1" in its least dimension, in any floor, platform, pavement or yard, through which materials but not persons may fall.

(9) Floor opening - An opening measuring 12" or more in its least dimension, in any floor, platform, pavement, or yard, through which persons may fall; such as a hatchway, stair or ladder opening, pit or large manhole.

NOTE: Floor openings occupied by elevators, conveyors, machinery, or containers are excluded.

(10) Wall opening - An opening at least 30" high and 18" wide, in any wall or partition, through which persons may fall; such as a window, doorway or chute opening.

(11) Stairs, stairways - A series of steps leading from one level of floor to another. A series of steps and landings have three or more risers constitutes stairs or stairway.

(12) Landing - An extended tread or platform breaking a continuous run of stairs.

(13) Nose, nosing - That portion of a tread projecting beyond the face of the riser immediately below.

(14) Rise - The vertical distance from the top of a tread to the top of the next higher tread.

(15) Riser - The upright member of a step situated at the back of a lower tread and near the leading edge of the next higher tread.

(16) Open riser - The air space between the treads of stairways without upright members (risers).

(17) Tread - The horizontal member of a step.

(18) Tread width - The horizontal distance from front to back of tread including nosing when used.

(19) Standard Guardrail - A vertical barrier, 36" to 44" high, secured to uprights and erected along the exposed edge of a floor opening, wall opening, platform or runway to prevent persons from falling.

NOTE: The height of a standard guardrail is determined by the vertical distance from the floor to the upper edge of the top rail.

(20) Stair railing - A vertical barrier 30" to 34" high, secured to uprights erected along exposed sides of a stairway to prevent persons from falling.

NOTE: The height of a stairway railing is the vertical distance from the nosing of the tread to the upper edge of the top rail.

(21) Ramp railing - A vertical barrier 36" to 44" high, erected along exposed sides of a ramp or incline to prevent persons from falling.

NOTE: The height of a ramp railing is the vertical distance from the floor of the ramp to the upper edge of the top rail.

(22) Handrail - A single bar or rail 30" to 34" high supported on brackets from a wall or partition to provide a continuous handhold for persons using a stair, ramp, or incline.

NOTE: The height of a handrail is the vertical distance from the nosing of the tread to the upper edge of the top rail.

(23) Toeboard - A vertical barrier at floor level erected along exposed edges of a floor opening, wall opening, platform, runway, or ramp to prevent falls of materials. A standard toeboard is 4" high, measured from the floor to its upper edge.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-2 - 24

437-081-0133

Structures

Structures and all parts thereof used in places of employment shall be of sufficient strength to support the anticipated loads acting on them including due allowance for wind, impact, snow, earthquake and erection.

NOTE: For additional information pertaining to loadings and allowable stresses for various materials, see the State of Oregon Structural Specialty Code, Part VI, Engineering Regulations -Quality and Design of Materials of Construction. This code is available from the Oregon Building Codes Division, Department of Consumer and Business Services, 1535 Edgewater NW, Salem, Oregon 97310.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-25

437-081-0136

Structures (Maintenance)

Structures shall be maintained in a sound condition reasonable free of deteriorated or broken parts, components, or structural members.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-26

437-081-0139

Arrangement and Layout

The layout, arrangement, and conduct of the facility, operation, or function shall provide for safe conditions and procedures in every phase. Ample space shall be provided to:

- (1) Give safe clearance and freedom from obstruction to workers;
- (2) Furnish adequate storage spaces for materials in process; and
- (3) Provide clearance between machinery, equipment and operations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-27

437-081-0143

Arrangement and Layout (Work Platforms)

Work platforms shall be provided of sufficient width to furnish a safe working space and provide safe clearance to each worker from other workers and from obstructions. Platforms over 4' above the ground shall be provided with standard guardrails on all open sides. (See Rules 437-081-1276 through 437-081-1286 for requirements for operator's station on vehicles and Self-propelled Equipment.)

NOTE: The railing may be omitted from one side where operating conditions necessitate such omission. In such cases, the platform shall be not less than 18" wide.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-28

437-081-0146

Arrangement and Layout (Vertical Clearance)

A vertical clearance of not less than 6-1/2' shall be provided over work areas and passageways. Where it is otherwise impractical to secure adequate head room, overhead obstructions may be padded or may be indicated by means of contrasting paint, telltales, or similar means, if such means will furnish adequate protection.

NOTE: Crop storage areas such as hay mows, etc., which are occupied only for short and infrequent periods are excepted.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-29

437-081-0149

Access and Egress

A safe means of access to and egress from all parts of an operation shall be provided. Capacity of the means of egress shall be such that in an emergency, the safe and immediate evacuation of all occupants will not be delayed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-30

437-081-0153

Access and Egress (Varied Work Levels)

A safe means of access and egress shall be provided to any location more than 4' above or below the floor. Such means of access may be by ladder, stairway, or ramp which meets the standards of this division.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-31

437-081-0156

Access and Egress (Varied Floor Levels)

Where means of egress is not substantially level, such differences in elevation shall be negotiated by stairs or ramps.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-32

437-081-0159

Access and Egress (Multiple Exits)

At least two means of egress (other than elevators) shall be provided on every floor of every building or section of a building where persons are employed, whenever the lack of such exits would unreasonably delay escape in an emergency.

NOTE: This requirement does not apply to basements, cellars, grain bins, produce storage facilities and similar places which are entered only occasionally or for servicing.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-33

437-081-0163

Access and Egress (Exit Doors)

Power operated doors at building exits shall be operable without any special effort or knowledge necessary; or a secondary emergency exit door shall be provided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-34

437-081-0166

Access and Egress (Exit Door Functions)

Exit doors serving hazardous areas shall swing in the direction of exit and open in a manner that will not obstruct passageways used as exits. Means of exit shall not be blocked at any time. All exit doors and windows used as means of egress in case of fire or panic shall be so arranged as to be readily opened from the inside. Locks on exit doors and windows, if provided, shall not require the use of a key to open from the inside.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-35

437-081-0169

Access and Egress (Exit Signs)

Exit signs shall be placed at all emergency means of egress, except those which are obviously and clearly identifiable as such, and additional directional signs to exits installed where necessary.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-36

437-081-0173

Access and Egress (Exit Requirements)

At least one door which can be easily opened from the inside shall be provided for all rooms subject to extremes in temperature or toxic atmospheres, such as cold storage rooms, walk-in freezers or smoke houses. If this door can be locked from the outside, illumination and a set of instructions for opening the door shall be located inside the room on or near the door. Any necessary equipment for opening the door from the inside shall be conveniently located. In addition there shall be located inside the room a means of communication or a control which will operate an alarm located outside the building, or if other employees are on duty 24 hours a day, outside the room.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-37

Floors, Floor Openings, Passageways and Stairways

437-081-0176

Floors

Floors subject to slipping hazards due to any operation or materials to which they will be exposed shall be of material or design which will effectively control slippery conditions.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-38

437-081-0179

Floors (Drainage)

In operations involving large quantities of liquids that spill, drainage shall be provided which prevents the liquids from accumulating or standing on walking surfaces.

NOTE: The use of "duck boards" or other grilled flooring should be considered to improve floor conditions.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-39

437-081-0183

Floors (Hazardous Material Areas)

Rooms or areas for handling or mixing acids, caustics, or other materials of a harmful nature shall have water-tight floors with drainage facilities to a safe location when located above areas where workers may pass or work, except where employees who are required to enter beneath such area wear clothing and personal protective equipment suitable for the hazard involved.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-40

437-081-0186

Open Floor Sides, Floor Openings, Floor Holes, and Platforms

A standard guardrail shall be erected along the edges of open-sided floors, floor openings, passageways, or platforms 4' or more above an adjacent floor, except at the entrance to a ramp, stairway, or fixed ladder. A toeboard shall be installed when required by Rules 437-081-0196 through 437-081-0203.

NOTE: Exceptions to this rule may be permitted as described below. However, when conditions exist as noted in Rule 437-081-0199 that rule shall take precedence over these exceptions.

- (1) The intermediate railing and toeboard may be omitted where materials have to be regularly passed over the edge of the floor (as in hay storage) or where the railing is set back 12" or more from the edge.
- (2) The entire railing may be omitted from particular sections of open-sided floors where, in the opinion of the Board, regular operating conditions make a railing wholly impractical.
- (3) For infrequently used stairways where traffic across the opening prevents the use of permanent guardrails, the guard shall consist of a hinged cover and adequate removable or hinged railings on exposed sides except at the entrance. When the cover is opened, the guardrails shall be in place around the opening.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-41

437-081-0189

Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Guardrails)

Open-sided floors, passageways and ramps used for vehicle travel and which are over 4' above the adjacent floor shall be equipped with one of the following means to prevent vehicles from running over the edge:

- (1) Substantial guardrails shall be installed along the exposed edge. This guardrail shall be of a design, construction, and installation sufficiently strong to withstand collision by any vehicle to which exposed.
- (2) Where standard guardrails are used, a shear timber or curbing shall be installed on the floor along the open edge. The shear timber shall not be less than nominal 6 x 6" material set on nominal 3" blocks; or curbing of such height and strength as to furnish equivalent protection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-42

437-081-0193

Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Protective Covers)

Every floor hole shall be protected by a cover that leaves no openings more than 1" wide. The cover shall be secured in place to prevent tools or materials from falling through.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-43

437-081-0196

Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Toeboards)

A toeboard shall be installed in the guardrail along the edge of floor opening or platform below which:

- (1) Persons can pass,
- (2) There is moving machinery, or
- (3) There is equipment with which falling materials could create a hazard.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-44

437-081-0199

Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Near Dangerous Equipment or Substances)

Regardless of height, open-sided floors, platforms, passageways and ramps above or adjacent to dangerous equipment, vats or tanks containing hazardous substances shall be guarded by a standard guardrail, with midrail and toeboard.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-45

437-081-0203

Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Piled Materials)

Where material is piled on any platform to such a height that a standard toeboard does not provide protection, paneling or screening from the platform floor to a height sufficient to retain or enclose the material shall be provided.

NOTE: Screening should be at least No. 16 U.S. gauge wire netting or equivalent. Maximum size of mesh opening should be 2" or smaller if necessary.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-46

437-081-0206

Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Ladderways)

Guardrails around floor openings for ladderways shall be offset or provided with swinging gates so that persons cannot walk directly into the openings.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-47

437-081-0209

Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Covers and Railing)

Hatchway and chute floor openings shall be guarded to prevent a person from falling through the opening by either:

(1) Bars, grids, grilles; or

(2) A cover. Either the cover shall be so attached and arranged, or the opening equipped with standard guardrails so as to leave only one exposed side. When the opening is not in use, the cover shall be closed or the exposed side shall be guarded by removable rails, ropes, or chains; or

(3) A removable railing. No more railing shall be removed at any time than is necessary for operation. The removable railing shall be kept in place when the opening is not in use. The removable railing shall be equivalent in height, strength, and configuration to a standard guardrail.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-48

437-081-0213

Open Floor Sides, Floor Openings, Floor Holes, and Platforms (Securing Openings)

Hinged hatchway and chute floor opening covers shall be secured when in the open position.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-49

437-081-0216

Wall Openings

When there is a drop of more than 4' from a wall opening and the lower edge of the opening is less than 3' above the working surface, the wall opening shall be guarded by a top rail, mid rail, and toeboard as necessary to achieve the proper height and configuration prescribed for standard guardrails; or, other equivalent barriers shall be used.

- (1) When necessary for the handling of materials, the guardrail may be removed.
- (2) When the opening is not in use for material handling, the guardrail shall be kept in place.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-50

437-081-0219

Areas Under Floor and Wall Openings

Positive means of guarding areas under floor and wall openings through which materials are lowered or dropped shall be provided.

- (1) Where used regularly, the area under the openings shall be barricaded or standard guardrails shall be erected.
- (2) Where used only infrequently, other positive means of keeping the area under an opening clear of workers may be used, such as by a watchman, temporary barricades, or the equivalent.

NOTE: Openings used for loose hay, straw, grain, and similar materials are excepted from this rule.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-51

437-081-0223

Passageways and Ramps

Passageways at least 22" wide, and wider if necessary to permit the free and unobstructed movement of persons, shall be provided to all parts of an operation where workers are present or may go.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-52

437-081-0226

Passageways and Ramps (Vehicular Use)

Passageways customarily used for vehicles shall be wide enough to permit easy maneuvering of the vehicles and at the same time provide safe clearance for any pedestrian.

NOTE: Suitable turnouts adjacent to one-way traffic aisles are permitted for two-way traffic when such turnouts will provide equivalent safety.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-53

437-081-0229

Passageways and Ramps (Proper Maintenance)

All passageways shall be kept clear and in good repair, free of holes with no obstructions, loose boards or planking or material across or in the passageway that could create hazard. Flooring, planking, or surface covering material shall be secured to prevent movement or displacement.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-54

437-081-0233

Passageways and Ramps (Varied Levels)

Open-sided ramps and passageways over 4' above the adjacent floor, which are used for vehicle travel shall be equipped as specified in Rule 437-081-0189(1) or (2), to prevent vehicles from running over the edge.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-55

437-081-0236

Passageways and Ramps (Proper Slope)

When ramps are provided, the angle of slope of the ramp shall never exceed 20 degrees from horizontal.

[NOTE: The preferred maximum angle of slope is 15 degrees. See Figure B-1. This Figure is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-56

437-081-0239

Passageways and Ramps (Reducing Slippage)

The surface of ramps shall be coated with an abrasive, or otherwise treated and maintained with an effective non-slip surface to help provide safe footing.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-57

437-081-0243

Passageways and Ramps (Wheelbarrow Use)

Ramps used for wheelbarrows, if surfaced with planking, shall have an odd number of planks with no cleats on the center plank.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-58

437-081-0246

Passageways and Ramps (Railings)

Ramp railings shall be installed on the glazed and open sides of all ramps over 4' above the floor or with a vertical rise of more than 24" regardless of elevation above the floor. In addition, toeboard shall be installed where a ramp is above a work place or passageway. Ramp railings shall meet the specifications prescribed for standard guardrails in Rules 437-081-0309 through 437-081-0326.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-59

437-081-0249

Passageways and Ramps (Handrails)

Handrails shall be installed on at least one side of closed ramps with a vertical rise of more than 24".

NOTES:

- 1- Handrails shall be installed on the right side descending.
- 2- See Rules 437-081-0293 through 437-081-0299 for specifications for handrails.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-60

437-081-0253

Stairways

No door opening on a stairway shall be so constructed that it:

- (1) Must be swung over the tread;
- (2) Opens directly at or even with the top or bottom riser;
- (3) Restricts the width of the stairway landing to less than 22" at any point in the swing.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-61

437-081-0256

Stairways (Clear Access and Egress)

Stairway landings and entrances to stairways shall not be obstructed by their location, by other parts of the structure, or by material.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-62

437-081-0259

Stairways (Loads)

Stairways shall be designed and constructed to carry loads of 5 times the anticipated load but never of less strength than to carry a moving concentrated load of 1,000 lbs.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-63

437-081-0263

Stairways (Dimensions)

Stairways shall have a minimum clear width of 22". In stairways which are wider than 88", a center handrail shall be provided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-64

437-081-0266

Stairways (Slope)

Stairways shall be installed at angles to horizontal of between 30 degrees and 50 degrees. See **Figure B-1** for minimum and maximum angles for stairs, fixed ladders, and ramps.

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-65

437-081-0269

Stairways (Rise and Run)

The maximum variation in either rise height or tread run in any one flight of stairs including any foundation structure used as one or more treads shall not exceed 3/16".

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-66

437-081-0273

Stairways (Treads)

Treads shall be reasonably slip-resistant and the nosing shall be of non-slip finish.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-67

437-081-0276

Stairways (Treads Maintenance)

Treads shall be firmly secured. Defective treads shall be promptly replaced or repaired to a safe condition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-68

437-081-0279

Stairways (Landing Dimensions)

Stairway landings and platforms shall be no less than the width of the stairway and a minimum of 30" in length measured in the direction of travel.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-69

437-081-0283

Stairways (Vertical Clearance)

Vertical clearance above any stair tread to an overhead obstruction shall be least 6-1/2' measured from the nosing of the tread. Where it is not possible to secure adequate headroom, overhead obstructions may be padded or may be indicated by marking, if such methods will furnish adequate protection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-70

437-081-0286

Stairways (Railings)

Stair railings shall be provided on the glazed and open sides of all stairways of 4 risers or more.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-71

437-081-0289

Stairways (Handrails)

Handrails shall be installed on at least one side of closed stairways and landings of 4 risers or more.

NOTE: Handrails should be installed on the right side descending.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-72

Railings

437-081-0293

Handrails

A handrail shall consist of a single lengthwise member supported on brackets from a wall or partition to provide a

continuous handhold for persons using a stair or incline.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-73

437-081-0296

Handrails (Construction)

The handrail shall be of sound wood or other material of a dimension that will furnish equivalent strength and adequate hand hold.

(1) If of wood, the handrail shall be at least 2" in diameter. If of metal pipe, the handrail shall be at least 1-1/2" nominal outside diameter.

(2) Handrails shall be smooth surfaced, without rough or sharp edges. They shall be maintained in a secure condition.

(3) Ends of handrails shall be terminated so as not to form a projection hazard.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-74

437-081-0299

Handrails (Mounting)

Handrails shall be mounted directly on a wall or partition by means of brackets attached to the lower side of the rail so as to offer no obstruction to a smooth surface along the top and both sides of the rail.

(1) Handrails shall be placed not less than 30" nor more than 34" above the nosing of the treads.

(2) The length of brackets shall be such as will give a clearance between handrail and wall or any other object of at least 3", except where terminated by turning in to the wall. The spacing of brackets shall not exceed eight feet.

(3) Mounted handrails shall be capable of withstanding a load of 200 lbs. applied in any direction at any point on the rail.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-75

437-081-0303

Stair Railings

A stair railing shall consist of a lengthwise top rail, an intermediate rail or filler panels, and supporting posts erected along the open and glazed sides of stairways and stair landings to prevent persons from falling.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-76

437-081-0306

Stair Railings (Construction)

Stair railings shall meet all construction, strength, and material requirement specified for standard guardrails in Rules 437-081-0309 through 437-081-0326 except that the vertical height of the top rail of stairway guardrails shall not be less than 30" and not more than 3" above the nosing of the treads, and shall be from 36" to 44" above the level of the landing.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-77

437-081-0309

Standard Guardrails and Toeboards

A standard guardrail shall consist of top rail, intermediate rail (midrail), toeboard when required, and supporting posts, erected along the exposed edge of floors to prevent persons from falling.

NOTE: See Rules 437-081-0196 through 437-081-0203 which prescribe when toeboards are required.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-78

437-081-0313

Standard Guardrails and Toeboards (Height)

The top rail shall have a vertical height of 36" to 44" above the level of the floor it serves. The intermediate rail shall be placed midway between the top rail and floor level, or toeboard if used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-79

437-081-0316

Standard Guardrails and Toeboards (Finish)

Rails shall be smooth surfaced, without splinters or rough or sharp edges, and the ends shall not overhang the terminal posts except where such overhang does not constitute a projection hazard.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-80

437-081-0319

Standard Guardrails and Toeboards (Construction)

Standard toeboards shall not be less than 4" in height. Toeboards may be of nominal 1" x 4" lumber, or other material either solid or with openings of not over 1" and having equal strength.

- (1) Toeboards shall be securely fastened in place with not more than 1/4" clearance between the floor and toeboard.
- (2) Where material is piled to such a height that a standard toeboard does not provide protection, paneling or screening from floor to intermediate rail or to top rail shall be provided.
- (3) Panel or screen strength shall be equivalent to that required for toeboards.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-81

437-081-0323

Standard Guardrails and Toeboards (Strength)

Standard guardrails shall be constructed and maintained to support a live load of not less than 200 lbs. applied in any direction at any point on the top rail. Where heavy stresses are expected additional strength shall be provided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-82

437-081-0326

Standard Guardrails and Toeboards (Requirements)

Standard guardrails shall meet the following minimum material requirements:

- (1) For wood railings: Posts and the top and intermediate rails shall be of at least 2" x 4" nominal stock. Posts shall be spaced at intervals not to exceed 6'. If the top rail is made of two right-angle pieces of 1" x 4" nominal stock, posts may be spaced on 8' centers, with 2" x 4" nominal intermediate rail.
- (2) For pipe railings: Posts and the top and intermediate rails shall be at least 1-1/2" nominal outside diameter with posts spaced not more than 8' on center.
- (3) For structural steel railings: Posts and the top and intermediate rails shall be of 2" x 2" x 3/8" angles or other metal shapes of equivalent bending strength with posts spaced not more than 8' on centers.
- (4) Other types, sizes, and arrangements of railing construction including fixed or removable stanchions supporting fixed or removable rope, cable, chains, or rails may be acceptable in place of standard railings if the strength and the protection provided by such means is equivalent in all respects to that provided by standard railings.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-83

Enclosures, Bins, Hoppers, Tanks and Vats

437-081-0329

Enclosures, Bins, Hoppers, Tanks and Vats

No person shall enter any enclosure in which the atmosphere may be immediately dangerous to life unless:

- (1) The atmosphere therein has been tested immediately prior to such entry by a competent person and found to be free of toxic gases, and to contain sufficient oxygen to sustain life; or
- (2) Mechanical or natural ventilation has been applied and at least one complete change of uncontaminated air has been provided immediately prior to entry and is continued while the enclosure is occupied; or,
- (3) The person entering the enclosure is wearing and using a properly functioning supplied air or self-contained breathing apparatus, and is being closely supervised by a safety watcher similarly equipped, stationed at the entrance with adequate help to remove the person if necessary.

NOTE: Enclosures in which the atmosphere may be immediately dangerous to life include controlled atmosphere storage facilities, and upright or pit silos, tanks, manholes, liquid manure tanks, cisterns, wells, and similar confined spaces which have been sealed or unventilated. (The anaerobic acid fermentation process through which fodder is converted to silage causes the formation of both toxic and inert gases which, being heavier than oxygen, replace the oxygen in depressions or unventilated spaces above the silo contents. The gas formation begins with the introduction of fodder

into the silo, and continues for approximately 3-weeks after the last fodder is added. The gases will remain in any depression until the space has been mechanically ventilated as required in Rule 437-081-0329(2), or naturally ventilated by creating an opening at the silage surface level and another at the top of the silo or pit so as to allow the gases to drain off.)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-84

437-081-0333

Enclosures, Bins, Hoppers, Tanks and Vats (Safety)

Employees shall not enter bins, bunkers, or hoppers unless they are so constructed and arranged that the employees will not be subject to the hazards of collapsing materials.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-85

437-081-0336

Enclosures, Bins, Hoppers, Tanks and Vats (Operation)

Material gates, hopper doors, and similar devices for removing contents on all bins, bunkers, and hoppers shall be so arranged that they may be operated in a safe manner.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-86

437-081-0339

Enclosures, Bins, Hoppers, Tanks and Vats (Railings)

If workers are required to work from the top of bins, bunkers, or hoppers, a platform or walkway equipped with standard railings shall be provided, or lifelines shall be used as required by 437-081-1126.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-87

437-081-0343

Enclosures, Bins, Hoppers, Tanks and Vats (Coverings)

Vats and pits that contain hazardous materials, manure, or that are more than 4' in depth, shall meet one of the following requirements:

- (1) A cover or grating must be provided of sufficient strength to safely support imposed loads; or
- (2) The edges must extend at least 42" above the adjacent floor level; or,
- (3) A standard guardrail must be provided. Where vehicles are operated near vats or pits the railing shall be strong enough to keep the vehicle out of the pit, or a curb or shear rail which will effectively keep the vehicle out of the pit shall be provided in addition to the railing.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-88

437-081-0346

Enclosures, Bins, Hoppers, Tanks and Vats (Safety Belts)

Every person shall wear a safety belt attached to a securely anchored lifeline, and shall be attended by a safety watcher holding the lifeline, when entering any silo, bin, hopper, or other container holding:

- (1) Granular material in bulk form (e.g. seed, grain, fertilizer etc.) or other material of a yielding nature more than 4' in depth; or
- (2) Material of any depth which is subject to removal from the bottom.

NOTE: See Rules 437-081-1126 through 437-081-1149 for safety belt and lifeline requirements.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-89

Miscellaneous Structures and Surfaces

437-081-0349

Bridgeplates (Dockboards)

Bridgeplates shall be used to bridge any gap of over 4" between two separate surfaces, as, for example between a platform and a truck bed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-90

437-081-0353

Bridgeplates (Dockboards) (Loads)

Bridgeplates shall be designed to carry four times the heaviest expected load.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-91

437-081-0356

Bridgeplates (Dockboards) (Vehicle Use)

Bridgeplates shall be wide enough to permit easy maneuvering of vehicles which travel over them.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-92

437-081-0359

Bridgeplates (Dockboards) (Construction)

Bridgeplates shall have at least a 6" bearing surface on each end.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-93

437-081-0363

Bridgeplates (Dockboards) (Stabilizing)

Bridgeplates shall be secured in position, either by being anchored or equipped with devices which will prevent their

slipping.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-94

437-081-0366

Bridgeplates (Dockboards) (Maintenance)

Bridgeplates shall bear solidly on the surface at each end. Plates which teeter or rock shall be repaired or replace.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-95

437-081-0369

Roadways

Roadways shall be of sufficient width to ensure the safe operation of equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-96

437-081-0373

Roadways (Maintenance)

Broken planking, deep holes, large rocks, logs or other dangerous surface defects shall be corrected before any equipment is used thereon.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-97

437-081-0376

Roadways (Visual Obstructions)

Obstructions to clear view at intersections or sharp curves shall be removed or all reasonable precautions taken to relieve the hazards of these conditions.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-98

437-081-0379

Bridges and Culverts

Bridges and culverts shall be designed, constructed and maintained to safely support the heaviest expected load. Structural members shall be found and free of decay or other deterioration which may reduce the safety of the bridge.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-99

437-081-0383

Bridges and Culverts (Construction)

Bridges and culverts shall have adequate width to ensure the safe passage of equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-100

437-081-0386

Bridges and Culverts (Maintenance)

The roadway surface of bridges and culverts shall be maintained in safe condition, free of holes, broken planking, and sloughing, caving, or slipping fill materials or approaches.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-2-101

Housekeeping

437-081-0389

Housekeeping

Areas around operations, working areas, and storage areas shall be kept free of obstructions and of accumulated material and debris that constitute hazards from tripping, slipping, fire, explosion or pest harborage.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-102

437-081-0393

Housekeeping (Passageways and Stairways)

Passageways and stairways shall be kept clear of obstructions and debris to provide for the free and safe movement of workers and equipment, and shall not be used for any type of storage.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-103

437-081-0396

Housekeeping (Hazardous Projections)

Sharp, pointed or otherwise hazardous projections in work areas shall be removed or rendered harmless.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-104

437-081-0399

Housekeeping (Slippery Surfaces)

Slippery working surfaces shall be avoided or eliminated whenever practical.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-105

437-081-0403

Housekeeping (Spill Prevention)

When materials, including grain or liquids that may spill create a hazardous condition, measures shall be taken to control or prevent leakage of such materials.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-106

437-081-0406

Disposal of Waste Materials

Scrap, waste materials, or debris shall be removed from work areas at reasonable intervals as the work progresses. Material shall not be permitted to accumulate in any manner which contributes to a hazardous condition or impedes the free and safe movement of persons.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-2-107

Fire Prevention and Protection

General

437-081-0409

General

Rules 437-081-0409 through 437-081-0556 prescribe safety standards to provide for protection against injury from fire hazards in places of agricultural employment.

(1) The requirements of Rules 437-081-2073 through 437-081-2443 of this division shall be complied with in welding

operations.

(2) The requirements of Rule 437-081-1996 of this division shall be complied with in storing, handling, and using explosives.

NOTE: Additional rules which pertain to the protection of property are published by other authority. The Oregon State Fire Marshal, or the local fire protection authority having jurisdiction should be consulted for these additional requirements.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-1

437-081-0413

Definitions

The following definitions apply to Rules 437-081-0409 through 437-081-0556.

(1) Approved - Acceptance or approval by a responsible U.S. Federal agency such as Bureau of Mines, Department of Transportation, U.S. Coast Guard, etc., or by a responsible agency of the State of Oregon, or by a nationally recognized testing laboratory such as Factory Mutual Engineering Corp., or Underwriters' Laboratories, Inc. which issue approvals for such equipment.

(2) Closed container - A container so sealed by means of a lid or other device that neither liquid nor vapor will escape from it at ordinary temperatures.

(3) Combustible liquids - Any liquid having a flash point of 100° F (37.78° C) and above. Combustible liquids are classified as Class II or Class III liquids.

NOTE: Examples of some common combustible liquids are diesel fuel, fuel oils, kerosene and Stoddard Solvent.

(4) Flammable - Capable of being easily ignited, burning intensely, or having a rapid rate of flame spread.

(5) Flammable liquids - Any liquid having a flash point below 100° F (37.78° C) and having a vapor pressure not exceeding 40 psi (absolute) at 100° (2.812 kg/sq. cm. @ 37.78° C). Flammable liquids are classified as Class IA, Class IB, and Class IC Liquids.

NOTE: Examples of some common flammable liquids are: (1) Ethers and other highly volatile liquids (Class IA). (2) Gasolines (Class IB). (3) Methyl Alcohol (Class IC).

(6) Portable tank - A closed container having a liquid capacity more than 60 U.S. gallons (230 liters) and not intended for fixed installation.

(7) Safety can - An approved closed container, of not more than 5 gallons (20 liters) capacity, having a flash-arresting screen, spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure.

(8) Salamander - A self-contained heating device employing combustibles and which is not vented to the outside atmosphere.

NOTE: Catalytic-type heaters are included in this definition as well as flame-type heaters.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-2 - 9

437-081-0416

Ignition

Combustible waste material, including oily rags, in work areas shall be stored in covered metal receptacles and not allowed to accumulate.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-10

437-081-0419

Ignition (Electrical Standards)

Electrical lights, apparatus, equipment, and wiring installed or used in locations where flammable or explosive gases, vapors, mists, dust, fibers or flyings are present shall comply with the State Electrical Specialty Code.

NOTE: See Rule 437-081-0563.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-11

437-081-0423

Ignition (Internal Combustion Engines)

Internal combustion engines shall be located so that exhausts are well away from combustible materials. A clearance of at least 6" shall be maintained between exhaust piping and combustible material.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-12

437-081-0426

Ignition (Prohibited Areas)

Smoking, open flames, the use of spark-producing devices or tools which are not approved for use in such areas, and other sources of ignition are prohibited in areas:

- (1) Used for fueling.
- (2) Used for servicing fuel systems for internal combustion engines.
- (3) Used for receiving or dispensing flammable or combustible liquids.
- (4) Where flammable or combustible liquids are used.
- (5) Where flammable or combustible liquids are stored.
- (6) Which are subject to the presence of flammable or explosive gases, vapors, mists, dust, and fibers or flyings.

NOTE: Other sources of ignition include cutting and welding; grinding hot surfaces; frictional heat; static, electrical and mechanical sparks; spontaneous ignition including heat-producing chemical reactions; and radiant heat.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-13

437-081-0429

Ignition (Safety Signs)

Signs reading, "No Smoking or Open Flame," shall be conspicuously posted in all areas:

- (1) Used for fueling;
- (2) For receiving or dispensing flammable or combustible liquids;
- (3) Where flammable or combustible liquids are used and where they are stored; or
- (4) Which are subject to the presence of flammable or explosive gases, vapors, mists, dust, fibers or flyings.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-14

Storage Transporting, and Handling of Flammable Liquids

437-081-0433

Storage and Transporting

The storage of flammable and combustible liquids in containers having a capacity of 60 gallons (230 liters) or more shall be in fixed or portable tanks. Such tanks shall be constructed to meet the material and design requirements specified by National Fire Protection Association Bulletins NR 340 or NR 395.

NOTE: Specific requirements on signals and signal systems. Should you desire specific information from the bulletins, it is recommended that you contact your local fire chief or fire marshal, or write to: Oregon Occupational Safety and Health Division, Department of Consumer and Business Services, Attn: Standards & Technical Resources, 350 Winter Street NE, Salem, Oregon 97310, (Telephone (503) 378-3272)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-15

437-081-0436

Storage and Transporting (Storage Requirements)

Storage of flammable and combustible liquids in containers of less than 60 gallons (230 liters) capacity shall be in one of the following:

- (1) Closed metal drums which meet DOT requirements.
- (2) Closed metal containers.
- (3) Approved metal safety cans.
- (4) Approved closed plastic containers of not more than 5 gallons (20 liters) capacity and bearing an approval label stamped or molded into the container.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-16

437-081-0439

Storage and Transporting (Storage Area Egress)

Flammable or combustible liquids shall be stored in a manner that will not obstruct, impede, or limit use of exits, stairways, or areas normally used for safe egress of people.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-17

437-081-0443

Storage and Transporting (Trucking Flammables)

If tank truck service is not used, flammable and combustible liquids may be carried in the unenclosed cargo compartment of trucks in closed metal containers.

- (1) Containers shall not be carried inside the crew of passenger compartment.
- (2) Bungs shall be tight, and containers shall be secured as necessary to prevent movement.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-18

437-081-0446

Storage and Transporting (Passenger-Type Vehicles)

Flammable or combustible liquids transported on passenger-type vehicles (cars, buses, carry-alls, crew transporters, etc.) shall be contained in approved metal safety containers not exceeding 5 gallons (20 liters) capacity. Such containers shall be carried outside the passenger compartment, secured in a location providing ventilation which will prevent an accumulation of flammable or explosive vapors, and protected against rupture in event of a collision.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-19

437-081-0449

Tanks and Containers

Tanks and containers used for the storage of flammable and combustible liquids shall be clearly marked "FLAMMABLE - KEEP FIRE AND FLAME AWAY." Fill risers and pumps or discharge devices shall be marked with the name of the product contained in the tank.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-20

437-081-0453

Tanks and Containers (Collision Protection)

Pumps, containers, tanks, and supports for tanks used for combustible or flammable liquids shall be protected against collision damage.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-21

437-081-0456

Tanks and Containers (Mounting)

Above ground tanks shall be mounted on supports of sufficient strength and stability to safely support imposed loads. Sufficient clearance shall be provided to permit inspection and maintenance as well as clearance from the ground.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-22

437-081-0459

Tanks Elevated for Gravity Discharge

The gravity discharge outlet shall be provided with an approved hose equipped with a self-closing valve at the discharge end.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-23

437-081-0463

Tanks Elevated for Gravity Discharge (Shut Off Valves)

The bottom opening for gravity discharge shall be equipped with a shut-off valve located adjacent to the tank shell which can be closed manually. Underground tanks from which fuel flows under gravity shall be equipped with a manual shut-off valve between the tank and the hose.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-24

437-081-0466

Tanks with Top Openings Only

Tanks constructed with all openings in the top of the tank shall be equipped with a firmly attached approved pumping device having an approved hose.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-25

437-081-0469

Tanks with Top Openings Only (Nonpressurized)

Siphons and discharge devices requiring pressure in the container are prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-26

437-081-0473

Tanks with Top Openings Only (Anti-Siphoning Devices)

An effective anti-siphoning device shall be included in the pump discharge; tank plumbing shall not permit fuel to siphon or flow from the tank when the pump is not operating, even though discharge nozzle valves or line valves are open.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-27

437-081-0476

Dispensing and Fueling

Pumping devices or faucets used for dispensing flammable and combustible liquids shall be maintained to prevent leakage.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-28

437-081-0479

Dispensing and Fueling (Hose Requirements)

Fuel tanks and pumps from which Class-I liquids are dispensed shall be equipped with an approved hose of sufficient length for filling containers to be served.

- (1) Hoses shall be equipped with a metal nozzle at the discharge end.
- (2) Hoses shall be constructed to incorporate an effective electrical interconnect between the nozzle and the supply tank.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-29

437-081-0483

Dispensing and Fueling (Dispensing Safety)

Class I liquids shall not be dispensed into or from portable or stationary metal tanks or drums of over 50 gallons net capacity unless there is an effective electrical interconnect (bond) between the source and the receiving containers.

NOTE: The electrical interconnect may be made by insuring that the metal nozzle of the approved hose (See Rule 437-081-0479) is held in contact with the metal fill neck or bung of the receiving container during filling.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-30

437-081-0486

Dispensing and Fueling (To Internal Combustion Engines)

Internal combustion engines, except diesel engines, shall be shut off while being refueled.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-31

437-081-0489

Handling and Use of Flammable and Combustible Liquids

Leakage or the escape of flammable and combustible liquids shall be controlled and measures to prevent accidental spills shall be employed. Soaked or contaminated areas shall be promptly cleaned up and neutralized.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-32

437-081-0493

Handling and Use of Flammable and Combustible Liquids (Use)

Flammable liquids, including gasoline, may be used only where there is no open flame or other source of ignition within 50' of the operation, or within the possible path of vapor travel.

NOTE: This rule is not intended to prohibit the refueling of orchard heaters used out of doors while adjacent heaters are burning.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-33

437-081-0496

Handling and Use of Flammable and Combustible Liquids (Indoor Use)

Flammable liquids, including gasoline, shall not be used indoors as a solvent or for cleaning purposes unless sufficient ventilation is provided to bring and maintain the concentrations of explosive vapors in the atmosphere below 20% of its lower explosive limit.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-34

437-081-0499

Handling and Use of Flammable and Combustible Liquids (Storage)

Flammable liquids, including gasoline, shall be kept in closed containers when not in actual use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-35

Heating Devices

NOTE: Heating devices and associated equipment shall be installed, operated, and maintained in conformance with the standards contained in the Oregon Mechanical Specialty Code.

437-081-0503

Heating Devices

Heaters, when in use, shall be set on a stable, level base; or mounted as specified by the manufacturer.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-36

437-081-0506

Heating Devices (Footings)

Heaters not suitable for use on wood floors shall rest on heat insulating material or at least 1" concrete, or equivalent. The insulating material shall extend beyond the heater 2' or more in all directions.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-37

437-081-0509

Heating Devices (Near Tarpaulins)

Heaters used in the vicinity of combustible tarpaulins, canvas, or similar coverings shall be located at least 10' from the coverings. The coverings shall be securely fastened to prevent ignition or upsetting of the heater due to wind action on the covering or other material.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-38

437-081-0513

Heating Devices (Primary Safety Controls)

Liquid-fired heaters shall be equipped with a primary safety control to stop the flow of fuel in the event of flame failure.

NOTE: Barometric or gravity oil feed shall not be considered a primary safety control.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-39

437-081-0516

Heating Devices (Restrictions)

Heating devices having no built-in means to effectively control the fuel supply or the flame are prohibited in buildings occupied by workers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-40

437-081-0519

Heating Devices (Venting)

Heating devices employing combustibles used inside buildings occupied by workers shall be vented to the outside atmosphere. This requirement may be excepted only when one of the following alternate requirements is met:

- (1) The heating device shall bear an "approval label" issued by the American Gas Association or a nationally recognized testing laboratory indicating it is approved for use as an unvented heater in occupied buildings; or,
- (2) The atmosphere inside buildings where unvented heating devices are in use shall be tested prior to entry and shall be free of carbon monoxide in hazardous quantities; or,
- (3) Workers required to enter buildings where unvented heating devices are in use shall wear an approved respiratory protection device which will provide a safe breathing medium.

NOTE: See 1910.94, Ventilation, in OAR 437, Division 2/G, Occupational Health and Environmental Control, for ventilation requirements.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-41

437-081-0523

Heating Devices (Ignition Sources)

Fuel-burning devices shall be provided with means which will prevent the emission of sparks or other sources of ignition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-3-42

Extinguishers

437-081-0526

Extinguishers

Fire extinguishers shall be provided which are classified for use on the character or class of fire potential within the work area.

NOTE: "Relation of Extinguishers to Classes of Fires." To facilitate proper use of extinguishers on different types of fires, the NFPA Extinguisher Standard has classified fires into four types, or classes. The four classes are:

- (1) Class A: Fires involving ordinary combustible materials (such as wood, cloth, paper, rubber, and many plastics) requiring the heat-absorbing (cooling) effects of water, water solutions, or the coating effects of certain dry chemicals which retard combustion.
- (2) Class B: Fires involving flammable or combustible liquids, flammable gases, greases, and similar materials where extinguishment is most readily secured by excluding air (oxygen), inhibiting the release of combustible vapors, or interrupting the combustion chain reaction.
- (3) Class C: Fire involving energized electrical equipment where safety to the operator requires the use of electrically non-conductive extinguishing agents.

Note: When electrical equipment is deenergized, the use of Class A or B extinguishers may be indicated.

- (4) Class D: Fires involving certain combustible metals, such as magnesium, titanium, zirconium, sodium, potassium, etc., requiring a heat-absorbing extinguishing medium not reactive with the burning metals.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-3-43

437-081-0529

Extinguishers (Labeling)

Fire extinguishers shall be plainly labeled as to their method of operation and conspicuously marked as to the class of fire for which they are intended to be used.

- (1) See **Figure C-1** for markings recommended by NFPA No. 10, "Standard for the Installation of Portable Fire Extinguishers." Decals of these markings are available from NFPA and other sources.
- (2) See **Figure C-2** for typical types of extinguisher and their class suitability.

[ED NOTE: The Figures referenced in this rule are not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-44

437-081-0533

Extinguishers (Mounting)

Fire extinguishers shall be mounted on hangers, brackets, in cabinets or set on shelves. The maximum height of the top of the extinguisher above the floor shall be as specified in the following table:

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-45

437-081-0536

Extinguishers (Location)

Fire extinguishers shall be conspicuously located along normal paths of travel and near exits to be immediately available without workers being subjected to a greater exposure to fire to reach the extinguisher.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-46

437-081-0539

Extinguishers (Identified Location)

Fire extinguisher locations shall not be obstructed or obscured from view. Where visual obstructions cannot be completely avoided, means shall be provided to conspicuously indicate the location of the extinguisher.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-47

437-081-0543

Extinguishers (Clear Access)

Passageways to and space in front of fire extinguishers shall be kept clear and free from obstruction.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-48

437-081-0546

Extinguishers (Maintenance)

Fire extinguishers shall be maintained in serviceable condition, fully charged, at all times. After being used they shall promptly be fully recharged.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-49

437-081-0549

Extinguishers (Portable Extinguishers)

Portable extinguisher shall be kept in their designated places at all times when they are not being used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-50

437-081-0553

Extinguishers (Inspections)

Fire extinguishers shall be inspected at intervals not more than 1 year apart, or more often as required to maintain full serviceability. Inspection and maintenance shall be performed by a person fully qualified in fire extinguisher maintenance and repair. Each extinguisher shall have a durable tag securely attached showing the inspection, maintenance, and recharge dates and the initials or signature of the person who performed the service.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-51

437-081-0556

Extinguishers (Restrictions)

Fire extinguishers containing carbon tetrachloride or chlorobromomethane, or other toxic vaporizing fluids, shall not be used indoors or in other confined spaces.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-3-52

Electrical

General

437-081-0559

Purpose, Scope and Application

Rules 437-081-0559 through 437-081-0773 prescribe safety standards to provide for protection against hazards incurred with electricity in places of agricultural employment.

NOTE: The provisions of Rules 437-081-0559 through 437-081-0773 do not cover:

- (1) Installations in watercraft, aircraft or automotive vehicles.
- (2) Facilities under the exclusive control of electric utilities (See Rule 437-081-1999).
- (3) Electrical welding (See Rules 437-081-2073 through 437-081-2443).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-1

437-081-0563

Purpose, Scope, Application and Installation

Unless otherwise provided in Rules 437-081-0559 through 437-081-0773 all electrical work, installation, and wire capacity shall be in accordance with pertinent standards under the jurisdiction of the Oregon Building Codes Division, Department of Consumer and Business Services.

NOTE: The Oregon Building Codes Division of the Department of Consumer and Business Services has adopted the National Electrical Code, NFPA 70-1993 and NESC ANSI C1-1993, and enforces its provisions. Should further information be desired, it is recommended you contact the State Electrical Inspector, Oregon Building Codes Division, Department of Consumer and Business Services, Salem, Oregon 97310.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-2

437-081-0566

Definitions

The following definitions apply to Rules 437-081-0559 through 437-081-0773.

(1) Approved - "Acceptable to the Oregon Building Codes Division of the Department of Consumer and Business Services."

(2) Acceptable - An installation of equipment acceptable to the Oregon Building Codes Division, Department of Consumer and Business Services, and approved within the meaning of Rules 437-081-0559 through 437-081-0773:

(a) If it is accepted, or certified, or listed, or labeled, or otherwise determined to be safe by a nationally recognized testing laboratory.

(b) If it is inspected or tested by a federal agency, or by state, municipal, or other local authority responsible for enforcing occupational safety provisions of the National Electrical Code, and found in compliance with the provisions of the National Electrical Code.

(3) Labeled - Equipment is "labeled" if there is attached to it a label, symbol, or other identifying mark of a nationally recognized testing laboratory which:

(a) Makes periodic inspections of the production of such equipment, and

(b) Whose labeling indicates compliance with nationally recognized standards or tests to determine safe use in a specified manner.

(4) Accepted - An installation is "accepted" if it has been inspected and found by a nationally recognized testing laboratory to conform to specified plans or to procedures of applicable rules of the Oregon Occupational Safety and Health Code.

(5) Certified - Equipment is "certified" if it:

(a) Has been tested and found by a nationally recognized testing laboratory to meet nationally recognized standards or to be safe for use in a specified manner, or

(b) Is of a kind whose production is periodically inspected by a nationally recognized testing laboratory, and

(c) It bears a label, tag, or other recording of certification.

(6) Bonding Jumper - A conductor to assure the required electrical conductivity between metal parts required to be electrically connected.

(7) Branch Circuits - That portion of a wiring system extending beyond the final overcurrent device protecting the circuit. A device not approved for branch circuit protection, such as thermal cutout or motor overload protective device, is not considered as the overcurrent device protecting the circuit.

(8) Exposed (as applied to live parts) - A live part that can be inadvertently touched or approached nearer than a safe distance by a person. This term applies to parts not suitably guarded, isolated, or insulated.

(9) Ground - A conducting connection, whether intentional or accidental, between an electrical circuit or equipment and earth, or to some conducting body which serves in place of the earth.

(10) Shock Hazard - Considered to exist at an accessible part in a circuit between the part and ground, or other accessible parts if the potential is more than 42.4 volts peak and the current through a 1,500-ohm load is more than 5 milliamperes.

(11) Weatherproof - So constructed or protected that exposure to the weather shall not interfere with successful operation.

(12) Grounded - Connected to earth or to some conducting body which serves in place of the earth.

(13) Hazard - Considered to include casualty, fire, and shock when applicable.

(14) Isolated - Not readily accessible to persons unless special means of access are used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-3 - 16

Temporary Lighting and Wiring

437-081-0569

Temporary Lighting and Portable Extension Lamps

Temporary lights shall be equipped with guards to prevent accidental contact with the bulb.

NOTE: Guards are not required when the bulb is deeply recessed in the reflector. (The entire bulb is below the rim and completely surrounded and protected by the reflector.)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-17

437-081-0573

Temporary Lighting and Portable Extension Lamps (Cords)

Temporary lights shall be equipped with heavy duty electric cords with connections and insulation maintained in safe condition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-18

437-081-0576

Temporary Lighting and Portable Extension Lamps (Mounts)

Temporary lights shall not be suspended by their electric cords unless cords and lights are designed for this means of suspension.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-19

437-081-0579

Temporary Lighting and Portable Extension Lamps (Design)

Handlamps of the portable type shall be of molded composition or other approved type. Brass shell, paper lined lampholders shall not be used. Handlamps shall be equipped with a handle and a substantial guard over the bulb and attached to the lampholder or the handle.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-20

437-081-0583

Temporary Lighting and Portable Extension Lamps (Hazards)

Portable extension lamps used where flammable vapors or gases, or combustible dusts, or easily ignitable fibers or flyings are present, shall be specifically approved as complete assemblies for the type of hazard involved.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-21

437-081-0586

Temporary Wiring

Working spaces, walkways, and similar locations shall be kept clear of power cords.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-22

437-081-0589

Temporary Wiring (Grounding)

All temporary wiring shall be grounded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-23

437-081-0593

Temporary Wiring (Approved Equipment)

All electrical equipment used in hazardous locations shall be chosen from among those listed by a nationally recognized testing laboratory, such as Underwriters' Laboratories, Inc., or Factory Mutual Engineering Corp., except custom made components and utilization equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-24

437-081-0596

Temporary Wiring (Maintenance)

All wiring equipment shall be maintained as vapor, dust, or fiber tight as contemplated by their approvals. There shall be no loose or missing screws, gaskets, threaded connections, or other impairments to this tight condition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-25

437-081-0599

Temporary Wiring (Open Wiring Safety)

Precautions shall be taken to make any necessary open wiring inaccessible to unauthorized personnel.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-26

Protective Arrangements

437-081-0603

Protection of Employees

All exposed live electrical conductors shall be isolated from accidental contact by persons or equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-27

437-081-0606

Protection of Employees (Repairs)

Electrical repairs shall be made only by persons authorized by the employer.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-28

437-081-0609

Protection of Employees (Safety Tools)

When fuses are installed or removed with one or both terminals energized, special tools insulated for the voltage shall be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-29

437-081-0613

Protection of Employees (Shock Hazards)

No employer shall permit an employee to work in such proximity to an electric power circuit that he may contact it unless the employee is protected against electric shock.

NOTE: Protection may be accomplished by deenergizing the circuit and grounding it, by guarding it, by effective insulation, or other means.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-30

437-081-0616

Protection of Employees (Underground Power Lines)

In work areas where the exact location of underground electric power lines is unknown, workers using jack-hammers, bars or other hand tools which may contact a line shall be provided with insulated protective gloves.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-31

437-081-0619

Protection of Employees (Employer Inspections of Work Site)

Before work is begun the employer shall ascertain by inquiry or direct observation, or by instruments, whether any part of an electric power circuit, exposed or concealed, is so located that the performance of the work may bring any person, tool or machine into physical or electrical contact therewith.

(1) The employer shall post and maintain proper warning signs where such a circuit exists.

(2) He shall advise his employees of the location of such lines, the hazards involved and the protective measures to be taken.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-32

437-081-0623

Workspace

Sufficient space shall be provided and maintained in the area of electrical equipment to permit safe operation and maintenance of such equipment.

(1) When parts are exposed, the minimum clearance for the workspace shall not be less than 6-1/4' high, nor less than a radius of 3' wide.

(2) There shall be clearance sufficient to permit at least a 90 degree opening of all doors or hinged panels.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-33

437-081-0626

Workspace (Safety Barriers)

Suitable barriers or other means shall be provided to ensure that workspace for electrical equipment will not be used as a passageway during periods when energized parts of electrical equipment are exposed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-34

437-081-0629

Lockout and Tagging of Circuits

Equipment or circuits that are deenergized for cleanup, maintenance, or repair work shall be locked out and tags shall be attached at all points where such equipment or circuits can be energized.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-35

437-081-0633

Lockout and Tagging of Circuits (Controls)

Controls that are to be deactivated during the course of work on energized or deenergized equipment or circuits shall be so tagged or labeled.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-36

437-081-0636

Lockout and Tagging of Circuits (Identification Tags)

Tags shall be placed to identify plainly the equipment or circuits being worked on.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-37

Equipment Installation and Maintenance

437-081-0639

Flexible Cable and Extension Cords

Extension cords used with portable electric tools and appliances shall be of three-wire type, and fitted with approved

grounding-type attachment plug and receptacle providing ground continuity.

NOTE: This rule does not apply to cords used with portable tools and equipment protected by an approved system of double insulation or its equivalent.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-38

437-081-0643

Flexible Cable and Extension Cords (Restrictions)

Worn or frayed electric cables shall not be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-39

437-081-0646

Flexible Cable and Extension Cords (Damage Protection)

Flexible cables and extension cords shall be protected against accidental damage as may be caused by traffic, sharp corners, or projections and pinching in doors or elsewhere.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-40

437-081-0649

Flexible Cable and Extension Cords (In Work Areas)

Cables passing through work areas shall be covered or elevated to protect them from damage.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-41

437-081-0653

Flexible Cable and Extension Cords (Installation)

Flexible cables and extension cords shall not be fastened with staples, hung from nails or suspended by wire.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-42

437-081-0656

Flexible Cable and Extension Cords (Splices)

Electrical conductors shall be spliced or joined in splicing devices suitable for the use, by brazing, welding or soldering with a fusible metal or alloy.

(1) Soldered splices shall first be so spliced or joined as to be mechanically and electrically secured without solder, and then soldered. (Rosin-core solder should be used, NOT acid core solder, when joining electrical conductors.)

(2) All splices and joints and the free ends of conductors shall be covered with an insulation equivalent to that of the conductors or with an insulating device suitable for that purpose.

(3) Splices for flexible cords must provide the flexibility and usage characteristics as that of the cord being spliced. Such repairs may be made by vulcanized splices or equivalent means such as systems using shrinkable materials.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-43

437-081-0659

Attachment Plugs and Receptacles

Attachment plugs for use in work areas shall be so constructed that they will endure rough use and be equipped with a suitable cord grip to prevent strain on the terminal screws.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-44

437-081-0663

Attachment Plugs and Receptacles (Grounded)

Attachment of plugs shall be of approved grounding type.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-45

437-081-0666

Attachment Plugs and Receptacles (Construction)

Receptacles for attachment plugs shall be of approved concealed contact type with a contact for extending ground continuity and shall be so designed and constructed that the plug may be pulled out without leaving any live parts exposed to accidental contact.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-46

437-081-0669

Attachment Plugs and Receptacles (Proper Wiring)

Polarized attachment plugs, receptacles and cord connectors shall be wired in proper continuity.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-47

437-081-0673

Attachment Plugs and Receptacles (Identification)

Polarized attachment plugs, receptacles and cord connectors for plugs and polarized plugs shall have the terminal intended for connection to the grounded (white) conductor identified by a metal coating substantially white in color. If the terminal is not visible, its entrance hole shall be marked with the word "white".

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-48

437-081-0676

Attachment Plugs and Receptacles (Terminal Identification)

The terminal for the connection of the equipment grounding conductor shall be identified by:

- (1) A green colored, not readily removable terminal screw with hexagonal head; or
- (2) A green colored, hexagonal, not readily removable terminal nut; or
- (3) A green colored pressure wire connector.
- (4) If the terminal for the grounding conductor is not visible, the conductor entrance hole shall be marked with the word "green" or otherwise identified by a distinctive green color.

NOTE: Two-wire attachment plugs, unless of the polarity type, need not have their terminals marked for identification.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-49

437-081-0679

Attachment Plugs and Receptacles (Varied Voltages)

Where different voltages, or types of current (A.C. or D.C.) are to be supplied by portable cords, receptacles shall be of such design and attachment plugs used on such circuits are not interchangeable.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-50

437-081-0683

Attachment Plugs and Receptacles (300 Volts or Greater)

Attachment plugs or other connectors supplying equipment at more than 300 volts shall be of the skirted type or otherwise so designed that arcs will be confined.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-51

437-081-0686

Cord and Plug Connected Equipment

The noncurrent-carrying metal parts of portable or plug-connected equipment shall be grounded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-52

437-081-0689

Cord and Plug Connected Equipment (Insulated Systems)

Portable tools and appliances protected by an approved system of double insulation, or its equivalent, need not be grounded. Where such an approved system is employed, the equipment shall be distinctively marked.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-53

437-081-0693

Cord and Plug Connected Equipment (Exposed Metal Parts)

Exposed noncurrent-carrying metal parts of fixed electrical equipment, including motors, frames, electrically driver machinery, etc., shall be grounded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-54

437-081-0696

Cord and Plug Connected Equipment (Reporting Shock)

All shocks received from electrical equipment, no matter how slight, shall be reported immediately to the person in charge or the employer. The equipment causing the shock shall be checked and any necessary corrective action taken without delay.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-55

437-081-0699

Grounding and Bonding

The path from circuits, equipment, structures, and conduit to enclosures to ground shall be permanent and continuous; having ample carrying capacity to conduct safely the currents liable to be imposed on it; and have impedance sufficiently low to limit the potential above ground and to result in the operation of the overcurrent devices in the circuit.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-56

437-081-0703

Grounding and Bonding (Ground Resistance)

Driven rod electrodes shall, where practicable, have a resistance to ground not to exceed 25 ohms. Where the resistance is not as low as 25 ohms, two or more electrodes connected in parallel shall be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-57

437-081-0706

Grounding and Bonding (Testing of Grounds)

Grounding circuits shall be checked to ensure that the circuit between the ground and the grounded power conductor has a resistance which is low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-58

437-081-0709

Grounding and Bonding (Conductors)

Conductors used for bonding and grounding stationary and moveable equipment shall be of ample size to carry the anticipated current.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-59

437-081-0713

Switches and Circuit Breakers

Not less than 3' of clear space shall be maintained in front of switch centers or panels at all times. Passageways to switch centers or panels shall be kept free from obstruction at all times.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-60

437-081-0716

Grounding and Bonding (Switchboards and Panelboards)

Live parts of electrical switchboards and panelboards shall be enclosed or screened.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-61

437-081-0719

Grounding and Bonding (Marking Disconnectors)

Each disconnecting means for motors and appliances, and each service feeder or branch circuit at the point where it originates, shall be legibly marked to indicate its purpose unless located and arranged so the purpose is evident.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-62

437-081-0723

Grounding and Bonding (Disconnectors)

Disconnecting means shall be located or shielded so that employees will not be injured. The use of open knife switches is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-63

437-081-0726

Grounding and Bonding (Disconnecter Construction)

Boxes for disconnecting means shall be securely and rigidly fastened to the surface upon which they are mounted and fitted with covers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-64

437-081-0729

Grounding and Bonding (Waterproofed Disconnectors)

Boxes and disconnecting means installed in damp or wet locations shall be waterproof to the extent that water does not enter or accumulate.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-65

437-081-0733

Identification and Load Ratings

Name plates, rating data, and marks of identification on electrical equipment and electrically-operated machines shall not be removed, defaced or obliterated.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-66

437-081-0736

Identification and Load Ratings (Circuit Protection)

In existing installations no changes in circuit protection shall be made to increase the load in excess of the load rating of the circuit wiring, as specified in the National Electrical Code, NFPA 70-1993 and NESC ANSI C1-1993.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-67

437-081-0739

Identification and Load Ratings (Fuse Restrictions)

Tampering with, bridging, or using oversize fuses is prohibited. If fuses blow repeatedly, such trouble shall be immediately reported to the employer or an authorized electrician.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-68

437-081-0743

Identification and Load Ratings (Electric Motor Safety)

Attempts to start electric motors that kick out repeatedly are prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-69

Proximity to Overhead Lines

437-081-0746

Clearance or Safeguards Required

All exposed overhead conductors shall be isolated from probability of accidental contact by persons or equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-70

437-081-0749

Clearance or Safeguards Required (Irrigation Pipe Storage)

Irrigation pipe shall not be stored within 100' of overhead conductors.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-71

437-081-0753

Clearance or Safeguards Required (Lifting Irrigation Pipe)

Upending irrigation pipe within 100' of overhead conductors is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-72

437-081-0756

Clearance or Safeguards Required (Irrigation Restrictions)

No part of any water or irrigation system, or any other device which discharges a conductive liquid, shall be set up or operated in such a way that the discharge from that system is directed or may come within 10' of overhead high-voltage lines, or may contact any other exposed electrical power conductor.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-73

437-081-0759

Clearance or Safeguards Required (Employee Safety)

No employer shall require or permit any employee to enter or to perform any function in proximity to high-voltage lines, unless danger from accidental contact with said high-voltage lines has been effectively guarded against.

NOTE: Voltage 750 V and higher is considered HIGH VOLTAGE.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-74

437-081-0763

Clearance or Safeguards Required (Safety Zone)

The operation, erection, or transportation of any tools, equipment, or any part thereof capable of movement; the handling, transportation, or storage of any materials; or the moving of any building near high-voltage lines is prohibited if at any time it is possible to bring such object within 10' of high-voltage lines.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-4-75

437-081-0766

Clearance or Safeguards Required (Clearance)

Except where electrical distribution and transmission lines have been deenergized and visibly grounded at point of work or where insulating barriers, not a part of an attachment to the equipment or machinery, have been erected to prevent physical contact with the lines, equipment or machines shall be operated near power lines only in accordance with the following:

- (1) For lines rated 50 kV. or below, minimum clearance between the lines and any part of the object shall be 10';
- (2) For lines rated over 50 kV. minimum clearance between the lines and any part of the object shall be 10' plus 0.4" inches for each 1 kV., over 50 kV., or twice the length of the line insulator but never less than 10'.
- (3) In transit, the clearance shall be a minimum of 4' for voltages less than 50 kV., 10' for voltages over 50 kV. up to and including 345 kV., and 16' for voltages up to and including 750 kV.
- (4) A person shall be designated to observe clearance and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-76

437-081-0769

Warning Sign Required

The employer shall post and maintain in plain view of the operator on each derrick, power-shovel, drilling-rig, hay loader, hay stacker, or similar apparatus, any part of which is capable of vertical, lateral or swinging motion, a durable warning sign legible at 12' reading "Unlawful to operate this equipment within 10' of high-voltage lines."

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-77

437-081-0773

Notification to Power Company and Responsibility for Safeguards

When any operations are to be performed, tools or materials handled, or equipment is to be moved or operated within 10' of any high voltage line, the person or persons responsible for the work to be done shall promptly notify the operator of the high-voltage line of the work to be performed, and shall be responsible for the completion of the safety measures as required before proceeding with any work which would impair the aforesaid clearance.

NOTE: The foregoing rules are not intended to apply to the construction, reconstruction, operations and maintenance of overhead electrical conductors (and their supporting structures and associated equipment) by authorized and qualified electrical workers; nor to authorized and qualified employees engaged in the construction, reconstruction, operations and maintenance of overhead electrical circuits or conductors (and their supporting structures and associated equipment) of rail transportation systems, or electrical generating, transmission, distribution, and communication systems.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-4-78

Steam-Air Compressors; Piping Systems Carrying Hazardous Materials

General

NOTE: The Oregon Building Codes Division, Department of Consumer and Business Services, is the governing authority on Boilers and Unfired Pressure Vessels and should be consulted for requirements. Boilers and Unfired Pressure Vessels are defined in the Oregon Boiler and Pressure Vessel Safety Law, as noted in ORS 480.510. Standards pertaining to Oxygen Fuel Gas welding processes are contained in Rules 437-081-2073

through 437-081-2443.

437-081-0776

General

Rules 437-081-0776 through 437-081-0869 prescribe standards to provide for protection against hazards incurred with cookers and other heated pressure vessels, steam, compressed air, and piping systems carrying hazardous materials, used in places of agricultural employment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-1

437-081-0779

General (Standards)

All boilers and pressure vessels used in places of employment shall be manufactured, operated, maintained and tested in accordance with minimum standards adopted in the Oregon Boiler and Pressure Vessel Safety Law.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-2

437-081-0783

General (Repairs)

Workers shall not repair or maintain high pressure systems unless the pressure has been relieved and the controls locked out.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-3

437-081-0786

General (Control Valves)

Unless controls are located at the vessel, each control valve shall be permanently identified in relation to the pressure

vessel to which it is connected.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-4

437-081-0789

General (Relief Valves)

Relief valve exhaust systems shall be secured to withstand the forces involved; and their discharge shall be directed into areas that will not endanger workers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-5

Heated Pressure Vessels

437-081-0793

Heated Pressure Vessels

Any person who enters a pressure vessel shall disable the door closing mechanism, or use lock-out procedures or some other positive method which will prevent the door from being closed and heat or pressure from being applied.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-6

437-081-0796

Heated Pressure Vessels (Safety)

Doors or covers of pressure vessels shall not be closed until it is certain that all workers are outside the vessel.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-5-7

437-081-0799

Heated Pressure Vessels (Covers)

Heat shall not be applied until all covers are closed and secured.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-5-8

437-081-0803

Heated Pressure Vessels (Pressure Gauges)

Pressure vessels shall be equipped with a pressure gauge, or with interlocks to prevent unlatching of the door until all pressure has been relieved.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-5-9

437-081-0806

Heated Pressure Vessels (Cover Safety)

Covers shall not be unlatched until inside pressure has been reduced to atmospheric pressure.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-5-10

437-081-0809

Heated Pressure Vessels (Water Gauges)

The water gauge glass on boilers shall be guarded and provided with a light when necessary for visibility. Guard shall be equivalent to 1/4" mesh of No. 18 gauge screen, or heavier.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-11

437-081-0813

Heated Pressure Vessels (Piping Insulation)

All steam and other high temperature pipe lines within 7' of the floor, work platform or passageway shall be covered with noncombustible insulating material or otherwise protected against accidental contact of persons.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-12

437-081-0816

Heated Pressure Vessels (Operator Safety)

Operators shall not blow condensate from a steam apparatus while workers are nearby.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-13

Air Compressors and Air Receivers

437-081-0819

Air Compressors

Every air compressor shall be provided with a safety valve and pressure gauge. The gauge shall be of the type that blows out the back if it fails.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-14

437-081-0823

Air Compressors (Intake Locations)

Air compressor intakes shall not be located in atmospheres containing concentrations of flammable or toxic gases or vapors.

NOTE: This rule shall not apply to properly designed scavenging systems.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-5-15

437-081-0826

Air Compressors (Shut-Off Valves)

If a shut-off valve is located between the compressor discharge and the air receiver, a pressure relieving safety device, set to open at not more than 10% above the maximum allowable working pressure of the compressor cylinder, shall be placed in the line between the compressor and the shut-off valve.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-5-16

437-081-0829

Air Compressors (Lubrication)

Mineral oil having a high flash point, water, or special lubricants designed for the purpose shall be used for lubricating air compressors. When mineral oil is used, the quantity shall be metered to the minimum amount necessary for proper lubrication.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-5-17

437-081-0833

Air Compressors (Hose Connections)

Pressure hose connections shall be securely made and maintained in safe working condition. Effective means shall be used to prevent an uncoupled hose from whipping.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-5-18

437-081-0836

Use of Compressed Air

Compressed air shall be used for cleaning purposes only when the following prerequisite conditions are met:

- (1) The downstream pressure of the air at the nozzle or opening of the cleaning lance used for cleaning purposes shall be reduced to a pressure level of less than 30 psi for all static conditions.
- (2) Effective chip guarding and personal protective equipment shall be used for the protection of the operator and workers.

NOTES:

- 1-The requirements for dynamic flow are such that when dead ending occurs, a static pressure at the main orifice shall not exceed 30 psi. This requirement is necessary in order to prevent a back pressure buildup in case the nozzle is obstructed or dead ended. See **Figures E-1 and E-2** for acceptable methods of meeting the requirement.
- 2-"Effective chip guarding" means any method of equipment which will prevent a chip or particle (of whatever size) from being blown into the eyes or unbroken skin of the operator or other workers. The use of protective cone air nozzles is acceptable in general for the protection of the operator but barriers, baffles, or screens may be required to protect other workers if they are exposed to flying chips or other particles.

[ED NOTE: The Figures referenced in this rule are not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-5-19

437-081-0839

Use of Compressed Air (Cleaning Restrictions)

Workers shall not use compressed air to clean clothing which is being worn, nor shall it be intentionally directed at any other person.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-5-20

Air Receivers

NOTE: Rules 437-081-0843 through 437-081-0859 apply to compressed air receivers used in conjunction with tire inflation, cleaning, spraying, or used to power pneumatically operated tools and equipment. It does not apply to air-actuated braking systems on vehicles.

437-081-0843

Air Receivers

All new air receivers installed after the effective date of these regulations shall be constructed in accordance with the 1971 edition of the **ASME Boiler and Pressure Vessel Code** Section 8.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-21

437-081-0846

Air Receivers (Installation)

Air receivers shall be located with sufficient clearance to permit a complete external inspection and servicing, and to avoid corrosion of external surfaces.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-22

437-081-0849

Air Receivers (Location)

Under no circumstances shall an air receiver be buried underground or located in an inaccessible place.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-23

437-081-0853

Air Receivers (Receiver Location)

The receiver shall be located as close to the compressor or aftercooler as is possible in order to keep the discharge pipe short.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-24

437-081-0856

Air Receivers (Valves)

No valve of any type shall be placed between the air receiver and its safety valve or valves.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-25

437-081-0859

Air Receivers (Drain Valves)

A drain valve shall be installed at the lowest point of every air receiver. The receiver shall be drained as often as necessary to prevent liquids from accumulating in the receiver.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-26

Piping Systems

437-081-0863

Piping Systems

All piping systems and their component parts which carry air, steam, or other material at more than atmospheric pressure shall be of adequate design and strength to withstand pressures to be placed upon them.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-5-27

437-081-0866

Piping Systems (Labeling)

Exposed piping systems which carry dangerous, flammable, explosive or toxic gases or liquids, or other injurious materials, shall be positively identified by labeling at all valves and discharges, at places where they emerge from walls, and at other points where confusion as to their contents could create a hazard. Arrows to indicate direction of flow shall be marked on the piping systems.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-28

437-081-0869

Piping Systems (Insulation)

All steam and other high temperature pipe lines within 7' of the floor, passageway or work platform shall be insulated or otherwise protected against accidental contact.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-5-29

Hand Tools and Hand-Held Power Driven Tools

General

437-081-0873

Scope and Application

Rules 437-081-0873 through 437-081-1016 prescribe safety standards to provide for protection against hazards incurred with hand tools, hand-held power driven tools, and jacks used in places of agricultural employment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-6-1

437-081-0876

Definitions

The following definitions apply to Rules 437-081-0873 through 437-081-1016.

(1) Hand Tool - A hand tool is an instrument used in performing an operation, and which is used, worked, and held by hand. Examples of hand tools are: knife; chisel; wrench; ax and shovel.

(2) Hand-held power driven tool - An instrument or machine used in performing an operation, and which is used, worked, and held by hand; but whose functional parts are actuated by a supplied source of energy such as electricity, hydraulic or air pressure, or internal combustion engine. Examples are: portable electrical circular saw; electric or pneumatic hand drill; chain saw; pneumatic nailer; powered pruning shears. The terms "hand-held power driven tool," "power tool," and "powered tool," as used in Rules 437-081-0873 through 437-081-1016, are synonymous.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-2 - 3

437-081-0879

General

Tools shall be appropriate for the purpose for which they are used; they shall be of proper size or capacity, and shall be safely used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-4

437-081-0883

General (Standards)

Only tools which may be surely controlled may be used. Handles and grips shall:

(1) Present a smooth surface, free of sharp edges or splinters.

(2) Provide adequate clearance for the hand.

(3) Be securely attached to the tools.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-5

437-081-0886

General (Handle Construction)

Wooden handles of hand tools shall be of straight-grained stock and free of slivers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-6

437-081-0889

General (Handle Connection)

Wooden handles of hand tools shall be well fitted to bear snugly against the eye or socket at all points, and shall be securely fastened, wedged, or held in place.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-7

437-081-0893

General (Condition)

Tools shall be kept in safe condition. The use of defective or unsafe tools is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-8

437-081-0896

General (Maintenance)

The heads of shock tools, such as chisels, punches, wedges, hammers, sledges, shall be ground and dressed as they begin to mushroom or spall.

(1) Shock tools with burred heads shall not be used.

(2) Shock tools which begin to split and which show a tendency to chip shall be removed from service.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-9

437-081-0899

General (Protective Attire)

Workers who use sharp-edge cutting tools shall be furnished and required to use personal protective equipment such as gloves, aprons, and leg guards to prevent against accidental cuts.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-10

437-081-0903

General (Transport)

Heavy leather holsters, sheaths, or equivalent protection shall be used for sharp-edge or sharp-pointed tools carried on a worker's person.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-11

437-081-0906

General (Storage)

When not in actual use, tools shall be placed or secured where they will not create a hazard. Sharp, pointed, and serrated parts and cutting edges shall be protected against inadvertent contact.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-12

437-081-0909

General (Power Line and Hose Storage)

Power supply lines and hoses shall not be laid out, or left draped, coiled, or tangled in walkways or work areas where they may:

- (1) Create a tripping hazard to others;
- (2) Be subjected to damage by material, equipment, or other work in progress; or
- (3) Be caught up, pulled, or jerked so as to unbalance or otherwise interfere with the operator.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-13

437-081-0913

General (Power Line and Hose Disconnection)

When not in use, power supply lines and hoses shall be disconnected from tools and removed to a safe storage area, out of traffic and work areas. Except for power cables in retractable reels, electrical power supply cables shall, in addition, be disconnected from the power source.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-14

437-081-0916

General (Fire Prevention)

Spark-resistant tools or tools of non-ferrous materials shall be used in flammable or explosive atmospheres.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-15

Hand-Held Power Driven Tools

437-081-0919

Controls

Hand-held power driven tools shall always be stopped when not in use, and they shall always be disconnected from the power source or the engine shut down before accessories are changed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-16

437-081-0923

Controls (Switches)

Every hand-held power driven tool shall be equipped with a switch or device to turn the tool on and off.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-17

437-081-0926

Controls (Safety)

Power tool controls shall be located, arranged, or protected as to prevent accidental operation of the tool.

(1) Guards over power tool controls shall provide sufficient clearance to allow full and free manipulation of the control.

(2) Completely enclosed "trigger guard" type guards which may restrict the immediate release of the control or the tool, or which may catch the operator's finger, are prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-18

437-081-0929

Controls (Pressure Switches)

The hand-held power driven tools listed below shall be equipped with a constant pressure type switch or control. The

control shall function to automatically shut off the power whenever the operator releases the control. Control lock-on devices are prohibited with the following tools:

- (1) Portable circular saws.
- (2) Electric, pneumatic, or hydraulic chain saws.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-19

437-081-0933

Controls (Modified Pressure Switches)

The hand-held power driven tools listed below shall be equipped with a constant pressure type switch or control which will automatically shut off the power whenever the operator releases the control. A control lock-on device may be permitted on these tools provided turn-off can be accomplished by a single motion of the same finger or fingers that turns it on.

- (1) Portable drills.
- (2) Portable grinders with abrasive wheels larger than two inches in diameter.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-20

437-081-0936

Electrical Power Supply Cables

Power supply cords and flexible cables shall be of the type designed for severe service conditions. If used in damp locations or outdoors, they shall have weather-resistant insulation and connections. Flexible power supply cords or cables with defective sheathing, insulation, or connections shall not be used.

NOTE: Polarized plugs or grounding type plugs with the grounding contact member missing, or with exposed conductors shall be considered as defective.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-21

437-081-0939

Grounding of Power Tools

The frame and all exposed, non-current carrying metal parts of hand-held electric powered tools operated at more than 90 volts to ground shall be grounded. The ground shall be provided through the ground wire in a 3-conductor power supply cord, or through a separate ground wire run in conjunction with the power supply cable assembly, and a polarized plug and receptacle.

EXCEPTION: Electric-powered tools designated on the data plate as "Double Insulated", and bearing an Underwriters' Laboratories approval for that designation, are exempt from the grounding requirements described above.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-22

437-081-0943

Guarding

All projecting set screws, keys, and similar projections in exposed revolving or reciprocating parts on hand-held power driven tools shall be guarded. Guards shall be replaced or correctly adjusted before use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-23

437-081-0946

Guarding (Circular Saws)

Portable power circular hand saws shall be equipped with a base plate or shoe, and with guards above and below the base plate.

- (1) The upper guard shall cover the saw to the depth of the teeth.
- (2) The lower guard shall cover the saw to the depth of the teeth, except for the minimum arc required to allow proper contact with the work.
- (3) When the saw is withdrawn from the work, the lower guard shall automatically and instantly return to the covering position.
- (4) The saw guards shall not be blocked in an open position.
- (5) The power saw guard shall be equipped with a handle or lug by which it may be temporarily retracted without exposing the operator's fingers to the blade.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-24

437-081-0949

Guarding (Grinders)

Portable powered grinders shall be provided with a safety guard over the abrasive wheel, unless the abrasive wheel is a metal, wooden, cloth, paper, or bonded reinforced disc, having a layer of abrasive on the surface.

(1) Safety guards for portable grinders of the right-angle head or vertical type shall have a maximum exposure angle of 180 degrees. The guard shall be positioned so as to be between the operator and the wheel during use. It shall be so adjusted that pieces of an accidentally broken wheel will be deflected away from the operator. In operations where the work provides a suitable measure of protection to the operator, the guard may be so designed that the spindle end, nut, and outer flange are exposed. (See **Figure F-1**)

(2) Safety guards for other portable grinders shall enclose the wheel except for a maximum permissible exposure angle of 180 degrees. The guard shall cover the periphery and sides of the wheel, including the spindle end, nut, and flange projections. It shall be positioned so as to be between the operator and the wheel during use, and adjusted so that pieces of an accidentally broken wheel will be deflected away from the operator. (See **Figures F-2 and F-3**)

[ED NOTE: The Figures referenced in this rule are not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-25

437-081-0953

Guarding (Nailers and Staplers)

Power driven nailers and staplers shall be equipped with a device to prevent ejection of nails or staples when the tool is not in firm contact with the work.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-26

437-081-0956

Guarding (Impact Tools)

Powered impact tools shall be equipped with a retainer or safety device which will prevent the attachment or tool from

being ejected.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-27

437-081-0959

Internal Combustion Engine - Driven Tools

Internal combustion engine powered tools shall be equipped with a pressure control that, when released, will return the engine to idling speed. In addition, they shall be equipped with a positive on and off ignition switch that will remain in either position.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-28

437-081-0963

Internal Combustion Engine - Driven Tools (Fueling)

Internal combustion engine powered tools shall be stopped and the engine shut off while being fueled.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-29

437-081-0966

Internal Combustion Engine - Driven Tools (Maintenance)

Fuel systems on internal combustion engine powered tools shall be maintained free of leaks or defects which will allow the escape of fuel.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-30

437-081-0969

Internal Combustion Engine - Driven Tools (Starting)

Internal combustion engine-driven tools shall be equipped with a self-rewinding starting mechanism, or with a starting method of device that will furnish equivalent safety.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-31

437-081-0973

Internal Combustion Engine - Driven Tools (Exhaust Ports)

Exhaust ports on internal combustion engine powered tools shall be equipped with mufflers, and the exhaust shall be deflected away from the operator.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-32

437-081-0976

Internal Combustion Engine - Driven Tools (Carrying Slings)

Carrying slings of sling-carried internal combustion engine powered tools such as back-pack sprayers, pruning tools, and shrub-shearing tools shall be designed so that the operator can remove the tool immediately and with minimum effort. Quick-release fasteners or equivalent means should be used to facilitate quick removal.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-33

437-081-0979

Pneumatic Powered Tools

Compressed air hose and connections used with pneumatic power tools shall not be subjected to pressures nor to service in excess of that for which they were designed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-34

437-081-0983

Pneumatic Powered Tools (Shut-Off Valves)

A shut-off valve shall be located between the hose and the compressed air supply. Hoses shall not be coupled or uncoupled without first shutting off the compressed air supply unless couplers are equipped with selfclosing check valves.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-35

437-081-0985

Pneumatic Powered Tools (Safety Line)

A safety line or chain shall be attached to the hose and to the tool housing to keep the hose from whipping should the coupling break. A safety check valve shall be installed in the air line at the manifold to automatically shut off the air supply should a fracture occur anywhere in the line.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-36

437-081-0989

Pneumatic Powered Tools (Gas Restrictions)

Oxygen or combustible gases shall not be used to drive pneumatic power tools.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-37

437-081-0993

Pneumatic Powered Tools (Exhaust)

The exhaust from pneumatic power tools shall be deflected away from the operator.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-38

Jacks

437-081-0996

Definitions

The following definitions apply to Rules 437-081-0001 through 437-081-2943.

- (1) Jack - a manually-operated appliance for lifting, lowering, or moving horizontally a load by application of a pushing force. They may be lever and ratchet, screw, or hydraulic.
- (2) Rating - The rating of a jack is the maximum working load for which it is designed to lift safely that load throughout its specified amount of travel.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-39 - 40

437-081-0999

General

Jacks shall be inspected before each use. Jacks which are found to be defective in any way shall not be used until the defective condition is corrected. Defective jacks shall be marked or tagged "DEFECTIVE - DO NOT USE," or words to that effect.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-41

437-081-1003

General (Maintenance)

Jacks shall be serviced, lubricated, and maintained as necessary to ensure their good operating condition, or as specified

by the manufacturer. Jacks shall function smoothly and freely in both ascending and descending modes when under load.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-42

437-081-1006

General (Rated Load Markings)

The rated load of hydraulic jacks shall be legibly and permanently marked in a prominent location on the jack by casting, stamping, or other suitable means.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-43

437-081-1009

General (Load Limits)

The operator shall make sure the jack used has a rating sufficient to lift and sustain the load.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-44

437-081-1013

General (Positioning)

The base of the jack shall be placed on a firm foundation. In the absence of a firm foundation, the base of the jack shall be blocked. If there is a possibility of slippage of the cap, a block shall be placed between the cap and the load.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-6-45

437-081-1016

General (Safety)

After the load has been raised, it shall be immediately cribbed, blocked, or otherwise secured.

NOTE: This rules does not apply to changing of automotive-type wheels on vehicles when all of the following conditions are met:

- (1) The vehicle is equipped with at least four wheels (each pair of duals count as one wheel).
- (2) The wheel is raised only for the minimum time necessary to remove the original wheel and immediately replace it with another.
- (3) No person places any part of his body under the vehicle while it is on the jack in the raised position.
- (4) The vehicle is attended by a responsible person while it is on the jack.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-6-46

Personal Protective Equipment

437-081-1019

Definitions

The following definitions apply to Rules 437-081-1019 through 437-081-1169.

- (1) Contaminant - Any material which by reason of its action upon or to a person is likely to cause physical harm.
- (2) Lanyard - A rope, suitable for supporting one person. One end is fastened to a safety belt or harness and the other end is secured to a substantial object or a lifeline.
- (3) Lifeline - A rope suitable for supporting one person, to which a lanyard or safety belt (or harness) is attached.
- (4) Safety Belt - A device, usually worn around the waist which, by reason of its attachment to a lanyard and lifeline or a structure, will prevent a worker from falling.
- (5) Personal protective equipment - Any type of shield, barrier, restraint, or equipment applied to or worn by an individual for his personal protection against exposure to or injury from a hazardous object, substance, condition, or environment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-1 - 5

437-081-1023

General Requirements

No unprotected person shall knowingly be subjected to a hazardous condition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-6

437-081-1026

General Requirements (Hazard Control)

Wherever there is a hazard arising from any source, the hazard shall be contained or eliminated at the source by administrative or engineering controls. Where it is not feasible to do so, or where the hazards have not been so contained or eliminated, personal protective equipment shall be used to prevent injury or occupational illness.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-7

437-081-1029

General Requirements (Use)

Personal protective equipment which is designed and constructed to protect against the hazards encountered, and suitable to the work being performed shall be furnished and use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-8

437-081-1033

General Requirements (Standards)

Personal protective equipment shall meet the following minimum requirements:

- (1) It shall provide adequate protection against the particular hazards for which it is designed.
- (2) It shall be reasonably comfortable when worn under the designated conditions.
- (3) It shall fit securely and shall not unduly interfere with the movements of the wearer.

- (4) It shall be durable.
- (5) It shall be capable of being disinfected.
- (6) It shall be easily cleanable.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-9

437-081-1036

General Requirements (Proper Use)

Personal protective equipment shall be worn and used in a manner which will make full use of its protective properties.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-10

437-081-1039

General Requirements (Cleanliness)

Personal protective equipment shall be kept clean and sanitary.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-11

437-081-1043

General Requirements (Storage)

When not in use, personal protective equipment shall be stored in such a way that it will be clean and ready for use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-12

437-081-1046

General Requirements (Employee Furnished Equipment)

Where employees furnish their own personal protective equipment, the employer shall be responsible for assuring its adequacy, including proper maintenance and sanitation of such equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-13

437-081-1049

General Requirements (Maintenance)

Personal protective equipment shall be maintained in good repair and reliable condition. Defective personal protective equipment shall not be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-14

437-081-1053

General Requirements (Skin Hazards)

Where the need for their use is indicated, protective covering, aprons, gloves, ointments, or other effective protection shall be provided for and used by persons exposed to materials which are hazardous to the skin.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-15

437-081-1056

General Requirements (Availability of Clean Water)

Clean water in ample quantities shall be immediately available where materials are handled that are caustic or corrosive to the eyes or skin.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-16

437-081-1059

General Requirements (Jewelry Restrictions)

Rings, wristwatches, earrings, bracelets, and other jewelry which might contact power driven machinery or electric circuitry shall not be worn at work.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-17

437-081-1063

Work Clothing

Workers shall wear sufficient clothing to protect them from hazards to which they may be exposed. Such clothing shall be appropriate to the work being performed and the conditions encountered.

NOTE: Consideration must be given to temperatures and weather conditions to which workers are exposed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-18

437-081-1066

Work Clothing (Safety)

Loose sleeves, ties, lapels, cuffs or other loose clothing shall not be worn near moving machinery.

NOTE: Application of this rule is not intended to negate requirements for guarding power driven machinery.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-19

437-081-1069

Work Clothing (Maintenance)

Clothing which has been wetted or impregnated with flammable liquids, corrosive or toxic substances, irritants, or oxidizing agents shall be removed immediately and not worn again until properly cleaned.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-20

437-081-1073

Head Protection

Employees exposed to head injury from impact with overhead objects, or from falling or flying objects, shall wear protective helmets (hard hats).

NOTE: Helmets worn near electrical conductors must be made of non-conductive material, designed for such use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-21

437-081-1076

Head Protection (Hair Safety)

Workers whose hair is long enough to be caught in equipment or entangled in other objects around which they work shall wear caps, hair nets, or other protection which will adequately confine the hair while performing their duties.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-7-22

437-081-1079

Eye and Face Protection

Suitable eye protectors shall be provided where machines or operations present the hazard of flying objects, glare, liquids, injurious radiation, or a combination of these hazards.

NOTES:

- 1- Suitable screens or shields which isolate the hazardous exposure may be considered adequate safeguarding for nearby workers.
- 2- Requirements for protective equipment in welding operations are contained in rules 437-081-2073 through 437-081-2443.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-23

437-081-1083

Eye and Face Protection (Corrective Lenses)

Employees whose vision requires the use of corrective lenses when required to wear eye protection shall be protected by goggles or spectacles of one of the following types:

- (1) Spectacles with protective lenses which provide optical correction;
- (2) Goggles or face shields that can be worn over corrective spectacles without disturbing the adjustment of the spectacles;
- (3) Goggles that incorporate corrective lenses mounted behind the protective lenses.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-24

437-081-1086

Eye and Face Protection (Maintenance)

Face and eye protection equipment shall be kept clean and in good repair.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-25

437-081-1089

Hearing Protection

Where noise levels and durations exceed the limits contained in 1910.95(a) in OAR 437, Division 2/G, Occupational Health and Environmental Controls, ear protective devices shall be provided and used.

NOTE: Plain cotton is not an acceptable protective device.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-26

437-081-1093

Hearing Protection (Instruction)

Ear protectors which must be inserted within the ear canal shall be initially fitted by a person trained in the procedure who shall explain the techniques for insertion to the employee.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-27

437-081-1096

Hearing Protection (Hearing Conservation Program)

In all cases where the noise levels in any area exceed the limits prescribed in 1910.95(b), in OAR 437, Division 2/G, Occupational Health and Environmental Controls, a continuing effective hearing conservation program shall be administered.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-28

437-081-1099

Respiratory Protection

Where workers are exposed to air contaminated with harmful dusts, sprays, gases, or other harmful material, they shall be furnished and shall wear respiratory protection equipment. Such equipment shall:

- (1) Fit properly;
- (2) Be appropriate for the contaminant involved;
- (3) Met the specific requirements for respirators and associated equipment contained in 1910.134, Respiratory Protection, in OAR 437, Division 2/I, Personal Protective Equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-29

437-081-1103

Foot Protection

Workers shall wear footwear suitable for the work conditions.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-30

437-081-1106

Foot Protection (Safety-Toe Requirements)

Safety-toe shoes or foot guards shall be worn by workers engaged in work where they may be subject to foot injuries.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-31

437-081-1109

Foot Protection (Special Use)

Special types or designs of shoe or foot guards are required where conditions exist that make their use necessary for the safety of workers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-32

437-081-1113

Foot Protection (Maintenance)

Defective footwear, or footwear which is ineffective in preventing or limiting injury, shall not be worn where workers are exposed to conditions which may cause foot injuries.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-33

437-081-1116

Foot Protection (Leg Protection)

Where workers' legs are exposed to hot substances, harmful chemicals, heavy brush, sharp tools, poisonous snakes, or other hazards, they shall wear leggings, boots, or other effective leg protection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-34

437-081-1119

Hand Protection

Hand protection suitable for the need shall be worn wherever the nature of the work requires extra protection to the hands.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-35

437-081-1123

Hand Protection (Gloves)

Gloves shall not be worn by persons whose hands are exposed to moving parts in which they could be caught.

NOTE: Application of this rule is not intended to negate requirements for machinery guarding.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-36

437-081-1126

Lifelines and Safety Belts

Except for those situations described in (6) below, employees shall be secured by safety belts and lifelines, or protected

by use of safety nets, when they work:

- (1) From unguarded surfaces above open pits or tanks, moving machinery, or similar hazardous locations;
- (2) More than 10' above water, ground, or a lower floor or scaffold unless protected by a standard guardrail or other effective means to prevent falling.
- (3) On roofs pitched steeper than 1/3 pitch;
- (4) When they are otherwise exposed to dangerous falls;
- (5) When entering certain confined spaces, pits, silos, or storage facilities as required by Rule 437-081-0343.
- (6) The foregoing requirements do not apply to:
 - (a) Haystacks, provided they are not located adjacent to open pits, tanks, or other hazardous locations;
 - (b) Fixed or portable ladders which are not located over water, exposed moving machinery, or other hazardous locations;
 - (c) Fixed ladders which are equipped with cages or safety devices.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-37

437-081-1129

Lifelines and Safety Belts (Restricted Use)

Lifelines, safety belts and lanyards shall be used only for employee safeguarding.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-38

437-081-1133

Lifelines and Safety Belts (Attachment)

The point of attachment for lifelines shall be maintained above the point of operation to an anchorage or structural member capable of supporting a minimum dead weight of 5,400 lbs.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-7-39

437-081-1136

Lifelines and Safety Belts (Hardware)

All safety belt and lanyard hardware shall be drop forged or pressed steel, cadmium plated. Surfaces shall be smooth and free of sharp edges.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-40

437-081-1139

Lifelines and Safety Belts (Breaking Strength)

Lifelines shall be a minimum of 3/4" manila or equivalent with a minimum breaking strength of 5,400 lbs.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-41

437-081-1143

Lifelines and Safety Belts (Construction)

Safety belt lanyard shall be a minimum of 1/2" nylon, or equivalent with a maximum length to provide for a fall of no greater than 6'. The rope shall have a nominal breaking strength of 5,400 lbs.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-42

437-081-1146

Lifelines and Safety Belts (Standards)

All safety belt and lanyard hardware, except rivets, shall be capable of withstanding a tensile loading of 4,000 lbs. without cracking, breaking, or taking a permanent deformation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-43

437-081-1149

Lifelines and Safety Belts (Inspection)

All lifelines, lanyards and safety belts shall be inspected each time before use. Any defective belts or lifelines shall be discarded or repaired before use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-44

437-081-1153

Life Jackets and Buoyant Protective Equipment

Employees shall be provided with and shall wear approved buoyant protective equipment at all times while working on or over water:

- (1) On floating pontoons, rafts and floating stages, work boats, and open decks which are not protected by bulwarks, guardrails or lifelines.
- (2) During the construction, alteration or repair of structures extending over or adjacent to water, except when guardrails, safety nets, or safety belts and lifelines are provided and used.
- (3) Working where they are potential drowning hazards regardless of other safeguards provided.

NOTE: "APPROVED" means U.S. Coast Guard approved.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-45

437-081-1156

Life Jackets and Buoyant Protective Equipment (Inspection)

Prior to and after each use, the buoyant work vests or life preservers shall be inspected for defects which would alter their strength or buoyancy. Defective units shall not be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-46

437-081-1159

Life Jackets and Buoyant Protective Equipment (Ring Buoys)

Ring buoys with at least 90' of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200'.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-47

437-081-1163

Life Jackets and Buoyant Protective Equipment (Skiff)

At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to a body of water of such size or depth that rescue cannot be immediately effected from shore.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-48

437-081-1166

Life Jackets and Buoyant Protective Equipment (Skiff Safety)

A safety skiff shall be equipped with good oars, with oarlocks securely attached to the gunwales, one boat hook and one approved life ring with not less than 90' of suitable line attached.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-49

437-081-1169

Life Jackets and Buoyant Protective Equipment (Loading)

Work boats shall not be loaded in excess of their rated capacity.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-7-50

Vehicles

437-081-1173

Scope and Application

Rules 437-081-1173 through 437-081-1459 shall apply to every vehicle used in production agricultural employment.

NOTE: Additional requirements for industrial-type vehicles designed and used for handling materials, such as fork lifts, are contained in Rules 437-081-1463 through 437-081-1703.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-1

437-081-1176

Purpose

Rules 437-081-1173 through 437-081-1459 prescribe safety standards intended to improve the degree of personal safety for operators and others involved during the normal operation and servicing of agricultural equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-2

437-081-1179

Definitions

The following definitions apply to Rules 437-081-1173 through 437-081-1459.

(1) Vehicle - Every device by which any person or property may be transported except devices moved by human power or used exclusively upon stationary rails or tracks. It includes commercial-type vehicles designed for use on public roads, such as cars or trucks; farm field equipment such as tractors, harvesters, balers, planters, trailers, or any combination thereof; and vehicle-mounted elevating and rotating work platforms.

(2) Commercial-type vehicle - A vehicle designed or used primarily for the transportation of persons or material over private or public roads; and which are not designed, or have not been so modified, as to be primarily for on-farm agricultural production or crop handling vehicles.

NOTE: Included under this definition are cars, pick-ups, buses, trucks.

(3) Agricultural vehicle - A vehicle specifically designed or modified for use exclusively in agricultural operations, and which is not licensed for use on public roads under current Oregon laws.

NOTE: Included in this definition are farm field equipment such as tractors, harvesters, planters or any combination thereof; unlicensed trucks and wagons or trailers such as feeder trucks or wagons and specialized crop handling vehicles; and mobile elevating and rotating work platforms such as orchard aerial lift devices.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-3 - 5

Vehicle Operating Requirements

437-081-1183

Operation of Vehicles

Every motor vehicle shall, when under its own power and in motion, have an operator at the vehicular controls at all times.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-6

437-081-1186

Operation of Vehicles (Maintenance)

No worker shall operate any vehicle which is not in safe condition. Any unsafe condition found on any vehicle shall be corrected before the vehicle is placed into service.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-7

437-081-1189

Operation of Vehicles (Authorized Operator)

Only workers who have been authorized by the employer to operate the vehicle may do so.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-8

437-081-1193

Operation of Vehicles (Operator Review)

Workers shall demonstrate their competence in the safe operation of intended vehicles before being authorized by an employer to operate them.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-9

437-081-1196

Operation of Vehicles (Operator Safety)

Operators of vehicles shall watch their path of travel and shall not move a vehicle until certain that all persons are in the clear. The operator shall have a clear view of the path of travel unless guided by a signalman who has a clear view of the route.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-10

437-081-1199

Operation of Vehicles (Restrictions)

Vehicles shall not be driven up to anyone who is in front of a stationary object.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-8-11

437-081-1203

Operation of Vehicles (Speed Limits)

Operators of vehicles shall not exceed the authorized or safe speed, whichever is lesser. The speed shall be no more than will permit the vehicle to be under positive control and stopped in a safe manner.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-12

437-081-1206

Operation of Vehicles (Proximity To Other Vehicles)

Operators of vehicles shall always maintain a safe distance from other vehicles.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-13

437-081-1209

Operation of Vehicles (Visual Obstructions)

At blind crossings and other locations where vision is obstructed, vehicle operators shall slow down or stop as necessary for safe operation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-14

437-081-1213

Operation of Vehicles (Towing)

Vehicles shall be controlled manually while being pushed or towed except when a tow bar is used. Special precautions shall be taken when pushing vehicles where view is obstructed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-15

437-081-1216

Operation of Vehicles (Vehicle Awareness)

Employees working in the immediate vicinity of a vehicle shall be on the lookout for any movement of the vehicle, and shall heed any warning given.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-16

437-081-1219

Operation of Vehicles (Restrictions)

Stunt driving or horseplay shall not be permitted.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-17

437-081-1223

Riding on Vehicles

A safe means of access shall be provided to all vehicles.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-18

437-081-1226

Riding on Vehicles (Entering and Exiting Restrictions)

Jumping on or off moving vehicles is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-19

437-081-1229

Riding on Vehicles (Proper Seating)

No one shall be permitted to ride on a vehicle unless a seat or other safe riding facility is provided for each person to be carried.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-20

437-081-1233

Riding on Vehicles (Rider Safety)

No person shall place arms or legs between working parts, or outside the running lines of vehicles.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-21

437-081-1236

Riding on Vehicles (Rider Restrictions)

Riding on tongues, drawbars, buckets, or forks of moving vehicles is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-22

437-081-1239

Riding on Vehicles (Unstable Loads)

Employees shall not ride on top of loads that may dangerously shift, topple over, or otherwise become unstable.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-23

437-081-1243

Riding on Vehicles (Remaining Seated)

Employees shall be seated when riding on the load, except when engaged in field work at slow, even speeds over smooth ground, as in loading operations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-24

437-081-1246

Riding on Vehicles (Riding in Cargo Spaces)

When employees are working on the cargo space of moving trucks or trailers, as in field operations, effective measures shall be taken to prevent their falling or being thrown off.

(1) Reduce vehicle speed to the slowest possible.

(2) Operate the vehicle at a steady, smooth rate. Avoid erratic operation of the vehicle.

(3) Travel parallel to rows or corrugations. When necessary to cross corrugations or ditches, warn the employees to sit down in a safe place, away from the edge, and to hold on to a secure hand hold.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-25

437-081-1249

Loading of Vehicles

No vehicle shall be loaded beyond its safe operating capacity.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-26

437-081-1253

Loading of Vehicles (Movement Prevention)

Except for vehicles that are loaded "on the go", brakes shall be set on vehicles being loaded. In addition, the wheels of such vehicles shall be chocked or blocked when they are being boarded by other motor vehicles, and during other loading operations when necessary to prevent movement.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-27

437-081-1256

Loading of Vehicles (Trailer Supports)

To prevent up-ending, uncoupled trailers shall be supported by props or jacks during loading operations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-28

437-081-1259

Loading of Vehicles (Securing Loads)

All loads shall be secured against dangerous displacement either by piling or securing so as to prevent shifting, toppling, over or otherwise becoming unstable.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-29

437-081-1263

Loading of Vehicles (Vehicle Movement)

Loaded vehicles shall not be moved unless the load is safe and secure.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-30

437-081-1266

Loading of Vehicles (Adjusting Operating Methods)

Operating methods shall be adjusted to maintain stability of the vehicle or load when the load or vehicle shape raises or changes the center of gravity.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-31

437-081-1269

Loading of Vehicles (Employee Access)

Adequate means of access shall be provided so that employees can safely reach the top of the load for manual loading or unloading of high loads.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-32

437-081-1273

Parking

When the operator of any vehicle is not at the controls, the brakes shall be set or wheels locked against movement; the controls shall be neutralized; and any elevated component shall be lowered to the "down" position or else securely locked or blocked against lowering. In addition, when the vehicle is unattended, the power shall be shut off, and, if parked on an incline, the wheels shall be blocked or chocked.

NOTE: A vehicle is unattended when the vehicle is not within the view of its operator, or when the operator is over 25' away from the vehicle.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-33

Equipment and Maintenance Requirements

437-081-1276

Operator's Station, Work Platforms, and Cabs

The operator's station and work platforms on all agricultural vehicles shall be equipped with guardrails or other means to prevent persons from falling, wherever any of the following conditions exist:

- (1) The operator is not seated or protected from falling by the framework, body, or design of the equipment; or
- (2) The floor of the operator's station is over 22" above the adjacent floor level; or
- (3) The operator's station, regardless of height, is so located that a worker could fall into the path of equipment or into moving parts.

NOTE: When guardrails or similar barricades are used, the toprail shall be 36" to 44" above the deck; the railing shall include a midrail except in areas where the operator's view to crop gathering or other functional units would be impaired.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-34

437-081-1279

Operator's Station, Work Platforms, and Cabs (Doors)

Vehicle cabs shall be provided with at least one door. Doors provided shall open easily. Where there is only one door, an alternate means of egress shall be provided as an emergency escape, such as a window which can be opened wide enough to permit passage of the vehicle occupants. The emergency escape shall be capable of being easily opened from inside the cab.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-35

437-081-1283

Operator's Station, Work Platforms, and Cabs (Surfaces)

A slip-resistant surface shall be provided on the operator's platform.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-36

437-081-1286

Operator's Station, Work Platforms, and Cabs (Steps)

Necessary steps, ladders, handholds, or grab bars shall be provided on vehicles in order to furnish safe access to work platforms, operator's station or cab.

- (1) Steps shall be constructed or treated to be as slip-proof as possible.
- (2) Adequate toe clearance shall be provided for each step.

NOTE: The height of the first step should not exceed 22" (559mm). Where the configuration of the vehicle or equipment does not impose variations in step spacing, the vertical distance between steps shall be uniform, preferably 12" (305mm) but not more than 16" (406mm).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-37

437-081-1289

Operator's Station, Work Platforms, and Cabs (Flooring)

The flooring of vehicles where workers may ride, step or work shall be even and in sound condition, free of holes, breaks or weakness.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-38

437-081-1293

Operator's Station, Work Platforms, and Cabs (Bulkheads)

The backs of vehicle cabs which are exposed to shifting loads shall be provided with a substantial bulkhead or similar device.

NOTE: Conventional steel vehicle cabs may be acceptable if capable of withstanding potential impact of materials or equipment to which they may be exposed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-39

437-081-1296

Operator's Station, Work Platforms, and Cabs (Load Safety)

Materials being transported shall not be carried in a manner which would prevent doors of vehicle cabs from being opened. When the load blocks the cab door on one side of the vehicle means for easy escape shall be provided, such as a "knock-out windshield" or an opening in rear of driver's compartment leading to rear of vehicle which is open or equipped with a door which can be opened from the inside, or similar means of emergency escape.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-40

437-081-1299

Operator's Station, Work Platforms, and Cabs (Workers)

When materials of any type are transported at the same time with workers, the workers and driver shall be protected from the hazards of such material by substantial partitions or securing of the load.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-41

437-081-1303

Windshields - Windows

All glass installed in vehicles shall be of a safety glass approved for use anywhere in a motor vehicle, or a material which will furnish equivalent safety.

NOTE: It is not required that non-safety glass which was installed as "original equipment" in agricultural vehicles acquired prior to March 31, 1975, be changed as long as the glass remains unbroken. However, when such glass is replaced because of damage or for any other reason, the replacement glass shall be an approved safety glass.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-42

437-081-1306

Windshields - Windows (Repair)

Defective or broken glass in a vehicle which impairs the vision of the operator shall be replaced. Broken or shattered glass which could cause injury to occupants of the vehicle shall be removed and replaced.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-43

437-081-1309

Windshields - Windows (Maintenance)

Deposits on glass which impair the vision of the operator shall be removed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-44

437-081-1313

Vehicle Controls

A positive engine shut-off shall be provided within reach of the operator in his normal operating position.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-45

437-081-1316

Vehicle Controls (Handle Location)

Trip handles for gates of dump beds shall be so arranged that, in dumping, the operator will be in the clear.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-46

437-081-1319

Vehicle Controls (Pedal Surfaces)

Foot pedals shall have either slip-resistant surfaces or other means of minimizing the possibility of operator's foot slipping off the pedals.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-47

437-081-1323

Brakes

All self-propelled vehicles shall be provided with brakes which are capable of controlling the vehicle while fully loaded on any grade over which it is to be operated.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-48

437-081-1326

Brakes (Power Brakes)

On those vehicles equipped with power brakes, the braking system shall be such that in the event of engine or power failure, the vehicle can be brought to a safe stop.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-49

437-081-1329

Brakes (Parking Brakes)

All self-propelled vehicles shall be equipped with a parking brake or device controlled from the operator's station, capable of preventing the vehicle from moving when unattended. The brake locking or parking device shall be of the positive type, designed and maintained in such a manner that vibration will not release the device.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-50

437-081-1333

Brakes (Inspection)

Brakes on all vehicles must be in a safe working condition at all times and shall be tested as often as operating conditions warrant during the time said vehicle is in use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-51

437-081-1336

Brakes (Repair)

Brake hose lines and couplings shall be immediately replaced or repaired when found defective. The use of tape for repairing leaks is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-52

437-081-1339

Brakes (Brake Lines)

Air or vacuum brake lines shall be of the type designed and constructed for such use. Trailer disconnect fittings shall not be interchangeable with water or other lines.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-53

437-081-1343

Brakes (Hoses)

Sufficient slack shall be maintained in hose lines to prevent uncoupling or breakage.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-54

437-081-1346

Steering

Vehicle steering mechanisms shall be maintained in a condition which will enable the operator to exercise full directional stability and control of vehicle movement.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-55

437-081-1349

Lights

Vehicles which are operated at night shall be equipped with sufficient lights to enable the operator to perform his work safely.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-56

437-081-1353

Inspection

Each vehicle shall be checked as often as necessary to assure that it is in safe operating condition. If a defect or potentially unsafe condition exists, the vehicle shall be immediately withdrawn from service until the deficiency is corrected. Checks shall include the following parts, if installed:

- (1) Service brakes, including trailer brakes and brake hose connections, parking brake system, (hand brake) emergency stopping system;
- (2) Tires, horn, turn signal system, steering mechanism, coupling devices;

- (3) Seat belts, operating controls, gauges, and other safety devices;
- (4) Lights, windshield wipers, reflectors, defrosters, fire extinguishers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-57

437-081-1356

Vehicle Maintenance

Vehicles, equipment, or parts which are supported by slings, hoists, or jacks shall be blocked or cribbed to prevent falling or shifting before employees are permitted to work under or between them.

- (1) Components which raise or elevate shall be either fully lowered or blocked when being repaired or when not in use.
- (2) All controls shall be in neutral with motors stopped and brakes set, unless work being performed requires otherwise.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-58

437-081-1359

Vehicle Maintenance (Tires)

A safety tire rack, cage, or equivalent protection shall be provided and used over tires mounted on split rims or rims equipped with locking rings or similar devices:

- (1) When inflating tires;
- (2) When adding air to tires on or off the vehicle if the tire has been run while flat or if the rim or locking device has been disturbed in any way.

NOTE: A tire is considered flat if it has lost more than 50% of its normal pressure.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-59

437-081-1363

Vehicle Maintenance (Batteries)

The battery shall be disconnected prior to making repairs to a vehicle electrical system where accidental closing of the circuit could cause injury to workers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-60

437-081-1366

Vehicle Maintenance (Illumination)

Open flames shall not be used for illumination while checking electrolyte level in storage batteries or the fuel level in tanks.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-61

437-081-1369

Guards

Wherever any wheel of a vehicle is exposed and is within 42" of the operator's station, work platform or other workers, the portions of the wheel that are exposed to contact shall be guarded. Wheel fenders, bumpers, skirt guards, or other guards which will prevent persons from contacting or being struck by the wheels shall be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-62

437-081-1373

Guards (Vehicles)

Vehicles with maximum speed exceeding 20 MPH shall be equipped so that the operator is not exposed to material thrown from the wheels.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-63

437-081-1376

Guards (Heated Surfaces)

A guard or shield shall be provided to minimize the possibility of inadvertent contact during normal operation or serving with any exposed elements which may cause burns.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-64

437-081-1379

Guards (Shear Points)

Shear points which are within 42" of the operator's station or work platform shall be guarded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-65

Fueling

NOTE: Rules 437-081-0409 through 437-081-0556 of this division prescribe those standards governing fire prevention measures which must be observed during fueling operations.

437-081-1383

Signaling and Warning Devices

Where mobile farm equipment is towed and the driver cannot see the employees on the towed equipment, a positive signaling device shall be installed on the towed equipment, or there shall be a device on the towed equipment that can be actuated to stop the towing equipment in case of an emergency.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-66

437-081-1386

Signaling and Warning Devices (Nonobstructed Vision)

Vehicles with obstructed view to the rear shall be equipped with a reverse signal alarm audible above the surrounding noise level, unless the vehicle is backed only when an observer signals that it is safe to do so.

NOTE: This rule does not apply where the driver is the only worker at the job site.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-67

437-081-1389

Exhausts

Exhaust pipes shall direct the exhaust fumes away from the operator.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-68

437-081-1393

Exhausts - (Pipe Location)

Engine exhaust systems shall not be piped into or through an enclosed cab.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-69

437-081-1396

Vehicles with Elevating Components

NOTE: See Rule 437-081-0089.

A means shall be provided to protect against inadvertent dropping of lifted units which must be in raised position for normal servicing or adjusting.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-70

437-081-1403

Vehicles with Elevating Components (Locking Devices)

Vehicles with elevating components or dump bodies shall be equipped with positive means of support, permanently attached, and capable of being locked in position to prevent accidental lowering.

(1) The operational control of the locking device shall be such that no part of a person's body must be placed under any elevated component to lock or unlock the device.

(2) This device shall be used to support the component when it is raised and left unattended, or while maintenance or inspection work is being done.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-71

437-081-1406

Vehicles Operated on Public Roads

Vehicles designed for operation at slow speeds (less than 25 MPH) shall display a "slow moving vehicle" emblem as prescribed in 1910.145(d)(10) in Division 2/J, and in ORS 815. 110, "Slow Moving Vehicles," in the Oregon Vehicle Code.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-72

437-081-1409

Vehicles Operated on Public Roads (Standards)

All vehicles operated on public roads shall be equipped and operated in compliance with the requirements prescribed in Oregon Vehicle Code, 59, Chapters 801-822.

NOTE: Information concerning the requirements of the Oregon Vehicle Code, 59, may be obtained by writing to: Public Information Office, Department of Transportation, Rm 140 Transportation Building, Capitol Mall, Salem, Oregon 97310, (Telephone (503) 378-6526)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-73

Aerial Devices

NOTE: The following additional standards pertain to elevating and rotating work platforms, or aerial devices, used to elevate personnel engaged in agricultural employment to job sites above ground.

437-081-1413

Definitions

The following definitions apply to Rules 437-081-1416 through 437-081-1459.

(1) Aerial device - Any vehicle, mounted device or equipment which is used to raise, maneuver, and lower persons to and from elevated positions. The device may furnish a platform from which work may be performed while at the elevated position. The device may be telescoping, articulating, or rotating, or a combination of these functions.

(2) Platform - Any personnel-carrying device (basket or bucket) which is a component of an aerial device.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-74 - 5

437-081-1416

Design Requirements

Aerial devices shall meet or exceed a structural safety factor of 2 to 1 in all working positions based upon the rated capacity assigned by the manufacturer.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-76

437-081-1419

Design Requirements (Stability)

Aerial devices shall meet or exceed a stability safety factor of 1-1/2 to 1 in all working positions based upon the posted working load. The vehicle shall be considered stable when the tires do not leave the ground.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-77

437-081-1423

Design Requirements (Rated Load Capacity)

The rated load capacity shall be posted at a conspicuous place on the aerial device and shall be kept in a legible condition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-78

437-081-1426

Design Requirements (Load Capacity)

Aerial devices shall not be loaded in excess of the manufacturer's rated capacity.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-79

437-081-1429

Design Requirements (Outriggers)

On every aerial device equipped with outriggers, an effective device shall be provided and used to hold all outriggers securely retracted while traveling and solidly extended when they are extended while hoisting.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-80

437-081-1433

Design Requirements (Platforms)

The platforms of aerial devices shall be enclosed with a standard guardrail or equivalent enclosure to prevent workers from falling. The enclosure shall meet the construction and strength requirements specified in Rules 437-081-0309 through 437-081-0326.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-81

437-081-1436

Design Requirements (Platform Gates)

Gates in platform enclosures or guardrails shall be equipped with safety latches to prevent unintended opening.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-82

437-081-1439

Design Requirements (Parking Brake)

Every vehicle upon which an aerial device is mounted shall be equipped with a parking brake or device capable of holding the vehicle stationary under all conditions of use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-83

437-081-1443

Controls

Controls shall be plainly marked as to their function.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-84

437-081-1446

Controls (Placement)

Controls shall be so placed or guarded that the equipment cannot be activated by inadvertent contact by the operator, tools, equipment, or foreign objects.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-85

437-081-1449

Controls (Tool Storage)

Tool holder shall be provided outside the platform enclosure or guardrail for the safe storage of edged tools and power operated tools.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-86

437-081-1453

Operation

Aerial devices shall be adequately warmed up and an operating test made of the hydraulic system before it is used to hoist workers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-8-87

437-081-1456

Operation (Manual Availability)

The equipment operation and maintenance manual shall be accessible to workers using the equipment. The operating instructions, proper sequences, and maintenance procedures prescribed by the manufacturer shall be followed. Design limitations and operational restrictions shall not be exceeded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-88

437-081-1459

Operation (Outrigger Placement)

When set upon soft or unstable soil, additional pads shall be placed under the outriggers as required to stabilize the aerial device.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-8-89

Storing and Handling Materials and Material Handling Equipment

General

437-081-1463

Scope and Application

The requirements of Rules 437-081-1463 through 437-081-1703 shall apply to methods, practice and equipment used in the storage of materials and in the handling of materials.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-1

437-081-1466

Scope and Application (Safety Requirements)

The purpose of Rules 437-081-1463 through 437-081-1703 is to prescribe minimum safety requirements for the storage and handling of materials.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-2

437-081-1469

Scope and Application (Rule Jurisdiction)

Any operation or situation not covered in Rules 437-081-1463 through 437-081-1703 shall be subject to applicable provisions of other rules of this division.

NOTE: See 1910.179 - .184 (Cranes) of OAR 437, Division 2/N, for safety standards pertaining to cranes, rigging and slings. See 1910.176 of Division 2/N, Material Handling and Storage, for rules pertaining to material hoists in service in agricultural operations.

Storage of Materials

NOTES:

- 1- Explosives shall be stored and handled as prescribed in 1910.109, Explosives and Blasting Agents, in OAR 437, Division 2/H.
- 2- Flammable substances shall be stored and handled as prescribed in Rules 437-081-0409 through 437-081-0556.
- 3- Oxygen and acetylene cylinders, cylinders or tanks containing other compressed gases used in welding and cutting operations, and carbides shall be stored and handled as prescribed in Rules 437-081-2073 through 437-081-2443.
- 4- Toxic materials such as harmful or irritating chemical fertilizers and agricultural pesticides shall be stored and handled as prescribed in 170.1 through 170.260, Worker Protection Standard, in this division; 1910.1200, Hazard Communication, in Division 2/Z; and Division 2/J, General Environmental Controls.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-3

437-081-1473

General

Storage of material shall not create a hazard. Storage of material shall be planned so that material may be stored and removed without hazard to workers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-4

437-081-1476

General (Access)

Access to materials in storage shall be provided which furnishes free and safe movement of material handling equipment and workers. Passageways and ramps shall meet the requirements of Rules 437-081-0223 through 437-081-0249.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-5

437-081-1479

General (Storage)

Bags, containers, bundles, etc., stored in tiers shall be stacked, blocked, interlocked and limited in height to make them stable.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-6

437-081-1483

General (Drainage)

Proper drainage shall be provided to prevent conditions from developing which would be hazardous to workers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-7

437-081-1486

Storage - Location

Stored materials shall not obstruct lights, sprinklers, aisles, exits, or electrical switch panels.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-8

437-081-1489

Storage - Location (Marking)

Temporarily stored material that creates a hazard shall be marked by highly visible warning signs. Reflectorized signs or other effective warning shall be used in conditions of reduced visibility.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-9

437-081-1493

Storage - Location (Segregating Hazardous Materials)

Materials which could cause hazardous reactions should be kept segregated in storage and marked with appropriate warning signs.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-10

437-081-1496

Stacks and Piles

All material stacks shall be placed on level and solid supports and shall be stable and self-supporting; stacks shall be braced or shored as necessary to prevent falling or collapsing.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-11

437-081-1499

Stacks and Piles (Binding Strips)

Binding strips shall be inserted or the material cross-tied, or the tiers shall be set back, when necessary to insure stability of the pile.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-12

437-081-1503

Lumber

Used lumber shall have all projecting nails withdrawn or bent over before stacking. Lumber to be handled manually shall not be stored more than 16' high.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-13

437-081-1506

Lumber (Stacking Restrictions)

Lumber stacks shall be made of units whose height is no more than 1-1/2 times higher than the base.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-14

437-081-1509

Bagged Materials

Bagged materials shall be stacked by stepping back the layers and crosskeying the bags at least every 10 bags high.

NOTE: This requirement does not apply where pallets effectively stabilize the stack of bagged materials.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-15

437-081-1513

Bagged Materials (Unit Removal)

When bags are removed from a pile, the stability of the pile shall be maintained.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-9-16

437-081-1516

Corrugated and Flat Iron (Steel)

Corrugated and flat iron shall be stacked in stable piles.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-17

437-081-1519

Corrugated and Flat Iron - Steel (Steel Plate Storage)

Racks capable of supporting the imposed loads without deformation shall be used for storing steel plate on edge and shall provide positive protection against the danger to personnel from toppling or sliding plates.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-18

437-081-1523

Pipe and Bar Stock

In removing pipe and bar stock from unsecured piles, workers shall not approach the side of the pile but shall remove it from the ends of the pile.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-19

437-081-1526

Pipe and Bar Stock (Passageway Safety)

Pipe or bar stock extending into passageways shall be clearly marked or padded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-20

437-081-1529

Drums, Rolls, Cylindrical Objects

Barrels, drums, large pipe, and other cylindrical objects piled on their sides shall have the bottom row securely blocked. If separators are used between tiers of the pile, blocks shall be secured at each end of the separators.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-21

437-081-1533

Drums, Rolls, Cylindrical Objects (Spacing Strips)

Spacing strips shall be placed between bundles.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-22

437-081-1536

Drums, Rolls, Cylindrical Objects (Safety Requirements)

Structural steel, poles, pipe, bar stock and other cylindrical materials, unless racked, shall be stacked and blocked to prevent spreading, tilting, or rolling.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-23

Handling Materials

437-081-1539

Handling Materials

Where mechanical handling equipment is used, sufficient clearances shall be maintained for safe passage.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-24

437-081-1543

Handling Materials (Marking Access)

Permanent aisles and passageways shall be appropriately marked.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-25

437-081-1546

Handling Materials (Equipment Maintenance)

All equipment used for handling materials shall be constructed and maintained in accordance with sound engineering practice. They shall be of sufficient strength to support the loads acting on them in addition to their own dead loads. Allowances shall be made for wind, impact, or any special loading that may occur.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-26

437-081-1549

Handling Materials (Load Capacities)

Safe load capacities recommended by the manufacturers of equipment shall not be exceeded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-27

437-081-1553

Handling Materials (Worker Safety)

Workers shall not remain or work under or near loads and units of materials being moved unless they are provided with adequate protection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-28

437-081-1556

Handling Materials (Suspended Loads)

Loads suspended in slings or supported by hoists, jacks, or other devices, shall be blocked or cribbed before workers are permitted to work underneath.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-29

Conveyors

437-081-1559

Backstops - Brakes

Inclined conveyors, where reversing or running away presents a hazard to workers, shall be provided with anti-runaway, backstop devices, or suitable guards.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-30

437-081-1563

Loading, Transfer and Discharge Points

Means to guard workers from injury by moving material shall be provided at conveyor loading, transfer and discharge points.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-31

437-081-1566

Conveyor Guards

Where a conveyor passes over work area, aisles and thoroughfares, suitable guards shall be provided to prevent material from falling from the conveyor.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-32

437-081-1569

Conveyor Guards (Return Sections)

The return section of all conveyors located over or near passageways or workers shall:

- (1) Be provided with a trough, if 7' or less above the passage way; or,
- (2) Be supported by rollers or guards, if higher than 7' above the passageway.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-33

437-081-1573

Conveyor Guards (Powered Belt Conveyers)

The acute angle of entry (nip-point) of powered belt conveyors shall be guarded in accordance with Rules 437-081-1706 through 437-081-1846.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-34

437-081-1576

Conveyor Guards (Input Conveyor Safety)

Input conveyors for feed choppers, grain pits, or other dangerous machines shall be fully guarded to prevent workers from falling into the conveyor. Where a part of the guard must be omitted to permit a worker to feed the conveyor, he shall be provided with and shall wear a life belt tied off to an effective life line.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-35

437-081-1579

Conveyor Guards (Crossing Conveyers)

Workers shall not cross over conveyors except where suitable bridges or walkways are provided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-36

437-081-1583

Portable Conveyors

Portable conveyors shall be stable at all operating ranges and shall be provided with adequate devices to prevent unintended movement.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-37

437-081-1586

Portable Conveyors (Grounding)

Portable conveyors, when powered electrically, shall be grounded as required in Rules 437-081-0559 through 437-081-0773. Where exposed to outside weather conditions, wiring, switches, and electrical connections shall be moisture and dust proof.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-38

437-081-1589

Riding Conveyors Prohibited

Workers shall not be permitted to ride on any conveyor not especially designed for this purpose.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-39

437-081-1593

Chutes, Rollways

A method shall be provided for slowing material being put down chutes or rollways whenever excessive speed might create a hazard to packers or other workers.

NOTE: Additional requirements for lowering material in demolition operations are contained in OAR 437, Division 3, Construction, of the Oregon Occupational Safety and Health Code.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-40

437-081-1596

Chutes, Rollways (Warning Devices)

Where the person putting material down a chute, ramp, skid, or rollway does not have a clear view of a lower landing on which workers are employed, an adequate horn, bell, or other warning device which is automatic in operation shall be provided and maintained in good condition at all times.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-41

437-081-1599

Chutes, Rollways (Guards)

Where chutes and rollways pass over work areas or passageways, guards shall be provided which will prevent material from falling.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-42

437-081-1603

Chutes, Rollways (Underside Safety)

The underside of all chutes, ramps, skids, rollways or landings shall be fenced off and marked with appropriate warning signs unless provided with other adequate means of protecting workers from falling material.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-43

Wheelbarrows, Hand Trucks, Pallet Jacks and Dollies

437-081-1606

Wheelbarrows, Hand Trucks, Pallet Jacks and Dollies

Wheelbarrows, hand trucks, pallet jacks and dollies shall be selected for specific work to be done and shall not be loaded beyond safe capacity. Bodies and frames shall be constructed to withstand severe handling and the loads to be carried.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-44

437-081-1609

Wheelbarrows, Hand Trucks, Pallet Jacks and Dollies (Repair)

Wheelbarrows, hand trucks, pallet jacks and dollies shall be kept in safe repair at all times.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-45

437-081-1613

Wheelbarrows, Hand Trucks, Pallet Jacks and Dollies (Use)

Wheelbarrows, hand trucks, pallet jacks and dollies when not in use must be properly stored and never left in such a position that they can tip or fall over or roll thereby endangering other workers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-46

Powered Industrial Trucks

NOTE: The following rules contain safety requirements relevant to the design, maintenance, and use of fork lifts, platform lift trucks, motorized hand trucks, and other specialized material handling trucks powered by electric motors or internal combustion engines. They do not apply to vehicles primarily designed and intended for:

- 1- Farming operations, such as soil preparation and fertilizing, crop treatment, harvesting, and processing, and hay handling equipment and vehicles, farm tractors and farm tractors with front-end loader attachments, and similar farming implements, equipment and vehicles designed for agricultural use and not primarily for industrial use. **EXCEPTION:** Farm tractors which have been converted to fork lifts by the installation of a fork lift attachment are covered by Rules 437-081-1463 through 437-081-1703 and shall meet the safety requirement set forth herein.)
- 2- Earth moving equipment.
- 3- Over the road hauling.

NOTE: The following requirements are in addition to applicable rules contained in Rules 437-081-1173 through 437-081-1459. Where conflicting rules exist, those prescribed in Rules 437-081-1463 through 437-081-1703 shall apply to powered industrial trucks.

437-081-1616

Powered Industrial Trucks (Markings)

All name plate and markings shall be in place and maintained in a legible condition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-47

437-081-1619

Powered Industrial Trucks (Modification Approval)

Modifications and additions which affect capacity and safe operation shall not be performed without the manufacturer's prior written approval, unless the modification is done under the supervision of a professional engineer. Capacity, operation and maintenance instruction plates, tags, or decals shall be changed accordingly.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-48

437-081-1623

Powered Industrial Trucks (Attachments)

If the truck is equipped with front-end attachments other than factory installed attachments, it shall be marked to identify the attachments and show the approximate weight of the truck and attachment combination at maximum elevation with load laterally centered.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-49

437-081-1626

Overhead Guards

Where a rider type lift truck operator is exposed to hoisted objects that might fall, or to stacked objects that might be dislodged and fall, the truck shall be equipped with an overhead guard. The guard shall either meet the requirements and be identified as specified in (1) below, or else constructed as specified in (2) below.

(1) The guard shall be of sufficient strength to support impact load tests as specified in **Table I-1**.

(a) Impact load tests shall be conducted with the guard in place on a vehicle for which it is designed or on a simulated mounting. Running gear need not be in place. The load shall be dropped in free fall from an approximate height so that the impact is centered approximately above the driver's position. Test loads shall have a length equal to or greater than the width of the guard, and shall strike the canopy at right angles to the vehicle frame.

(b) Guards of a design which have been so tested shall be identified by a metal tag permanently attached to the canopy in a position where it may be easily read from the ground. This tag shall be permanently and clearly marked with the impact test load, expressed in foot-pounds to which guards of the same design have been tested.

(2) Guards which are not of a design which has been tested in accordance with (b) above may be constructed of material as specified in **Table I-2**, or material of equivalent strength.

- (a) The construction of canopy guards built of materials specified in **Table I-2** shall be based on the strength of four upright members. Guards constructed with less than four upright members shall be equivalent strength.
- (b) Canopy type overhead guard frames shall be braced to overhead members on each side of the frame to provide structural rigidity both longitudinally and transversely.
- (c) All guard mountings or attaching brackets shall be constructed and secured to the vehicle in a manner to provide adequate support to the upright members of the canopy type overhead guard.
- (d) Cantilever overhead guards shall be of equivalent strength.

NOTE: Guards required by this rule are not intended to withstand the impact of a capacity load falling from any height.

[ED NOTE: The Tables referenced in this rule are not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-50

437-081-1629

Overhead Guards (Requirements)

Guards shall be constructed in a manner that does not interfere with good visibility, but openings in the top shall not exceed 6" in one of the two dimensions, width or length. Guards shall be large enough to extend over the operator under all normal circumstances of operation, including forward tilt.

- (1) Provisions shall be made so that failure of the mast-tilting mechanism will not allow the overhead guard to cause injury to the operator.
- (2) Lift trucks operated by seated operators shall have not less than 39" of clear vertical space between the operator's seat and the underside of the guard. Lift trucks operated by standing operators shall have not less than 74" of clear vertical space between the platform and the underside of the guard.

NOTE: Where overall height of truck with forks in lowered position is limited by head room conditions and there is insufficient space for vertical clearance or for the operator to assume a normal driving position, normal overhead guard heights may be reduced, or the overhead guard may be omitted. The height and stability of stacks of piled material, the weight of individual units handled, and the operating space available shall be such as will provide reasonable safety for the operator if it is necessary to remove the overhead guard.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-51

437-081-1633

Load Back Rest

Lift trucks which handle small objects or unbanded units shall be equipped with a vertical load back rest.

(1) It shall have height, width, strength, sufficient to prevent the load or any part of it from falling toward the operator.

(2) It shall be constructed in a manner that does not interfere with good visibility.

(3) Size of openings shall not exceed 6" in one dimension.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-52

Shear Point Guards

NOTE: See Rule 437-081-1379.

437-081-1634

Control of Noxious Gases and Fumes

Where powered industrial trucks are used indoors, effective measures shall be taken to prevent exhaust gases from creating a harmful or hazardous work atmosphere, as set forth in 1910.94, Ventilation, OAR 437, Division 2/G; and OAR 437-002-0382, Oregon Rules for Air Contaminants, in Division 2/Z.

NOTE: Questions concerning degree of concentration and methods of sampling to ascertain the conditions shall be referred to a qualified industrial hygienist.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-53

437-081-1636

Dockboards (Bridge Plates)

Dockboard or bridgeplates, shall be properly secured before they are driven upon. Dockboards or bridgeplates shall be driven over carefully and slowly and their rated capacity never exceeded.

NOTE: See Rules 437-081-0349 through 437-081-0366 for dockboard requirements.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-54

437-081-1639

Operation of Powered Industrial Trucks

A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock or platform, or freight car.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-55

437-081-1643

Overhead Guards (Headroom)

There shall be sufficient headroom under overhead installations, lights, pipes, sprinkler system, etc.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-56

437-081-1646

Overhead Guards (Riders)

Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-57

437-081-1649

Overhead Guards (Safety)

The employer shall prohibit arms or legs from being placed between the uprights of the mast or outside of running lines of the powered industrial vehicle.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-58

437-081-1653

Elevating Personnel

Whenever a lift truck is used for lifting personnel the following precautions shall be taken for the protection of personnel being elevated:

- (1) A work platform, equipped with standard guardrails and firmly secured to the lifting carriage or forks, shall be used.
- (2) A person qualified to operate the lift truck shall serve as "tender" for the worker on the platform. The tender shall remain within hearing distance from the worker on the platform, and shall raise and lower the platform and perform other support duties as necessary.
- (3) Where there is a possibility of exposure to falling objects, workers on the platform and on the lift truck shall be provided with adequate overhead protection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-59

437-081-1656

Elevating Personnel (Loads)

Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-60

437-081-1659

Elevating Personnel (Load Limits)

Only loads within the rated capacity of the truck shall be handled.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-61

437-081-1663

Elevating Personnel (Adjusting Loads)

Long or high (including multiple-tiered) loads which may affect capacity shall be adjusted.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-62

437-081-1666

Elevating Personnel (Load Placement)

When attachments are used, particular care should be taken in securing, manipulating, positioning, and transporting the load. Trucks equipped with attachments shall be operated as partially loaded trucks when not handling a load.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-63

437-081-1669

Elevating Personnel (Fork Placement)

The forks shall be placed under the load as far as possible; the mast shall be carefully tilted backward to stabilize the load.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-64

437-081-1673

Elevating Personnel (Tilting Loads)

Extreme care shall be used when tilting the load forward or backward, particularly when high tiering. Tilting forward with load engaging means elevated shall be prohibited except to pick up a load. An elevated load shall not be tilted forward except when the load is in a deposit position over a rack or stack. When stacking or tiering, only enough backward tilt to stabilize the load shall be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-65

437-081-1676

Traveling

Railroad tracks shall be crossed diagonally wherever possible. Parking closer than 8' from the center of railroad tracks is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-66

437-081-1679

Traveling (Grades)

Grades shall be ascended or descended slowly.

- (1) When ascending or descending grades in excess of 10%, loaded trucks should be driven with the load upgrade.
- (2) Unloaded trucks should be operated on all grades with the load engaging means downgrade.
- (3) On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-67

437-081-1683

Traveling (Motorized Hand Trucks)

Motorized hand trucks must enter elevator or other confined areas with load end forward.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-68

437-081-1686

Traveling (Avoiding Loose Objects)

Running over loose objects on the roadway surface shall be avoided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-69

437-081-1689

Traveling (Turns)

While negotiating turns, speed shall be reduced and turns shall be made in a smooth manner.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-70

437-081-1693

Trucks and Railroad Cars

The brakes shall be set and wheel chocks placed under the rear wheels of vehicles which are being boarded by powered industrial trucks, to prevent them from moving.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-9-71

437-081-1696

Trucks and Railroad Cars (Brakes)

Brakes shall be set and wheel stops shall be provided to prevent railroad cars from moving during loading or unloading operations or while dock boards or bridge plates are in position.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-72

437-081-1699

Trucks and Railroad Cars (Semi-Trailers)

Semi-trailers not coupled to a tractor shall be supported by fixed jacks at the overhanging end when being boarded by powered industrial trucks.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-73

437-081-1703

Trucks and Railroad Cars (Flooring Inspection)

The flooring of trucks, trailers, and railroad cars shall be checked for breaks and weakness. Powered industrial trucks shall not be driven onto flooring of inadequate strength.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-9-74

Agriculture Equipment Guarding

General

437-081-1706

Purpose

The purpose of Rules 437-081-1706 through 437-081-1846 is to provide for the protection of employees from the hazards associated with moving machinery parts of farm field equipment and farmstead equipment used in any agricultural operation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-10-1; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1707

Application

Rules 437-081-1706 through 437-081-1756 contain general requirements which apply to all equipment. In addition, Rules 437-081-1759 through 437-081-1796 apply to farm field equipment and Rules 437-081-1799 through 437-081-1846 apply to farmstead equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1708

Application

Rules 437-081-1706 through 437-081-1846 apply to all farm field equipment and farmstead equipment except that Rules 437-081-1773, 437-081-1776, 437-081-1779, 437-081-1783, 437-081-1789, 437-081-1809, 437-081-1813, 437-081-1816, 437-081-1819, 437-081-1825 and 437-081-1833 do not apply to equipment manufactured before October 25, 1976.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1709

Definitions

The following definitions shall apply to terms used in Rules 437-081-1706 through 437-081-1846.

- (1) Farm field equipment - Tractors or implements, including self-propelled implements, or any combination thereof used in agricultural operations.
- (2) Farmstead equipment - Agricultural equipment normally used in a stationary manner. This includes, but is not limited to, materials handling equipment and accessories for such equipment whether or not the equipment is an integral part of a building.
- (3) Ground driven components - Components which are powered by the turning motion of a wheel as the equipment travels over the ground.
- (4) Guard or shield - A barrier designed to protect against employee contact with a hazard created by a moving machinery part.
- (5) Power take-off shafts - Shafts and knuckles between the tractor, or other power source, and the first gear set, pulley, sprocket, or other components on power take-off shaft driven equipment.

(6) Point of operation - The area on a machine where work is actually performed upon the material being processed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-2 - 4; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1713

Operating Instructions

At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which he is or will be involved, including at least the following safe operating practices:

- (1) Keep all guards in place when the machine is in operation;
- (2) Permit no riders on farm field equipment other than persons required for instruction or assistance in machine operation;
- (3) Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning, or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain the equipment;
- (4) Make sure everyone is clear of machinery before starting the engine, engaging power, or operating the machine;
- (5) Lock out electrical power before performing maintenance or service on farmstead equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1716

Methods of Guarding

Except as otherwise provided in Rules 437-081-1706 through 437-081-1846 each employer shall protect employees from coming into contact with hazards created by moving machinery parts as follows:

- (1) Through the installation and use of a guard or shield or guarding by location;
- (2) Whenever a guard or shield or guarding by location is infeasible, by using a guardrail or fence.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1719

Strength and Design of Guards

Guards shall be designed and located to protect against inadvertent contact with the hazard being guarded.

NOTE: Minimum requirements for guards shall correspond to **Table J-1**.

[ED NOTE: The Table referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-11; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1723

Strength and Design of Guards (Requirements)

Unless otherwise specified, each guard and its supports shall be capable of withstanding the force that a 250 lb. individual, leaning on or falling against the guard, would exert upon that guard.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-12; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1726

Strength and Design of Guards (Attachment)

Guards shall be free from burrs, sharp edges, and sharp corners, and shall be securely fastened to the equipment or building.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-13; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1729

Guarding by Location

A component is guarded by location during operation, maintenance, or servicing when, because of its location, no

employee can inadvertently come in contact with the hazard during such operation, maintenance, or servicing.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-10; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1733

Guarding by Railings

Guardrails or fences shall be capable of protecting employees from inadvertently entering the hazardous area.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1736

Servicing and Maintenance

Whenever a moving machinery part presents a hazard during servicing or maintenance, the engine shall be stopped, the power source disconnected, and all machine movement stopped before servicing or maintenance is performed, except where the employer can establish that:

- (1) The equipment must be running to be properly serviced or maintained; and
- (2) The equipment cannot be serviced or maintained while a guard or guards otherwise required by Rules 437-081-1706 through 437-081-1846 are in place.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1739

Miscellaneous General Requirements

Machines which are of a type that will throw stock, material, or objects shall be covered or provided with a device designed and constructed to minimize this action. (Such machines as rip saws, rotary mowers and beaters, rotary tillers are a few in this classification.)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-10-29; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1743

Miscellaneous General Requirements (Fan Blades)

When the periphery of the blades of a fan is less than 7' above the floor or working level, the blades shall be guarded. The guard shall have openings no larger than 1/2".

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-27; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1746

Machine Controls

If the operation of a machine requires the presence of an operator on the machine, a power control device shall be provided on each machine to enable the operator to stop the machine or machine feed without leaving his position.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-39; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1749

Machine Controls (Marking)

Power control devices whose function is not readily self-evident to a casual observer shall be marked to indicate their function and the machine which they control. The positions of ON and OFF shall be indicated.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-42; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1753

Machine Controls (Color Coding)

"Stop" buttons shall be colored red or orange. Each machine shall have one or more stop buttons according to the working position of the operator or operators.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-43; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1756

Machine Controls (Location)

Machine control devices shall be located or guarded to prevent unexpected or accidental movement of the control. Electrical switch "Start" buttons shall be recessed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-44; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

Farm Field Equipment

437-081-1759

Power Take-Off Guarding

All power take-off shafts, including rear, mid- or side-mounted shafts, shall be guarded either by a master shield, as provided in Rule 437-081-1763 or by other protective guarding.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-17; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1763

Power Take-Off Guarding (Guard Requirements)

All tractors shall be equipped with an agricultural tractor master shield on the rear power take-off except where removal of the tractor master shield is permitted by Rule 437-081-1766. The master shield shall have sufficient strength to prevent permanent deformation of the shield when a 250 pound operator mounts or dismounts the tractor using the shield as a step.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-10-16; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1766

Power Take-Off Guarding (Employee Contact)

Power take-off driven equipment shall be guarded to protect against employee contact with positively driven rotating members of the power drive system. Where power take-off driven equipment is of a design requiring removal of the tractor master shield, the equipment shall also include protection from that portion of the tractor power take-off shaft which protrudes from the tractor.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-10-18; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1769

Power Take-Off Guarding (Signs)

Signs shall be placed at prominent locations on tractors and power take-off driven equipment specifying that power drive system safety shields must be kept in place.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-10-19; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1773

Other Power Transmission Components

The mesh or nip-points of all power driven gears, belts, chains, sheaves, pulleys, sprockets, and idlers shall be guarded by protective shield, location, guardrail or fence.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-10-20; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1776

Other Power Transmission Components (Revolving Shafts)

All revolving shafts, including projections such as bolts, keys, or set screws, shall be guarded by protective shield, location, guardrail or fence, except smooth shaft ends protruding less than 1/2 the outside diameter of the shaft and its locking means.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-21; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1779

Other Power Transmission Components (Ground Driven)

Ground driven components shall be guarded in accordance with Rules 437-081-1773 and 437-081-1776 if any employee may be exposed to them while the drives are in motion.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-24; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1783

Functional Components

Functional components, such as snapping or husking rolls, straw spreaders and choppers, cutterbars, flail rotors, rotary beaters, mixing augers, feed rolls, conveying augers, rotary tillers, and similar units, which must be exposed for proper function, shall be guarded to the fullest extent which will not substantially interfere with normal functioning of the component.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-25; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1786

Access to Moving Parts

Guards, shields, and access doors shall be in place when the equipment is in operation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-10-31; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1789

Access to Moving Parts (Requirements)

Where removal of a guard or access door will expose an employee to any component which continues to rotate after the power is disengaged the employer shall provide, in the immediate area, the following:

- (1) A readily visible or audible warning of rotation; and
- (2) A safety sign warning the employee to:
 - (a) Look and listen for evidence of rotation; and
 - (b) Not remove the guard or access door until all components have stopped.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-10-32; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1793

Additional Requirements

A clutch or other effective means of stopping shall be used on powered machines not driven by an individual motor.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-10-40; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1796

Additional Requirements (Clutch Clearance)

All friction clutches shall have sufficient clearance and shall be kept adjusted to prevent any drag or creeping when disengaged.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-10-41; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

Farmstead Equipment

437-081-1799

Power Take-Off Guarding

All power take-off shafts, including rear, mid-, or side-mounted shafts, shall be guarded either by a master shield as provided in Rule 437-081-1763 or other protective guarding.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-17; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1803

Power Take-Off Guarding (Employee Contact)

Power take-off driven equipment shall be guarded to protect against employee contact with positively driven rotating members of the power drive system. Where power take-off driven equipment is of a design requiring removal of the tractor master shield, the equipment shall also include protection from that portion of the tractor power take-off shaft which protrudes from the tractor.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-18; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1806

Power Take-Off Guarding (Signs)

Signs shall be placed at prominent locations on power take-off driven equipment specifying that power drive system safety shields must be kept in place.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-19; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1809

Other Power Transmission Components

The mesh or nip-points of all power driven gears, belts, chains, sheaves, pulleys, sprockets, and idlers shall be guarded by protective shield, location, guardrail or fence.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-20; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1813

Other Power Transmission Components (Requirements)

All revolving shafts, including projections such as bolts, keys, or set screws, shall be guarded by protective shield, location, or guardrail or fence, with the exception of:

(1) Smooth shafts and shaft ends (without any projecting bolts, keys, or set screws), revolving at less than 10 rpm, on feed handling equipment used on the top surface of materials in bulk storage facilities; and

(2) Smooth shaft ends protruding less than 1/2 the outside diameter of the shaft and its locking means.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-21; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1816

Functional Components

Functional components, such as choppers, rotary beaters, mixing augers, feed rolls, conveying augers, grain spreaders, stirring augers, sweep augers, and feed augers, which must be exposed for proper function, shall be guarded to the fullest extent which will not substantially interfere with the normal functioning of the component.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-25; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1819

Functional Components (Requirements)

Sweep arm material gathering mechanisms used on the top surface of materials within silo structures shall be guarded. The lower or leading edge of the guard shall be located no more than 12" above the material surface and no less than 6" in front of the leading edge of the rotating member of the gathering mechanism. The guard shall be parallel to, and extend the fullest practical length of, the material gathering mechanism.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-10-26; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1823

Functional Components (Limitations)

Rule 437-081-1819 does not apply to bulk grain storage bins and similar structures where no workers are present except for installation or removal of the sweep arm material gathering mechanisms. During such work, the electrical power source shall be disconnected and lockout procedures as prescribed in Rules 437-081-1836 and 437-081-1839 shall be followed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-10-26; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1825

Functional Components (Guards)

Exposed auger flighting on portable grain augers shall be guarded in accordance with Rule 437-081-1826.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-10-30; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1826

Functional Components (Guard Requirements)

Exposed auger flighting on portable augers shall be guarded with either grating type guards or solid baffle style covers as follows:

(1) The largest dimensions or openings in grating type guards through which materials are required to flow shall be 4-3/4". The area of each opening shall be no larger than 10 square inches. The opening shall be located no closer to the rotating flighting than 2-1/2".

(2) Slotted openings in solid baffle style covers shall be no wider than 1-1/2", or closer than 3-1/2" to the exposed flighting.

(3) Openings larger than those specified in (1) and (2) above may be permitted if necessary to permit the free flow of material which has a tendency to bridge over. Such opening shall be no larger than that required for proper functioning

of the auger. In any case, the guard shall be designed, arranged or located so that no part of a worker's person or limbs may contact the auger flighting.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-30; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1829

Access to Moving Parts

Guards, shields, and access doors shall be in place when the equipment is in operation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-31; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1833

Access to Moving Parts (Guard Requirements)

Where removal of a guard or access door will expose an employee to any component which continues to rotate after the power is disengaged, the employer shall provide, in the immediate area, the following:

- (1) A readily visible or audible warning of rotation; and
- (2) A safety sign warning the employee to:
 - (a) Look and listen for evidence of rotation; and
 - (b) Not remove the guard or access door until all components have stopped.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-32; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1836

Electrical Disconnect Means

Application of electrical power from a location not under the immediate and exclusive control of the employee or employees maintaining or servicing equipment shall be prevented by:

(1) Providing an exclusive, positive locking means on the main switch which can be operated only by the employee or employees performing the maintenance and servicing; or

(2) In the case of material handling equipment located in a bulk storage structure, by physically locating on the equipment an electrical or mechanical means to disconnect the power.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-45; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1839

Electrical Disconnect Means (Circuit Protection Devices)

All circuit protection devices, including those which are an integral part of a motor, shall be of the manual reset type, except where:

(1) The employer can establish that because of the nature of the operation, distances involved and the amount of time normally spent by employees in the area of the affected equipment, use of the manual reset device would be infeasible;

(2) There is an electrical disconnect switch available to the employee within 15' of the equipment upon which maintenance or service is being performed; and

(3) A sign is prominently posted near each hazardous component which warns the employee that unless the electrical disconnect switch is utilized, the motor could automatically reset while the employee is working on the hazardous component.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1843

Additional Guarding Requirements

Carton or bag stitching machine shall be properly safeguarded to prevent persons from coming into contact with the stitching head and other pinch or nip points.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-28; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

437-081-1846

Additional Guarding Requirements (Point of Operation)

The point of operation of all machines shall be guarded. The guard shall be so designed and constructed as to prevent the operator from having any part of his body in the danger zone during the operating cycle.

NOTE: Table J-2 prescribes the distances that point-of-operation guards shall be positioned from the danger line with relation to the size of the opening. This table is not published in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-10-37; WCB 5-1977, f. 4-20-77, cert. ef. 6-15-77

Rope, Chain Rigging and Hoists

General

437-081-1849

Scope and Application

Rules 437-081-1849 through 437-081-1989 prescribe standards for the safe use of hoists, rope, chain, and fittings used in places of agricultural employment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-1

437-081-1853

Scope and Application (Rule Application)

The rules contained in OAR 437-002-0228, and 1910.179 through 1910.184 (Cranes) of Division 2/N, shall apply to all hoisting devices and equipment not specifically mentioned in this section.

NOTE: See Rules 437-081-1463 through 437-081-1703 for forklifts.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-2

437-081-1856

Definitions

The following definitions apply to Rules 437-081-1849 through 437-081-1989.

(1) Rope - Wire rope unless otherwise specified.

(2) Mousing - Using small cordage or wire to prevent unintended separation of rigging components.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-3 - 4

437-081-1859

Loading and Capacity

No rigging equipment or hoisting device shall be loaded in excess of its rated safe working load or capacity.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-5

437-081-1863

Inspection

Rigging equipment and hoisting devices shall be inspected prior to use and as necessary during its use to ensure that it is safe. Defective rigging equipment or hoisting devices shall be immediately removed from service.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-6

437-081-1866

Operators (Handling Loads)

Workers shall not ride hooks, slings, rigging, or loads. When it is necessary for a person to be suspended by hoisting gear, a safe manskip shall be provided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-7

437-081-1869

Operators - Handling Loads (Manskip Requirements)

Manskips shall meet the following minimum requirements:

- (1) The structure shall be rigid and sufficiently strong to support the loads carried with a safety factor of 4.
- (2) The manskip shall be sufficiently large to accommodate all persons without crowding, and to provide sufficient work space so workers will not hinder or obstruct each other.
- (3) Standard guardrails shall be provided around all edges of the manskip. (See Rules 437-081-0309 through 437-081-0326 for specifications for standard guardrails.)
- (4) The manskip shall be supported from all four corners in such a way as to provide full stability against tipping while occupied.
- (5) The load lifting attachment for a manskip shall be secured to the crane or derrick hook in a manner that will prevent accidental release.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-8

437-081-1873

Operators - Handling Loads (Signaling)

Only one person shall give operating signals during hoisting operations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-9

437-081-1876

Operators - Handling Loads (Work Area Requirements)

All persons shall be in the clear before a signal is given to move a load or equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-10

Tackle and Hoisting Equipment

437-081-1879

Blocks, Sheaves, Shackles and Drums

Sheave and drum diameters shall be as recommended by the wire rope manufacturer for the size rope being used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-11

437-081-1883

Blocks, Sheaves, Shackles and Drums (Securing Pins)

All pins, including bearing and yoke pins, of all blocks shall be secured against accidental displacement.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-12

437-081-1886

Blocks, Sheaves, Shackles and Drums (Block Requirements)

All blocks shall be fitted with line guards or shall be designed and used in a manner that prevents fouling.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-13

437-081-1889

Blocks, Sheaves, Shackles and Drums (Rope Guards)

Sheaves carrying ropes which can be momentarily unloaded shall be provided with close-fitting guards or other suitable devices to guide the rope back into the groove when the load is applied again.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-14

437-081-1893

Blocks, Sheaves, Shackles and Drums (Securing Pins)

Pins for all shackles used to hang blocks, jacks, or rigging, or used with hoisting chain, shall be secured by use of a bolt, nut and cotter pin (safety-type shackle) or a screw pin with cotter pin, or securely moused.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-15

437-081-1896

Blocks, Sheaves, Shackles and Drums (Shackle Strength)

Shackles used to hang blocks, jacks, or other rigging that can be subjected to a potential stress greater than that imposed by a single part of the pulling line shall have a strength equal to but not less than two times the stress imposed by the pulling line.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-16

437-081-1899

Blocks, Sheaves, Shackles and Drums (Shackle Limits)

All shackles used for joining or attaching lines shall have a strength of not less than 1-1/2 times that of the lines they join.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-17

437-081-1903

Blocks, Sheaves, Shackles and Drums (Drum Lines)

Ends of lines attached to drums shall be securely fastened by means of clamps, socketing, or other means furnishing equal strength. Not less than two wraps of lines shall be maintained on drums.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-18

437-081-1906

Blocks, Sheaves, Shackles and Drums (Guiding Lines)

A guide pulley, tool, stick or other mechanical means shall be used in guiding lines onto drums. Guiding lines onto drums with the hands in direct contact with the line is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-19

437-081-1909

Chains

Hoisting chain shall be repaired or removed from hoisting service when the increase in length (stretch) of the measured section exceeds 5%; or when a link is bent, twisted, or otherwise damaged, or when raised scarfs or defective welds appear.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-20

437-081-1913

Chains (Knots)

Knots shall not be tied in a chain.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-21

437-081-1916

Chains (Restrictions)

Lap links, cold shuts, or patent repair links shall not be used for hoist chains or slings unless such devices will develop greater strength than the chain with which they are used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-22

437-081-1919

Chains (End Fastenings)

End fastenings shall be capable of sustained loads equal to the breaking strength of the chain with which they are used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-23

437-081-1923

Hooks and Attachment Devices

Hooks, rings, shackles, and other attachment devices or end fastenings which have become distorted or deformed shall be immediately withdrawn from service.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-24

437-081-1926

Hooks and Attachment Devices (Restrictions)

Makeshift hooks, links, or fasteners such as those formed from rods, bolts, etc., or other such devices shall not be used.

Only approved factory-made attachments or fasteners shall be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-25

437-081-1929

Hooks and Attachment Devices (Safety Hooks)

When necessary to prevent lifting attachments from inadvertently lifting out of the hook, a safety-type hook or other device or means shall be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-26

437-081-1933

Wire Rope

Wire rope and replacement wire rope shall be of the same size, same or better grade, and same construction as originally furnished by the equipment manufacturer or contemplated in the design, unless otherwise recommended by the equipment or wire rope manufacturer.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-27

437-081-1936

Wire Rope (Guards)

Running wire ropes shall be guarded if within 7' of the floor or platform.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-28

437-081-1939

Wire Rope (Friction Reduction)

Care shall be taken to prevent friction of ropes with other objects which will cause chafing or breaking wires. Thimbles of proper size for the rope shall be used in all eye-splices to prevent friction and chafing of the eye.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-29

437-081-1943

Wire Rope (Maintenance)

Wire rope used as guys, for hoisting or supporting objects, in cable-operated components, and on winches or drums, shall be removed from service when any of the following conditions exist.

- (1) In standing ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.
- (2) Corroded, damaged, or improperly aligned end connections.
- (3) Evidence of any heat damage from any cause.
- (4) Wear of 1/3 the original diameter of outside individual wires. Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure.
- (5) Wear of 1/3 the original diameter of outside individual wires. Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure.
- (6) Reductions from nominal diameter exceeding that given in the **Table K-1**.

[ED NOTE: The Table referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-30

437-081-1946

Cable Clips or Clamps

When cable clips or clamps are used for form eyes, the U-bolt shall be applied so that the "U" section is in contact with the dead end of the rope.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-31

437-081-1949

Cable Clips or Clamps (U-Bolt Rope Clips)

When U-bolt rope clips are used for form eyes, the **Table K-2** shall be used to determine the number and spacing of clips.

[ED NOTE: The Table referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-32

437-081-1953

Cable Clips or Clamps (Use)

The use of cable clips or clamps may be accepted only when used in locations where they are readily accessible and subject to frequent inspection. Clips and clamps shall be of the correct size and shall be properly applied. (See Rules 437-081-1946 through 437-081-1959.)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77

437-081-1956

Cable Clips or Clamps (Restrictions)

The use of cable clips or clamps for joining lines is prohibited, except where used for transferring slack lines from one place to another.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-11-34

437-081-1959

Cable Clips or Clamps (Knots)

Knots or combination knots and cable clip or clamp attachments shall not be used as end connections for any hoisting rope or sling.

EXCEPTION: This rule does not apply to drop hammers of pile drivers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-35

437-081-1963

Fiber Rope

Fiber rope shall be inspected frequently. Rope shall not be used if it shows visual signs of excessive wear, abuse, spots indicating caustic or acid damage, or other defect that would reduce the rated strength below the safe working load.

NOTE: The following procedure is recommended for inspection of rope:

(1) Examine the entire length of the rope for cuts or severe abrasions.

(2) Look for spots indicating acid damage.

(3) If acid spots are found, throw a twist in and out of the rope where the spots are discovered; take a short kink in the rope and put on a strain. If the rope has been injured by acid, a weakness of the fibers will be noticed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-36

437-081-1966

Fiber Rope (Eye Splices)

In manila rope, eye splices shall contain at least 3 full tucks, and short splices shall contain at least 6 full tucks (3 on each side of the centerline of the splice).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-37

437-081-1969

Fiber Rope (Eye Splices In Synthetic Fiber Rope)

In layered synthetic fiber rope, eye splices shall contain at least 4 full tucks, and short splices shall contain at least 8 full tucks (Four on each side of the centerline of the splice).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-38

437-081-1973

Fiber Rope (Trimming Splices)

In fiber rope splices, strand end tails shall not be trimmed short (flush with the surface of the rope) immediately adjacent to the full tucks. This precaution applies to both eye and short splices and all types of fiber rope.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-39

437-081-1976

Fiber Rope (Eye Splice Dimensions)

For all eye splices in fiber rope, the eye shall be sufficiently large to provide an included angle of not greater than 60 degrees at the splice when the eye is placed over the load or support.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-40

437-081-1979

Fiber Rope (Knots)

Knots shall not be used in lieu of splices for joining fiber ropes.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-41

437-081-1983

Fiber Rope (Storage)

When not in use, fiber rope shall be stored under cover in a clean, dry, well-ventilated place, free from excessive heat, and protected against corrosives and acid.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-42

437-081-1986

Fiber Rope (Frozen Rope)

Fiber rope shall not be used while it is in a frozen condition. Should rope become frozen, it shall not be piled against any source of heat which will dry out the oil and destroy the life of the rope.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-43

437-081-1989

Fiber Rope (Restrictions)

New fiber rope shall not be stressed beyond 1/5 of the manufacturer's rated breaking strength.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-11-44

Explosive Actuated Tools

437-081-1993

Explosive Actuated Tools

The rules contained in OAR 437-002-0266(3), Pneumatic-Powered Tools, in OAR 437, Division 2/P, shall apply to the

storage and use of explosive actuated tools.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-12-1

Explosives and Blasting Agents

437-081-1996

Explosives and Blasting Agents

Rules contained in 1910.109, Explosives and Blasting Agents, in OAR 437, Division 2/H, shall apply to storing, handling, transporting and use of explosives and blasting agents.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-13-1

Electric Power Transmission

437-081-1999

Electric Power Transmission

Employment in connection with electric power transmission is outside the scope of agricultural employment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-14-1

Powered Saws

General

437-081-2003

Scope and Application

Rules 437-081-2003 through 437-081-2066 prescribe safety standards to provide for protection against hazards incurred with the use of band saws, radial arm saws, table saws, and circular fuel wood saws used in places of agricultural employment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-1

437-081-2006

Scope and Application (Wood Working Tools)

The rules contained in 1910.265, Sawmills, of OAR 437, Division 2/R, shall apply and be complied with in all powered wood working tools and related operations not specifically mentioned in Rules 437-081-2003 through 437-081-2066.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-2

Saws

437-081-2009

Band Saws

All band wheels shall be completely encased or guarded on both sides. Guards shall be constructed of not less than No. 14 U.S. gauge metal, nominal 2" wood material, or mesh or perforated metal of not less than U.S. gauge No. 20 with openings not greater than 3/8".

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-3

437-081-2013

Band Saws (Blade Guards)

All portions of the band saw blade shall be enclosed or guarded except the working side of the blade between the guide

and the table.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-15-4

437-081-2016

Radial Arm Saws

Radial arm saws shall be equipped with a hood that will complete enclose the upper portion of the blade down to a point that will include the end of the saw arbor.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-15-5

437-081-2019

Radial Arm Saws (Blade Restrictions)

Means shall be provided which will prevent the leading edge of the saw from passing the front edge of the table or roll case.

NOTE: This may be accomplished by: (1) A positive stop; or, (2) A deeper table whose front edge extends beyond the limit of the blade travel.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-15-6

437-081-2023

Radial Arm Saws (Requirements)

When used for ripping, radial arm saws shall be equipped with antikick-back fingers located on each side of the saw, and shall be equipped with a spreader.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-15-7

437-081-2026

Radial Arm Saws (Blade Rotation)

The direction of saw rotation shall be marked on the hood and a permanent warning sign, prohibiting ripping or ploughing from that position attached to the rear of the guard. Ripping and ploughing shall be permitted only against the direction in which the saw turns.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-8

437-081-2029

Radial Arm Saws (Saw Return)

Radial arm saws shall be equipped with a means to return the saw and keep it in position at the back of the table.

NOTE: This may be accomplished by a counterweight, a saw retractor device, or tilting the arm sufficiently to maintain the saw at the back when released by the operator or some other equally effective means.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-9

437-081-2033

Table Saws

Each circular crosscut table saw shall be guarded by a standard type hood which shall cover the saw at all times at least to the depth of the teeth. The hood shall adjust itself automatically to the thickness of, and shall remain in contact with, the material being cut, except that when finished surfaces of stock may be marred by the guard, it may be raised slightly to avoid contact. The hood shall be so designed as to protect the operator from flying splinters and broken saw teeth.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-10

437-081-2036

Table Saws (Guards)

Rip table saws, and combination rip and crosscut table saws shall be fully guarded as required in Rule 437-081-2033. In addition they shall be equipped with a spreader and anti-kick-back fingers. While used in performing rabbeting, ploughing, grooving or dado operations they may be used without a spreader but upon completion of such operations, the spreader shall be replaced immediately.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-11

437-081-2039

Table Saws (Blade Guards)

The part of the table saw which is located beneath the table shall be fully guarded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-12

437-081-2043

Table Saws (Push Sticks)

Push sticks shall be provided and must be used for pushing short stock and ends through table saws not equipped with a self-feeding device.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-13

437-081-2046

Wobble Saws

The dangerous practice of inserting wedges between a saw disk and its collar to form a "wobble saw" for rabbeting is prohibited.

NOTE: This rule is not applicable to properly designed adjustable rabbeting blades.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-15-14

437-081-2049

Circular Fuel Wood Saws

Fuel wood saws shall be guarded by a standard guard that will completely enclose the blade to the depth of the teeth, except for that portion where material is fed into the blade.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-15

437-081-2053

Circular Fuel Wood Saws (Table Construction)

The table of fuel wood saws shall be designed and constructed so that material being sawn is supported on both sides of the blade.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-16

437-081-2056

Circular Fuel Wood Saws (Blade Restrictions)

The table on fuel wood saws shall be sufficiently deep to prevent the leading edge of the saw from passing the front edge of the table.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-17

437-081-2059

Circular Fuel Wood Saws (Backrests)

Tilting tables of fuel wood saws shall be provided with a backrest for the full length of the table. The backrest shall extend upward from the table platform at least to the height of the saw opening. The backrest shall be filled, with no

opening greater than 2" . The backrest frame and filler shall be constructed of material of sufficient strength and rigidity to prevent distortion under normal use conditions.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-18

437-081-2063

Circular Fuel Wood Saws (Guards)

Shafting, flywheels, pulleys on fuel wood saws shall be guarded as required in Rules 437-081-1706 through 437-081-1846.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-19

437-081-2066

Cracks in Blades

A circular saw which has developed a crack equal to the length indicated in the following table shall be discontinued from use until properly repaired.

[ED NOTE: The Table referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-15-20

Logging

437-081-2069

Logging

The rules contained in OAR 437, Division 6, Forest Activities, shall apply to all logging and land clearing activities.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-16-1

Gas and Electric Welding

General

437-081-2073

Scope and Application

Rules 437-081-2073 through 437-081-2443 prescribe safety standards for repair welding and simple fabrication welding operations and associated equipment in places of agricultural employment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-1

437-081-2076

Scope and Application (Rules Jurisdiction)

The rules contained in OAR 437, Division 2/Q, Welding, Cutting and Brazing, shall apply to all welding operations in places of agricultural employment where any of the following conditions exist:

- (1) Production-type welding activities.
- (2) Custom welding.
- (3) Welding performed in tanks, vats, or other confined spaces.
- (4) Toxic or dangerous coatings or fluxes are used.
- (5) Welding or heating galvanized materials, fluxes and coatings containing beryllium, cadmium, lead, manganese, mercury, or zinc.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-2

437-081-2079

Definitions

The following definitions apply to Rules 437-081-2073 through 437-081-2443.

(1) **Welding** - As used in Rules 437-081-2073 through 437-081-2443, includes welding, brazing, soldering, heating, burning, and cutting metals using electric or gas welding and cutting equipment.

(2) **Welder and welding operator** - Any operator of electric or gas welding and cutting equipment.

(3) **Approved** - Listed or approved by nationally recognized testing laboratory, such as Factory Mutual Engineering Division, Factory Insurance Association, or Underwriters' Laboratories, Inc.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-3 - 5

437-081-2089

Planning and Job Layout

Before commencing a welding job, the welder shall survey the job and surroundings to determine the safeguards and personal protective equipment that must be used. No welding shall be done until all precautionary measures necessary to prevent injury to the worker and to other workers have been taken.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-6

437-081-2093

Planning and Job Layout (Fire Safe Areas)

Cutting or welding shall be permitted only in fire safe areas. This shall be accomplished in one of the following ways:

(1) Move the work to a fire safe area.

(2) Remove flammables to establish a fire safe area around the work.

(3) Where (1) or (2) cannot be accomplished, use fire proof guards or wetdown, or use other effective means to prevent heat, sparks, or slag from igniting flammable material.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-17-7

437-081-2096

Planning and Job Layout (Fire Extinguishers)

When welding operations are conducted in an area where there are combustible materials of any kind, suitable fire extinguishing equipment shall be maintained ready for use.

NOTE: Such equipment may consist of pails of water, sand, portable extinguishers, hose, or sprinkler systems, depending upon the nature of the combustible material.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-8

437-081-2099

Planning and Job Layout (Instruction)

Workers shall be instructed on procedures to be followed in case of fire.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-9

437-081-2103

Planning and Job Layout (Welding Restrictions)

Welding operations shall not be permitted in rooms containing flammable vapors.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-10

437-081-2106

Planning and Job Layout (Securing Welding Equipment)

Before operations are started, portable welding equipment shall be secured to prevent accidental movement.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-11

437-081-2109

Planning and Job Layout (Hot Metal Warnings)

Where employees are exposed to contact with hot metal after operations are completed, the operator shall mark the hot metal or provide other effective warning.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-12

Health Protection

437-081-2113

Ventilation

Local exhaust systems or general ventilating systems shall be provided to keep the amount of toxic fumes, gases, or dusts below the permissible exposure limit (PEL), as specified in 1910.94, Ventilation, in OAR 437, Division 2/G; and OAR 437-002-0382, Oregon Rules for Air Contaminants, in Division 2/Z.

NOTES:

-1-Experience has shown that there is no health hazard, under ordinary conditions, when welding clean carbon steel with bare or coated carbon steel welding rods, in large or well-ventilated areas.

-2-See Rules 437-081-2179 through 437-081-2196 for procedures when welding on equipment which has been contaminated with toxic material.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-13

437-081-2116

Precautionary Labels

Users shall require the suppliers of welding materials to explain the hazard, if any, associated with the use of their materials in welding, cutting, etc., and to provide appropriate warning labels. Employers shall ensure that employees are

cognizant of such hazards before using the materials.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-14

437-081-2119

Precautionary Labels (Requirements)

Warning labels shall conform to the requirements of 1910. 1200, Hazard Communication, in OAR 437, Division 2/Z.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-15

437-081-2123

Cleaning Solvents - Degreasers

NOTE: See 1910.94, Ventilation, in Division 2/G; and OAR 437-002-0382, Oregon Rules for Air Contaminants, in Division 2/Z.

In the use of cleaning materials, because of their possible toxicity or flammability, manufacturer's instructions shall be followed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-16

437-081-2126

Cleaning Solvents - Degreasers (Vapors)

Degreasing or other cleaning operations involving chlorinated hydrocarbons shall be so located that no vapors from these operations will reach or be drawn into the atmosphere surrounding any welding operation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-17

437-081-2129

Cleaning Solvents - Degreasers (Welding Restrictions)

Welding in the vicinity of a degreaser is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-18

437-081-2133

Cleaning Solvents - Degreasers (Toxic Gas Warning)

A warning of the danger of trichloroethylene or perchloroethylene decomposition shall be given.

NOTE: These dangerous vapors break down into highly toxic phosgene gas when drawn through a welding arc or flame.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-19

437-081-2136

Eye Protection

Helmets or hand shields shall be used during arc welding or arc cutting operations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-20

437-081-2139

Eye Protection (Arc Protection)

Helmets and hand shields shall be arranged to protect the face, neck, and ears from direct radiant energy from the arc.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-21

437-081-2143

Eye Protection (Protective Materials)

Helmets, hand shields, and goggles shall be made of material which is an insulator for heat and electricity, is not readily flammable, and is capable of withstanding sterilization.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-22

437-081-2146

Eye Protection (Tempered Glass)

All glass lenses and cover plates shall be tempered.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-23

437-081-2149

Eye Protection (Welder's Helmets)

Where the "liftfront" welders helmet is used, there shall be a stationary safety glass on the inside of the frame next to the eyes, to protect the welder against flying particles when the front is lifted. Where lens containers will not permit use of such safety glass, safety goggles shall be worn.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-24

437-081-2153

Eye Protection (Welder's Spectacles)

Spectacles with side shields and with suitable lenses, or cup type of cover type goggles with suitable filters, shall be used for gas welding, cutting, and brazing operations, and for inspection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-25

437-081-2156

Eye Protection (Adjacent Workers)

Workers adjacent to the welding areas shall be protected from the rays by flameproof screens, or goggles of sufficient color density to prevent harmful exposure.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-26

Protective Clothing

NOTES: The following practices are recommended for protection against burns while welding:

- 1- Except when engaged in light work, all welders should wear flameproof gauntlet gloves.
- 2- Flameproof aprons made of leather, asbestos or other suitable material may also be desirable as protection against radiated heat and sparks.
- 3- Woolen clothing is preferable to cotton because it is not so readily ignited and helps protect the operator from changes in temperature.
- 4- Cotton clothing, if used, should be chemically treated to reduce its flammability. Such clothing should be retreated after laundering or cleaning.
- 5- Sparks may lodge in rolled-up sleeves or pockets of clothing, or cuffs of overalls or trousers. It is therefore recommended that sleeves and collars be kept buttoned and pockets be eliminated from the front of overalls and aprons.

437-081-2159

Protective Clothing (Trousers)

Trousers or overalls shall not be turned up on the outside.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-27

437-081-2163

Protective Clothing (Accumulated Substances)

All outer clothing such as jumpers or overalls shall be free from accumulations of oil or grease.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-28

437-081-2166

Protective Clothing (Restrictions)

Easily ignited, highly flammable clothing, such as is made from some synthetic materials, shall not be worn.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-29

437-081-2169

Protective Clothing (Capes)

Capes or shoulder covers made of leather or other suitable materials shall be worn during overhead welding or cutting operations.

NOTE: Leather skull caps may be worn under helmets as additional protection against head burns.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-30

437-081-2173

Protective Clothing (Ear Protection)

For overhead welding and cutting, protection is required to prevent hot sparks and slag from entering the worker's ears.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-31

437-081-2176

Containers

No torch or arc shall be applied to any container until the vessel has been freed of all flammable material or gases.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-32

437-081-2179

Containers (Contaminated Vessels)

To free a vessel from contaminants, the following steps shall be followed:

- (1) Vessels shall first be drained of all liquids. Those which do not drain freely shall be flushed of flammable material by the use of water.
- (2) Flammable vapors shall be removed by ventilation which shall continue until all liquids have been evaporated and the atmosphere within the vessel has been found to be gas-free by the use of an approved vapor indicator.
- (3) Scale and residue on the inside of the vessel, which may contain flammable residue or vapors, shall be removed.
- (4) Ventilation shall be continued during the time that hot work is in progress, and frequent tests shall be made to determine that the atmosphere within the vessel remains free of flammable vapors.

EXCEPTION: Small punctured drums, or containers of not more than 60 gallons capacity, may be freed of volatile fumes by draining and flushing and by injecting live steam into the container for not less than 3 hours. When steam (or other methods equally effective) is not available, such drums may be freed of gas by first draining, then refilling to the point of welding and allowing the water to remain in the drum during the welding process. This method may be used only when the puncture is at the uppermost part of the drum (in whatever position it may be laid) and when the water is brought to the point of welding, and further provided that the container is vented and does not contain any interior baffles or seams that might create small gas pockets. This system is uncertain, under some conditions, and the steam process is preferable where it is possible. The use of carbon dioxide is also effective. Carbon tetrachloride will produce toxic gas. Its use is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-33

437-081-2183

Equipment and Vessels Used with Toxic Substance

The following procedures shall be followed when applying any flame or arc to equipment or containers which have been used with toxic material, such as pesticides or toxic agricultural chemicals:

- (1) The equipment or containers shall first be freed from contaminants, following the steps prescribed in Rule 437-081-2179; and

(2) Effective local ventilation which will capture and remove all fumes and vapors shall be used, or

(a) If indoors, employees shall use an approved air line respirator;

(b) If in the open air, employees shall wear an appropriate approved respirator. (See Rule 437-081-2166)

NOTES:

-1-See 1910.94, Ventilation, in Division 2/G; 1910.134, Respiratory Protection, in Division 2/I; and OAR 437-002-0382, Oregon Rules for Air Contaminants, in Division 2/Z.

-2-Cadmium is commonly used as an anti-corrosive coating on metals. Employee exposure to Cadmium is regulated by OAR 437-081-3000, 1928.1027, Cadmium, in this division.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-34

437-081-2186

Preservative Coatings

Before welding, cutting, or heating is commenced on any surface covered by a preservative coating whose flammability is not known, a test shall be made to determine its flammability.

NOTE: Preservative coatings shall be considered to be highly flammable when scrapings burn with extreme rapidity.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-35

437-081-2189

Preservative Coatings (Flammable Coatings)

When coatings are determined to be highly flammable, they shall be stripped from the area to be heated to prevent ignition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-36

437-081-2193

Toxic Preservative Coatings

The preservative coatings shall be removed a sufficient distance (at least 4") from the area to be heated to ensure that the temperature of the unstripped metal will not be appreciably raised (artificial cooling of the metal surrounding the heating may be used to limit the size of the area required to be cleaned); or, the procedures prescribed in Rule 437-081-2179(2) shall be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-37

437-081-2196

Toxic Preservative Coatings (Respirators)

In the open air, employees shall be protected by a respirator against hazard from breathing toxic vapors in accordance with 1910.134, Respiratory Protection, in Division 2/I, Personal Protective Equipment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-38

Arc Welding

437-081-2199

Equipment

All arc welding equipment shall be installed, maintained, and operated in strict accordance with the manufacturer's specifications and instructions.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-39

437-081-2203

Equipment (Grounding)

The frame or case of the welding machine (except engine-driven machines) shall be grounded.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-40

437-081-2206

Protection From Electrical Shock

NOTE: It should never be assumed that because contact with the electrode at one time is not harmful, similar contacts at other times will be harmful.

Terminals for welding leads on machines capable of exceeding 50 volts shall be protected from accidental contact by persons or metal objects.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-41

437-081-2209

Protection From Electrical Shock (Restrictions)

Work lead cable and electrode lead cables with damaged insulation or exposed conductors shall not be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-42

437-081-2213

Protection From Electrical Shock (Insulation)

The jaws and handles of electrode holders shall be insulated so as to prevent contact with current-carrying parts.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-43

437-081-2216

Protection From Electrical Shock (Protective Coverings)

Welders shall wear dry protective coverings on hands, arms, and body which will insulate from both the work and the metal electrode and holder.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-44

437-081-2219

Protection From Electrical Shock (Welding Cable Placement)

Welding cables shall not be placed in proximity to power supply cables or high tension wires.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-45

437-081-2223

Protection From Electrical Shock (Welding Cable Layout)

Welding cables shall be spread out before use to avoid overheating and damage to insulation.

NOTE: Loose loops are permissible. Coils are to be avoided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-46

437-081-2226

Protection From Electrical Shock (Electrode Cable)

The electrode cable shall not be coiled or looped above a person's body.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-47

437-081-2229

Machine Hook-Up

Before starting operations all connections to the machine shall be checked to make certain they are properly made.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-48

437-081-2233

Machine Hook-Up (Lead Attachment)

The work lead shall be firmly attached or connected to the work.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-49

437-081-2236

Machine Hook-Up (Clamps)

Work lead clamps shall be free from spatter on contacts.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-50

437-081-2239

Machine Hook-Up (Power)

Power shall be removed from welding machines while they are idle for extended periods of time, or not in use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-51

Oxygen - Fuel Gas

437-081-2243

General (Mixtures)

Mixtures of fuel gases and air or oxygen shall not be allowed to accumulate.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-52

437-081-2246

General (Restrictions)

Attachment permitting mixture of air or oxygen with combustible gases prior to consumption, except at the burner or in a standard torch or blowpipe, shall not be allowed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-53

437-081-2249

General (Approved Equipment)

Only approved apparatus such as torches, regulators or pressure-reducing valves, and hoses shall be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-54

Storage, Handling and Use of Cylinders

437-081-2253

Storage, Handling, Use of Cylinders

Inside of buildings cylinders shall be stored in a well-protected, well-ventilated, dry location, at least 20' from highly combustible materials such as oil or excelsior. Cylinders shall be stored in assigned places away from elevators, stairs, or gangways. (See Rules 437-081-2333 through 437-081-2353 for additional specific requirements for fuel-gas cylinders; See Rules 437-081-2356 through 437-081-2370 for additional specific requirements for oxygen cylinders.)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-55

437-081-2256

Storage, Handling, Use of Cylinders (Heat Sources)

Cylinders shall be kept away from sources of heat.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-56

437-081-2259

Storage, Handling, Use of Cylinders (Storage)

Cylinders shall be stored in assigned storage spaces, located where they will not be knocked over or damaged by passing or falling objects, or subject to tampering by unauthorized persons.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-57

437-081-2263

Storage, Handling, Use of Cylinders (Fire Protection)

Cylinders shall be kept far enough from the welding or cutting operation so that sparks, hot slag, or flame will not reach them, or they shall be protected by fire-resistant shields.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-17-58

437-081-2266

Storage, Handling, Use of Cylinders (Restrictions)

Any practice such as the tapping of an electrode against a cylinder to strike an arc is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-59

437-081-2269

Storage, Handling, Use of Cylinders (Handling)

Cylinders shall be handled carefully. Rough handling, knocks and falls are prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-60

437-081-2273

Storage, Handling, Use of Cylinders (Use As Rollers)

Cylinders shall never be used as rollers or supports, whether full or empty.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-61

437-081-2276

Storage, Handling, Use of Cylinders (Transporting)

Cylinders shall not be moved by dragging or sliding. They may be moved by tilting and rolling them on their bottom edge.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-62

437-081-2279

Storage, Handling, Use of Cylinders (Secured)

Cylinders shall be securely lashed in place when necessary to prevent them from falling.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-63

437-081-2283

Storage, Handling, Use of Cylinders (Use)

A suitable cylinder truck, chain, or steadying device shall be used to keep cylinders from being knocked over while in use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-64

437-081-2286

Storage, Handling, Use of Cylinders (Set Up)

When setting up cylinders for use, the acetylene valve outlet shall be pointed away from the oxygen cylinders.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-65

437-081-2289

Storage, Handling, Use of Cylinders (Opening Valves)

A hammer or wrench shall not be used to open cylinder valves. If valves cannot be opened by hand, the supplier shall be notified.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-66

437-081-2293

Storage, Handling, Use of Cylinders (Without Hand Wheels)

Cylinders without hand wheels shall have keys, handles, or nonadjustable wrenches on valve stems while these cylinders are in service.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-67

437-081-2296

Storage, Handling, Use of Cylinders (Valve Repair)

Cylinders or valves shall not be tampered with nor shall any attempt be made to repair them.

- (1) If trouble is experienced the supplier shall be notified.
- (2) Supplier's instructions shall be followed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-68

437-081-2299

Storage, Handling, Use of Cylinders (Cracking)

Before connecting the regulator to the cylinder valve, the valve shall be opened 1/4 turn and closed immediately (this action is termed "cracking"). This action is intended to clear the valve of dirt that otherwise might enter the regulator.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-69

437-081-2303

Storage, Handling, Use of Cylinders (Cracking Restrictions)

Never crack a fuel-gas cylinder valve near other welding work or near sparks, flame, or other possible sources of ignition.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-70

437-081-2305

Storage, Handling, Use of Cylinders (Valve Opening Location)

Always stand to one side of the outlet when opening the valve.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-71

437-081-2309

Storage, Handling, Use of Cylinders (Valve Opening Speed)

Cylinder valves shall always be opened slowly.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-72

437-081-2313

Storage, Handling, Use of Cylinders (In Use)

Nothing shall be placed on top of a cylinder when in use which may damage the safety device or interfere with the quick closing of the valve.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-73

437-081-2316

Storage, Handling, Use of Cylinders (Valve Closing)

Cylinder valves shall be closed when work is finished.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-74

437-081-2319

Storage, Handling, Use of Cylinders (Empty Valves)

Valves of empty cylinders shall be closed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-75

437-081-2323

Valve Protection Caps

Unless cylinders are secured on a special truck, regulators shall be removed and valve-protection caps shall be put in place before cylinders are moved.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-76

437-081-2326

Valve Protection Caps (Lifting)

Valve protection caps shall not be used for lifting cylinders from one vertical position to another.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-17-77

437-081-2329

Valve Protection Caps (Storage)

Valve protection caps shall always be in place, hand-tight, except when cylinders are connected for use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-78

Fuel Gas

437-081-2333

Fuel Gas (Storage)

Acetylene cylinders shall be stored valve end up.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-79

437-081-2336

Fuel Gas (Placement)

Fuel gas cylinders shall be placed with valve end up whenever they are in use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-80

437-081-2339

Fuel Gas (Valve End Up)

Liquified gas cylinders shall be stored and shipped with the valve end up.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-81

437-081-2343

Fuel Gas (Pressure Restrictions)

Under no condition shall acetylene be used at a pressure in excess of 15 psi gauge pressure.

NOTE: This requirement does not apply to storage of acetylene dissolved in a solvent in cylinders manufactured and maintained according to U.S. Department of Transportation requirements.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-82

437-081-2346

Fuel Gas (Use in Cylinders)

Fuel-gas shall never be used from cylinders through torches or other devices equipped with shut-off valves without reducing the pressure through a regulator attached to the cylinder valve or manifold.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-83

437-081-2349

Fuel Gas (Use Restrictions)

An acetylene cylinder valve shall not be opened more than 1-1/2 turns of the spindle, and preferably no more than 3/4 of a turn.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-84

437-081-2353

Fuel Gas (Acetylene Gas Restrictions)

Under no circumstances shall acetylene gas be brought in contact with unalloyed copper except in a blowpipe or torch.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-85

437-081-2356

Oxygen

Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials a minimum of 20' or by a noncombustible barrier at least 5' high having a fire-resistance rating of at least 1/2 hour.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-86

437-081-2359

Oxygen (Use)

Oxygen is prohibited for use in pneumatic tools, in oil preheating burners, to start internal-combustion engines, to blow out pipe lines, to "dust" clothing or work, to create pressure, or for ventilation.

NOTE: Oxygen will not burn, but supports and accelerates combustion and will cause oil and similar materials to burn with great intensity.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-87

437-081-2363

Oxygen (Contact With Oil or Grease)

As oxygen under high pressure may react violently with oil or grease, every precaution shall be taken to prevent oxygen from coming in contact with oil or grease.

(1) Oxygen cylinders, and all oxygen apparatus shall be kept free from oily or greasy substances.

(2) Oxygen cylinders and apparatus shall not be handled with oily hands, gloves, or greasy materials.

(3) A jet of oxygen must never permitted to strike an oily surface, greasy clothes, or enter a fuel-oil or other storage tank.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-88

437-081-2366

Oxygen (Oxygen Regulators)

Unless connected to a manifold, oxygen from a cylinder shall not be used without first attaching any oxygen regulator to the cylinder valve.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-89

437-081-2369

Oxygen (Oxygen Regulator Use)

When a regulator is attached, open an oxygen cylinder valve slightly at first so that the regulator cylinder pressure gauge hand moves up slowly - then open the valve all the way.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-90

437-081-2370

Oxygen (Valves)

When the oxygen cylinder is in use, the valve should be opened fully in order to prevent leakage around the valve stem.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-91

437-081-2373

Regulators

Pressure-reducing regulators shall be kept in good repair. Cracked, broken, or otherwise defective parts (including gauge glasses) shall be replaced.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-92

437-081-2376

Regulators (Inspection)

Union nuts and connections on regulators shall be inspected before use to detect faulty seats which may cause leakage of gas when the regulators are attached to the cylinder valves. Damaged nuts or connections shall be destroyed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-93

437-081-2379

Regulators (Tightening Connections)

Excessive force shall not be used in tightening the connections.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-94

437-081-2383

Regulators (Attached to Cylinders)

Pressure-adjusting screws on regulators shall always be fully released before the regulator is attached to a cylinder and the cylinder valve opened.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-17-95

437-081-2386

Regulators (Removing from a Cylinder Valve)

Before a regulator is removed from a cylinder valve, the cylinder valve shall be closed and the gas released from the regulator.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-96

437-081-2389

Hoses

Oxygen and fuel-gas hose shall be of dissimilar colors.

NOTE: Red is the accepted color for acetylene and other fuel-gas hose, green for oxygen hose, and black for air or inert gas hose.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-97

437-081-2393

Hoses (Taping)

When parallel lengths of oxygen and acetylene hose are taped together, not more than 4" out of 12" shall be covered by tape.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-98

437-081-2396

Hoses (Protection)

Hose shall be protected from damage, and from flying sparks, hot slag, and hot objects.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-99

437-081-2399

Hoses (Repairing)

Hose showing leaks, burns, worn places, evidence of damage from flashback, or other defects rendering it unsafe for service shall be repaired or replaced.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-100

437-081-2403

Hoses (Restricted Repairs)

Damaged hose shall not be repaired with tape.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-101

437-081-2406

Hoses (Testing)

Oil-free air or an oil-free inert gas shall be used for testing hose.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-102

437-081-2409

Hoses (Connections)

Connections for oxygen hose shall be of sufficiently different dimension or pattern from that for fuel-gas to prevent intermixing in making connections; or, hose connections shall be marked for identification to avoid interchange of acetylene and oxygen hose.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-103

437-081-2413

Hoses (Purging)

After connecting welding or cutting apparatus to oxygen and fuel-gas cylinders, or when starting to reuse the apparatus after an interval of 1/2 hour or more, each gas shall be allowed to flow through its respective hose separately for a few seconds to purge the hose of any mixture of gases.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-104

437-081-2416

Blowpipes or Torches

Approved back-flow or flash-back preventers shall be installed between the blow pipe or torch and the hoses.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-105

437-081-2419

Blowpipes or Torches (Connections)

Connect the acetylene hose from the acetylene regulator to the hose connection on the torch marked "Acetylene".

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-106

437-081-2423

Blowpipes or Torches (Oxygen Regulator)

Connect the oxygen hose from the oxygen regulator to the hose connection on the torch marked "Oxygen".

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-107

437-081-2426

Blowpipes or Torches (Welding Head)

Select the proper welding head or mixer, tip or cutting nozzle (according to the chart or table furnished by the torch manufacturer) and screw carefully and tightly into the torch.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-108

437-081-2429

Blowpipes or Torches (Sequence of Operations)

Operators shall follow the procedure outlined by the manufacturer of the apparatus as they deal with the sequence of operations in lighting, adjusting, and extinguishing blow pipe flames and connecting the apparatus to the sources of gas supply.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-17-109

437-081-2433

Blowpipes or Torches (Lighting)

To light the torch do not use matches; hand burns may result. Use friction lighters, stationary pilot flames or some other suitable source of ignition. Outlet of torch tip shall be pointed so that burns will not result when gas ignites.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-110

437-081-2436

Blowpipes or Torches (Setting Down Torch)

Operators shall never put down a torch unless the oxygen and acetylene have been completely shut off at the torch.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-111

437-081-2439

Blowpipes or Torches (Restricted Shut-off)

Gases shall not be shut off by crimping the hose.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-112

437-081-2443

Blowpipes or Torches (Extended Shut Down)

When the welding or cutting is stopped for an extended period (during lunch or overnight) proceed as follows:

- (1) Close oxygen and fuel gas cylinder or manifold valves.
- (2) Open torch valves momentarily to release all gas pressure from hose.
- (3) Close torch valves.
- (4) Release regulator pressure adjusting screws.

NOTE: When the welding or cutting is to be stopped for a few minutes, it is permissible to close the torch valves only.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-17-113

Demolition of Buildings

437-081-2446

Definitions

The following definition applies to Rule 437-081-2449. Demolition work - The dismantling of any building or fixed structure.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-18-1

437-081-2449

Definitions (Rule Jurisdiction)

The rules contained in 1926.850 through 1926.860 in OAR 437, Division 003, Construction, are applicable to all demolition of buildings and structures.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-18-2

Ladders and Scaffolds

General

437-081-2453

Scope and Application

Rules 437-081-2453 through 437-081-2709 prescribe requirement for construction, care, and use of portable and fixed ladders constructed of wood or metal, commonly used in places of agricultural employment. These ladders include single ladders, sectional ladders, extension ladders, step ladders, orchard ladders, and fixed ladders.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-1

437-081-2456

Scope and Application (Ladders)

Specialty types of ladders, ladders not specifically mentioned in this code, and the use of such ladders shall meet the requirements prescribed in 1910.24 through 1910.27 in Division 2/O, Walking-Working Surfaces.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-2

437-081-2459

Definitions

The following definitions apply to Rules 437-081-2453 through 437-081-2709.

- (1) Ladder - An appliance usually consisting of two side rails joined at regular intervals by crosspieces called steps, rungs, or cleats, on which a person may step while ascending or descending.
- (2) Step Ladder - A self-supporting portable ladder, nonadjustable in length, having flat steps and a hinged back. Its size is designated by the overall length of the ladder measured along the front edge of the side rails.
- (3) Orchard Ladder - A self-supporting portable ladder of the tripod type, nonadjustable in length, consisting of two front side rails having flat steps and a hinged single leg back section.
- (4) Single Ladder - A non-supporting portable ladder, nonadjustable in length, consisting of but one section. Its size is designated by the overall length of the side rail.
- (5) Extension Ladder - A non-self-supporting portable ladder adjustable in length. It consists of two or more sections traveling in guides or brackets so arranged as to permit length adjustment. Its size is designated by the sum of the lengths of the sections measured along the side rails.
- (6) Sectional Ladder - A non-self-supporting portable ladder, nonadjustable in length, consisting of two or more sections so constructed that the sections may be combined to function as a single ladder. Its size is designated by the overall length of the assembled sections.
- (7) Fixed Ladder - A ladder permanently attached to a structure, building, or equipment.
- (8) Individual-rung Ladder - A fixed ladder each rung of which is individually attached to a structure, building, or equipment.
- (9) Rail Ladder - A fixed ladder consisting of side rails joined at regular intervals by rungs or cleats and fastened in full length or in sections to a building, structure or equipment.
- (10) Pitch - The included angle between the horizontal and the ladder, measured on the opposite side of the ladder from the climbing side.
- (11) Fastenings - A device to attach a ladder to a structure, building, or equipment.

(12) Rungs - Ladder crosspieces of circular or oval cross-section on which a person may step in ascending or descending.

(13) Cleats - Ladder crosspieces of rectangular cross-section placed on edge on which a person may step in ascending or descending.

(14) Steps - The flat crosspieces of a ladder on which a person may step in ascending or descending.

(15) Cage - A guard that may be referred to as a cage or basket guard; it is an enclosure that is fastened to the structure and encircles the climbing space of the ladder for the safety of the person who must climb the ladder.

(16) Well - A permanent complete enclosure around a fixed ladder, which is attached to the walls of the well. Proper clearances for a well will give the person who must climb the ladder the same protection as a cage.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-3 - 18

437-081-2463

When Ladders Required

Except when stairways, ramps or runways are provided, ladders shall be provided to give access to all floors or platforms where work is being performed more than 4' above the ground.)

NOTE: See Rule 437-081-0153.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-19

437-081-2466

Use of Ladders

Ladders with parts which are defective or which are not sound, and ladders with improvised repairs shall not be used.

NOTE: Some examples of conditions which constitute unsoundness or defectiveness are:

- (1) Broken, cracked, or split side rails;
- (2) Broken, cracked, split, or missing steps, rungs, or cleats;
- (3) Deteriorated wood or metal parts;
- (4) Loose connections, fastenings, or hardware;
- (5) Excessive play or binding of moveable parts;

(6) Loose, broken or missing bracing; and

(7) Instability or lack of rigidity.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-20

437-081-2469

Use of Ladders (Restrictions)

Ladders shall not be used as guys, braces, gin poles, skids, scaffolds, or for other than their intended purpose. It may be permissible to place planks between two ladders to provide a low work platform, provided that:

- (1) Ladders are self-supporting and securely placed upon a solid footing.
- (2) The height of planks above ground does not exceed 3-1/2'.
- (3) Planks are at least nominal 2 x 8" lumber, and the total width of the planking is at least 22".
- (4) Planking is tight and secured from spreading.
- (5) Planking is fully contained between ladder side rails, and the ends extend at least 12" beyond the ladder steps.
- (6) The span does not exceed:
 - (a) 6' with a p.s.f. loading of 50; or
 - (b) 8' with a p.s.f. loading of 25.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-21

437-081-2473

Use of Ladders (Use Restrictions)

Single short ladders shall not be spliced together to provide long sections.

NOTE: This rule does not apply to ladders which are designed to be joined together such as "sectional ladders".

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-22

437-081-2476

Erection, Setting Up, and Placement of Ladders

Non self-supporting ladders shall be erected and used at a pitch of 75-1/2 degrees for maximum balance and strength (see **Figure S-1**).

NOTE: A simple rule for setting up a ladder at the proper pitch is to place the base a distance from the vertical plane of the top support equal to 1/4 of the working length of the ladder between the foot and the top support.

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-23

437-081-2479

Erection, Setting Up, and Placement of Ladders (Footings)

Ladders shall be set up and placed so that they are stable.

- (1) Ladder feet shall be placed on solid and secure footing.
- (2) Ladders shall not be placed on boxes, barrels, drums, or other unstable bases to obtain additional height, or for any other reason.
- (3) Ladders shall be set and used so as to prevent tipping sideways.
- (4) Top rest shall be stable and have ample strength to safely support the applied load.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-24

437-081-2483

Erection, Setting Up, and Placement of Ladders (Securing)

Ladders shall be secured as necessary to prevent them from being displaced. When used on surfaces where ladders may be subject to slipping, one or more of the following means shall be employed:

- (1) Feet of ladders shall be equipped with non-slipping bases; or,
- (2) Feet of ladders shall be equipped with steel points or safety shoe designed for the type of surface on which used; or

(3) Feet of ladders shall be nailed to the floor, or set against secured blocks or chocks.

NOTE: Non-slip bases are not intended as a substitute for care in safely placing, lashing, or holding a ladder that is being used upon oily, metal, concrete, or slippery surfaces.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-25

437-081-2486

Erection, Setting Up, and Placement of Ladders (Use)

When subjected to prolonged use at one station, the ladder top shall be nailed or lashed in place.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-26

437-081-2489

Erection, Setting Up, and Placement of Ladders (Access)

The area around the bottom of the ladder shall be kept clear, and the ladder shall be placed so that ample clear head room is provided and the climbing area is not obstructed in such a way that will cause the climber to lean away from the ladder or bend around the obstacle.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-27

437-081-2493

Erection, Setting Up, and Placement of Ladders (Rails)

The top of portable ladders shall extend not less than 36" above the landing (See Fig. S-1). When this is not practical, grab rails which provide a secure grip for an employee moving to or from the point of access shall be installed.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-28

437-081-2496

Erection, Setting Up, and Placement of Ladders (Placement)

Ladders shall not be placed in passageways, doorways, driveways, or any other location where they may be exposed to being bumped or displaced, unless protected by barricades, guards, or other effective means of protection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-29

437-081-2499

Erection, Setting Up, and Placement of Ladders (Metal Parts)

Metal ladders, or wood ladders with vertical metal parts or reinforcements, shall not be used for electrical work or placed where they may contact electrical conductors; all such ladders shall be legible and permanently marked with a sign reading "WARNING - do not use around energized electrical equipment" or words of equivalent meaning.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-30

437-081-2503

Erection, Setting Up, and Placement of Ladders (Reinforced)

Portable rung ladders with reinforced rails shall be used only with the metal reinforcement on the under side.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-31

437-081-2506

Erecting and Adjusting Extension Ladders

Extension ladders shall always be erected so that the upper section is resting on the lower section.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-32

437-081-2509

Erecting and Adjusting Extension Ladders (Raising)

Extension ladders not equipped with shackle, pulley, and rope shall be extended and locked before raising.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-33

437-081-2513

Erecting and Adjusting Extension Ladders (Adjusting)

Extension ladders which are equipped with shackle, pulley and rope for adjusting the ladder shall be extended or adjusted from the base of the ladder.

- (1) The pulley shall be at least 1-1/4" in diameter.
- (2) The rope shall be at least 5/16" in diameter, shall have a breaking strength of at least 560 lbs., and shall be sufficiently long to permit adjustment from the base.
- (3) The rope and pulley shall be securely attached to the ladder in a manner that will not weaken the side rails or rungs.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-34

437-081-2516

Erecting and Adjusting Extension Ladders (During Use)

Extension or adjustment of any extension ladder shall not be made:

- (1) While the user is standing on the ladder, or
- (2) From the top of the ladder or from any level above the locking device.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-35

437-081-2519

Climbing

Ladders shall not be used to support more than one person at a time, unless specially designed with larger dimensions of the parts so as to provide the strength and clearance necessary to safely accommodate the additional loading.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-36

437-081-2523

Climbing (Restrictions)

The bracing on the back legs of step ladders shall not be used for climbing.

NOTE: Such bracing is designed and intended solely for increasing stability.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-37

437-081-2526

Climbing (Balance)

Persons on ladders shall not bend their body away from the ladder or reach out in such a way as to throw the ladder out of balance.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-38

437-081-2529

Climbing (Ladder Tops)

Tops of ordinary types of stepladders or orchard ladders shall not be used as steps.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-39

437-081-2533

Climbing (Mounting)

Workers shall "face" a ladder when ascending or descending.

NOTE: Exceptions to this rule may be permitted when picking fruit from orchard ladders. See Rule 437-081-2623.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-40

437-081-2536

Climbing (Use of Hands)

Workers shall always have the free use of both hands in going up and down a ladder.

NOTE: Exceptions to this rule may be permitted when using orchard ladders. See Rule 437-081-2623.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-41

437-081-2539

Care and Maintenance of Ladders

Ladders shall be maintained in good condition at all times.

- (1) The joint between steps, cleats or rungs and side rails shall be tight;
- (2) All hardware and fittings shall be securely attached;
- (3) All moveable parts shall operate freely without binding, and without undue play.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-42

437-081-2543

Care and Maintenance of Ladders (Lubrication)

Metal bearings of locks, wheels, pulleys, etc., shall be frequently lubricated.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-43

437-081-2546

Care and Maintenance of Ladders (Worn Rope)

Frayed or badly worn rope shall be replaced.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-44

437-081-2549

Care and Maintenance of Ladders (Minimize Hazards)

Rungs, cleats and steps shall be free of splinters, sharp edges, burrs or projections which create a hazard.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-45

437-081-2553

Care and Maintenance of Ladders (Slippage Hazards)

Rungs, cleats, and steps shall be kept clean and free of oily, greasy, or slippery substances.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-46

437-081-2556

Care and Maintenance of Ladders (Safety Feet)

Safety feet and other auxiliary equipment shall be kept in good condition to insure proper performance.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-47

437-081-2559

Care and Maintenance of Ladders (Transporting)

Ladders carried on vehicles shall be adequately supported to avoid sagging, and securely fastened in position to minimize chafing and the effects of road shock.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-48

437-081-2563

Care and Maintenance of Ladders (Storage)

Ladder storage facilities shall provide protection from the weather and other elements which may cause deterioration or damage. Racks, if used, shall be designed to prevent ladders from sagging and the possibility of developing a permanent set.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-49

437-081-2566

Care and Maintenance of Ladders (Protective Coatings)

Ladders shall be kept coated with a suitable protective material.

NOTE: The painting of ladders is satisfactory, providing the ladders are carefully inspected and found free of any defect prior to painting, and providing the ladders are not for resale.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-50

437-081-2569

Care and Maintenance of Ladders (Identifying)

Each ladder shall be serially numbered or otherwise identified where more than two ladders of any one type are used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-51

Design and Construction of Ladders

437-081-2573

General Requirements

All ladders shall be constructed, erected and maintained in a safe condition to give proper support to persons employed. Metal ladders shall be of strength equivalent to that of wood ladders.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-52

437-081-2576

General Requirements (Construction)

Manufactured portable metal ladders shall be in accordance with the provisions of ANSI, A14.2-1956, "Safety Code for Portable Metal Ladders". Manufactured portable wood ladders shall be in accordance with the provisions of ANSI, A14.1-1968, "Safety Code for Portable Wood Ladders."

NOTE: The above ANSI standards are on file in the offices of the Oregon Occupational Safety and Health Division, and may viewed in the Technical Resources Library, 350 Winter Street NE, Salem, Oregon 97310. They may also be purchased from the American National Standards Institute, 11 W. 42nd St, NY, NY 10036; telephone (212) 642-4900.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-53

437-081-2579

General Requirements (Spacing)

A uniform step, rung, or cleat spacing of not to exceed 12" shall be used in all ladders.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-54

437-081-2583

General Requirements (Quality)

All steps, rungs and cleats shall be parallel and level.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-55

437-081-2586

General Requirements (Slip Resistant)

Metal steps and rungs shall be made slip-resistant. This may be accomplished by one of the following, or other equally effective methods:

- (1) Knurling, ridging, grooving, or inverted dimpling.
- (2) Application of a non-slip material, or treating with a non-slip finish.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-56

437-081-2589

General Requirements (Securing Wood Cleats)

Wood cleats shall be securely attached to each side rail by not less than three 10d nails or equivalent.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-57

437-081-2593

General Requirements (Attaching Wood Cleats)

Wood cleats shall be attached to the side rails in one of the following manners:

- (1) Wood cleats shall be housed into the side rails not less than 1/2".
- (2) Wood strips the same thickness as the cleats may be secured to the side rails between each cleat.
- (3) A binder strip of wood, wire, metal or equivalent may be fastened over the cleats to the side rails in a manner to prevent the cleats from pulling loose.
- (4) The cleats may be secured by through bolts.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-58

437-081-2596

General Requirements (Portable Ladders)

Portable step ladders over 20' in length shall not be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-59

437-081-2599

General Requirements (Metal Parts)

Metal parts shall be malleable or wrought iron, steel or equivalent construction, securely attached by means of rivets,

bolts or screws.

NOTE: Spreaders, locking devices, steel points or safety shoes are not required on orchard ladders.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-60

437-081-2603

General Requirements (Insulation)

The bottom of the feet on the four rails of step ladders shall be equipped with insulating non-slip material for the safety of the user.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-61

437-081-2606

Orchard Ladders

Orchard ladders longer than 16' shall not be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-62

437-081-2609

Orchard Ladder (Dimensions)

The minimum dimensions of the parts of orchard ladders shall not be less than the following when made of group 2 or group 3 woods. (See **Table S-2** for wood groups.)

NOTE: The minimum thickness of side rails provides for the cutting of a groove 1/8" in depth with a tolerance of +1/32". The thickness of the side rail shall be increased when grooves of greater depth are used.

[ED NOTE: The Table referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-63

437-081-2613

Orchard Ladders (Construction)

Steps shall be closely fitted into grooves in the side rails 1/8" in depth and secured with at least two 6d nails or equivalent; or they shall be closely fitted into metal brackets of equivalent strength, which in turn shall be firmly secured to the side rails.

(1) Each step shall be reinforced by:

(a) A steel rod not less than 0.160" in diameter, which shall pass through metal washers of sufficient size to prevent pressing into the side rails, and through a truss block which shall be fitted between the rod and the center of each step;
or

(b) A metal angle brace on each end firmly secured to the steps and side rails; or

(c) Construction of equivalent strength and safety.

(2) Where the rod reinforcement construction is used, the bottom step shall be provided further with a metal angle brace on each end which shall be securely attached to the bottom step and side rails.

(3) All steps 27" or more in length shall be provided with a metal angle brace at each end securely attached to the step and rail.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-64

437-081-2616

Orchard Ladders (Width and Spread)

Width and Spread. The minimum width between side rails at the top step, inside to inside, shall not be less than 9-1/2". From top to bottom the side rails shall spread at least an average of 2-1/2" for each foot of ladder length.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-19-65

437-081-2619

Orchard Ladders (Top)

Top. All orchard ladders shall have a top with wood or metal brackets or fittings tightly secured to the top, side rails and back leg, to allow free swinging of the back leg without excessive play or wear at the joints.

NOTE: The top is not intended for and shall not be used as a step.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-66

437-081-2623

Orchard Ladders (Use)

Workers shall face ladders and have the free use of both hands when ascending or descending, except that fruit pickers on orchard ladders may deviate from this requirement when necessary if such deviation shall result in an equivalent degree of safety to the worker.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-67

437-081-2626

Single Ladders

Single ladders shall not exceed 30' in length between supports (base and top landing).

NOTE: If a ladder is to connect different landings, or if the length required exceeds this maximum length, two or more separate ladders shall be used, offset with a platform between each ladder. Guardrails and toeboards shall be erected on the exposed sides of the platform.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-68

437-081-2629

Single Ladders (Restrictions)

The width of single cleat ladders shall be at least 15", but not more than 20", between rails at the top.

NOTE: This does not apply to manufactured topping ladders, which are designed for orchard use, with top rails converging so as to rest in the crotch of tree limbs.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-69

437-081-2633

Single Ladders (Side Rails)

Side rails shall be parallel or flared top to bottom by not more than 1/4" for each 2' of length.

NOTE: This does not apply to manufactured "topping ladders" (See note under Rule 437-081-2629 above).

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-70

437-081-2636

Single Ladders (Section Restrictions)

The length of single ladders and individual sections of ladders shall not exceed 30'. Non-extension sectional ladders with two or more sections shall not exceed 60' in total length.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-71

437-081-2639

Single Ladders (Size Restrictions)

Extension ladders shall not exceed 48' in maximum extended length.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-72

437-081-2643

Single Ladders (Wood Side Rails)

Wood side rails of ladders having cleats shall be not less than 1-1/2" thick and 3-1/2" deep (2" by 4" nominal) when made of group 2 and group 3 woods (see **Table S-2**). Wood side rails of group 4 woods may be used in the same cross-section of dimensions for cleat ladders up to 20' in length.

NOTE: It is preferable that side rails be continuous. If splicing is necessary to attain the required length the splice must develop the full strength of a continuous side rail of the same length.

[ED NOTE: The Table referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-73

437-081-2646

Single Ladders (Wood Cleats)

Wood cleats shall have the following minimum dimensions when made of Group 1 wood (see **Table S-2** for wood groups).

[ED NOTE: The Table referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-74

437-081-2649

Single Ladders (Wood Rungs)

Wood rungs shall have a minimum diameter of 1-1/8" and a tenon diameter of 7/8" , and tenon length of 13/16" , for rungs up to 28" in length.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-75

437-081-2653

Single Ladders (Cleat Materials)

Cleats may be made of species of any other group of wood provided equal or greater strength is maintained (see **Table**

S-2).

[ED NOTE: The Table referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-76

Fixed Ladders: Design, Construction and Installation

437-081-2656

General

The minimum clear length of rungs, cleats or steps shall be 16".

EXCEPTION: Minimum clear length of rungs is 12" on fixed ladders in underground manholes.

NOTE: See **Figures S-3** and **S-4**.

[ED NOTE: The Figures referenced in this rule are not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-77

437-081-2659

General (Rung Design)

Individual rungs shall be so designed that the foot cannot slide off the end. (See **Figure S-3**.)

[ED NOTE: The Figures referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-78

437-081-2663

General (Rung Spacing)

A uniform rung spacing of not to exceed 12" shall be maintained; rungs shall be parallel and level (see **Figures S-3 and S-4**).

[ED NOTE: The Figures referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-79

437-081-2666

General (Rung Requirements)

One rung of any section of ladder shall be located at the level of the landing laterally served by the ladder. Where access to the landing is through the ladder, the same rung spacing as used on the ladder shall be used from the landing platform to the first rung below the landing.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-80

437-081-2669

General (Rung Width)

A clear width of at least 15" shall be provided each way from the center line of fixed ladders except when cages are provided (see **Figures S-4 and S-6**).

NOTE: See Rule 437-081-2699 for clearances inside ladder cages.

[ED NOTE: The Figures referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-81

437-081-2673

General (Obstructions)

The distance from the center line of rungs, cleats or steps to the nearest permanent object in the back of the ladder shall be not less than 7", except that when unavoidable obstructions are encountered.

- (1) The rung of the ladder below the obstruction shall not be less than 4-1/2" lower than the obstruction; and
- (2) The next higher rung shall be not less than 1-1/2" above the obstruction. (See **Figure S-5**.)

NOTE: The required 12" rung spacing shall be maintained.

[ED NOTE: The Figures referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-82

437-081-2676

General (Fixed Ladders)

Fixed ladders shall not be attached nor placed in a position in which they incline away from the vertical toward the person climbing.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-83

437-081-2679

General (Securing)

Ladders shall be firmly secured to the structure at points not in excess of 10' apart for ladders constructed of wood, nor 15' apart for ladders constructed of steel.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-84

437-081-2683

General (Side Rails)

The side rails of fixed ladders shall extend at least 3-1/2' above the roof or landing platform, and the upper end shall be goosenecked, or other convenient and secure handholds shall be provided at such places. For step-through access, the

rungs shall be omitted from this extension and side rail extension shall be at least 18" and not more than 24" wide.

NOTE: A ladder secured on and continuing up the slope of the roof, with its base adjacent to the top of the vertical fixed ladder, may be used to provide "convenient and secure handholds" only when the eaves of the roof are less than 20' above the ground or the landing platform.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-85

437-081-2686

General (Landing Requirements)

Ladders shall extend down to the floor or an adequate landing place. No jump off ladders shall be permitted at any work place.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-86

437-081-2689

Requirements for Cages and Landing Platforms

A cage guard or well shall be provided on fixed ladders have a slope of more than 80 degrees from the horizontal where the ladder is used to ascend to a height exceeding 20' above the ground or a landing platform.

NOTE: Approved ladder safety devices may be used on tower, water tank, silo, and grain bin ladders over 20' in unbroken length in lieu of cage protection and landing platforms.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-87

437-081-2693

Requirements for Cages and Landing Platforms (Placement)

Landing platforms shall be provided for each 30' of height or fraction thereof. Where no cage, well, or ladder safety device is provided, landing platforms shall be provided for each 20' of height or fraction thereof.

- (1) Each landing shall be offset from adjacent sections.
- (2) Landing platforms shall be provided for each ladder section offset.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-88

437-081-2696

Requirements for Cages and Landing Platforms (Dimensions)

Landing platforms shall be not less than 24" in width and 30" in length, and shall be equipped with standard guardrails.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-89

437-081-2699

Requirements for Cages and Landing Platforms (Guards)

Cage guards shall:

- (1) Extend not less than 24" nor more than 28" back from the center line of the ladder rungs.
- (2) Provide a clear width of at least 13-1/2" each way from the center line of the ladder rungs.
- (3) Be clear of projections on the inside.

NOTE: See **Figure S-7** for ladder cages.

[ED NOTE: The Figures referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-90

437-081-2703

Requirements for Cages and Landing Platforms (Attachment)

Cage guards shall be securely fastened to the ladder at intervals not to exceed 8' and shall be substantially built.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-91

437-081-2706

Requirements for Cages and Landing Platforms (Extensions)

Cage shall extend a minimum of 42" above the top of landing, unless other acceptable protection is provided.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-92

437-081-2709

Scaffolds

Whenever scaffolds are used by employees, the standards contained in 1910.25 through 1910.27 (for ladders) and 1910.28 (for scaffolds), in Division 2/O, shall apply.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-19-93

Abrasive Wheels

General

437-081-2713

Scope and Application

Rules 437-081-2713 through 437-081-2766 prescribe safety standards to provide for protection against those hazards commonly associated with the use of abrasive wheels and grinders in any place of agricultural employment. Those hazards are injury from:

- (1) Particles of metal and abrasive material in the eyes.
- (2) Personal contact with moving abrasive wheel surfaces.
- (3) Thrown pieces of work.

(4) Personal contact with belt drives or revolving shaft spindles.

(5) Abrasive wheel parts thrown from an exploding or disintegrating wheel.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-1

437-081-2716

Scope and Application (Rule Jurisdiction)

The standards in Rules 437-081-2713 through 437-081-2766 apply to all grinders, grinding machines, and abrasive wheels used in any place of agricultural employment, except:

(1) Portable, hand-held power-driven grinders. Standards pertinent to these machines are contained in Rules 437-081-0873 through 437-081-1016 of this division.

(2) Natural sandstone wheels.

(3) Metal, wooden, cloth or paper wheels or discs having a layer or layers of abrasive on the surface.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-2

437-081-2719

Definitions

The following definitions apply to Rules 437-081-2713 through 437-081-2766.

(1) Abrasive Wheel - A cutting tool consisting of abrasive grains held together by organic or inorganic bonds. Diamond and reinforced wheels are included.

(2) Off-hand Grinding - The grinding of any material or part which is held in the operator's hand.

(3) Portable Grinding - A grinding operation where the grinding machine is hand held and may be easily moved from one location to another.

(4) Safety Guard - An enclosure for an abrasive wheel consisting of a peripheral and two side members. Its purpose and design is to effectively retain the pieces of the wheel should the wheel break in operation.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;

Renumbered from 33-20-3 - 6

Use, Mounting and Guarding

437-081-2723

Use

Non-portable type grinding machines shall be securely mounted on substantial floors, benches, foundations, or other adequate structures.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-7

437-081-2726

Use (Balanced)

Abrasive wheels shall be maintained so as to be true and balanced. The use of grinders or abrasive wheels which vibrate or are out of balance shall be discontinued until the cause of the vibration or unbalanced condition is rectified.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-8

437-081-2729

Use (Restrictions)

Wheels which are out of round or out of balance shall not be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-9

437-081-2733

Use (Work Rests)

Off-hand grinding machines shall be equipped with work rests to support work. Work rests shall:

- (1) Be of rigid construction and designed to be adjustable to compensate for wheel wear.
- (2) Be kept adjusted to within 1/8" of the wheel to prevent work from being jammed between the wheel and the rest.
- (3) Be securely clamped after each adjustment.
- (4) Not be adjusted with the wheel in motion.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-20-10

437-081-2736

Use (Side Grinding)

Side grinding shall only be performed with wheels designed for this purpose.

NOTE: Dressing on the side of straight wheels may be permitted only when very delicate pressure is applied.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-20-11

437-081-2739

Mounting

Grinding wheels shall fit freely but not loosely on the spindle, sleeves or adapters, and remain free under all grinding conditions.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-20-12

437-081-2743

Mounting (Flange Requirements)

An abrasive wheel which is designed to be held by flanges shall not be operated unless it is properly mounted between suitable flanges. Except for those types requiring flanges of a special design, flanges shall be at least 1/3 the diameter of the wheel.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-13

437-081-2746

Mounting (Flange Pressure)

Facings of compressible material shall be interposed between the abrasive wheel and its flanges to insure uniform distribution of flange pressure.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-14

437-081-2749

Mounting (Inspection)

After mounting an abrasive wheel it shall be run at operating speed with safety guard in place or in a protected enclosure for at least one minute before applying work, during which time no one shall stand in front of or in line with the wheel.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-15

437-081-2753

Mounting (Wheel Restrictions)

Wheels larger than those for which the machine or the guard is designed, shall not be mounted on a grinder.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-16

437-081-2756

Mounting (Safety Guards)

After mounting a wheel, care shall be taken to properly position the safety guard before starting the wheel.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-17

437-081-2759

Safety Guards

Abrasive wheels larger than 2" in diameter shall be used only on machines provided with safety guards, except for those specially-shaped abrasive wheels mounted in a mandrel-type bench or floor stands and used for and commonly known as "sickle grinding stones or wheels". Guards for abrasive wheels used where the work itself provides full protection may be removed or omitted only while the wheel is contained within the area of protection.

NOTE: Abrasive wheel safety guards shall meet the design specifications of the ANSI Code for the Use, Care, and Protection of Abrasive Wheels (ANSI B7.1970). Interested persons may obtain information on how to obtain a copy of this standard from Technical Resources Library, Oregon Occupational Safety and Health Division, 350 Winter Street NE, Salem, Oregon 97310.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-18

437-081-2763

Safety Guards (Requirements)

Guards for abrasive wheels shall cover the spindle end, nut, and outer flange projection of the wheel. The guard shall cover the sides and periphery of the wheel except for that degree of exposure as permitted below:

(1) Bench and floor stands;

(a) The maximum permissible angle of exposure is 90 degrees. This exposure shall begin at a point not more than 65 degrees above the horizontal plane of the wheel spindle. (See Diagram).

(b) Wherever the nature of the work requires contact with the wheel below the horizontal plane of the spindle, the exposure shall not exceed 125 degrees. This exposure shall begin at a point not more than 65 degrees above the horizontal plane of the wheel spindle. (See Diagram).

(2) Swing frame grinders: The maximum permissible angle of exposure is 180 degrees, and the top half of the wheel shall be enclosed at all times. (See Diagram).

(3) Top grinding: Where the work is applied to the top of the wheel the exposure of the grinding wheel periphery shall not exceed 60 degrees. (See Diagram).

(4) Portable grinders: The requirements for guarding portable grinders are prescribed in Rule 437-081-0949.

[ED NOTE: The Diagrams referenced in this rule are not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-19

437-081-2766

Safety Guards (Wheel Wear Adjustment)

Where the operator may stand in front of the opening, safety guards shall be constructed so that the peripheral protecting member can be adjusted to compensate for wheel wear. The distance between the wheel periphery and the adjustable tongue or the guard above the wheel shall not exceed 1/4". (See Diagram).

[ED NOTE: The Diagram referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-20-20

Communication Work

437-081-2769

Communications Work

Employment in connection with communications work is outside the scope of agricultural employment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-21-1

Occupational Health and First Aid

437-081-2773

Occupational Health and First Aid

The Occupational health rules which are part of OAR 437, Division 2, General Occupational Safety and Health Rules, shall apply to and shall be complied with so far as applicable in all places of agricultural employment in the State of Oregon. A copy of the current Division 2 may be obtained from: Oregon OSHA, Department of Consumer and Business Services, 350 Winter Street NE, Salem, OR 97310, (Telephone (503) 378-3272)

NOTE: Additional occupational health regulations relating to radiation adopted by the Oregon Health Division apply to and shall be complied with so far as applicable in all places of agricultural employment in the State of Oregon. A copy of the Radiation Regulations may be obtained by writing to: Radiation Control Section, State Health Division, Department of Human Resources, State Office Building, Suite 705, 800 NE Oregon St, Portland, Oregon 97232, (Telephone (503) 731-4014)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-22-1

Pile Driving

437-081-2776

Pile Driving

The rules contained in OAR 437, Division 003, Construction, of the Oregon Occupational Safety and Health Code shall apply to all pile driving work.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-23-1

Commercial Diving

437-081-2783

Commercial Diving

The rules contained in OAR 437, Division 2/T, Commercial Diving, shall apply to all commercial diving work.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-25-1

Motor Vehicle Transportation of Workers

437-081-2786

Motor Vehicle Transportation of Workers

The rules contained in OAR 437-002-0223, Oregon Rules for Commercial and Industrial Vehicles, in Division 2/N, shall apply to all practices and equipment peculiar to and inherent in the transportation of workers by motor vehicle in all places of agricultural employment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-26-1

Compressed Gas Cylinders and Tanks

437-081-2789

Purpose

Rules 437-081-2789 through 437-081-2799 prescribe safety standards for compressed gas cylinders and tanks used in places of agricultural employment.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-27-1

437-081-2793

Definitions

The following definitions apply to Rules 437-081-2789 through 437-081-2799.

- (1) Container - A cylinder or tank containing compressed gas.
- (2) Dents - Deformation in the wall of the container caused by the cylinder coming into contact with a blunt object in such a way that the thickness of the metal is not materially impaired.
- (3) Cuts, gouges, or digs - Deformations in the wall of the container caused by contact with a sharp object in such a way as to cut or upset the metal of the cylinder, decreasing the wall thickness at that point.
- (4) Corrosion or pitting - Corrosion or pitting in a cylinder involving the loss of wall thickness by corrosive media.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-27-2 - 5

437-081-2796

Inspection of Compressed Gas Cylinders and Tanks

Each employer shall determine that the compressed gas cylinders and tanks under his control are in a safe condition to the extent that this can be determined by visual inspection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-27-6

437-081-2799

Inspection of Compressed Gas Cylinders and Tanks (Damage)

Should a compressed gas cylinder or tank exhibit any of the following conditions, or any other condition occur which may impair the safety of the container, it shall be withdrawn from service. It shall not be returned to service until it has been completely and thoroughly inspected according to OAR 437, Division 2/M, Compressed Gas and Compressed Air Equipment, by a person specially qualified to do so, and found to be in a safe condition.

- (1) Corrosion or pitting which reduces the wall thickness.
- (2) Cuts, gouges, or digs.
- (3) Dents, bulges, or other distortion or unsymmetrical condition or appearance.
- (4) Distortion, looseness, or failure of welds in the cylinder rings.
- (5) Evidence of having been burned or exposed to fire, or arc or torch burns.
- (6) Damage to cylinder neck threads or inability to obtain a gas-tight seal by reasonable methods.

NOTE: A proper and complete inspection of compressed gas cylinders and tanks is an undertaking that requires special qualifications, experience, tools, and facilities normally beyond the scope of agricultural employment. However, the conditions listed in (1) through (6) above, are readily apparent to the user. Such conditions require the withdrawal of the container from service until a comprehensive inspection by a person qualified to do so determines that the cylinder or tank is safe to use.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77;
Renumbered from 33-27-7

Excavation

437-081-2803

Definitions

The following definition applies to Rule 437-081-2806.

(1) Excavation - A cavity or hole in the earth made by removing the soil, rock, or other material beyond a depth of 4'.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-28-1

437-081-2806

Definitions (Rule Jurisdiction)

The rules contained in 1926.650 through 1926.652, and OAR 437-003-0096, of Division 003, Construction, shall apply and be complied with in all work in or involving excavations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB 1-1975, f. 1-24-75, cert. ef. 3-31-75; WCB (Safety) 3-1976, f. 3-1-76, cert. ef. 3-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-28-2

Roll-over Protective Structures (ROPS) for Tractors Used in Agricultural Operations

437-081-2809

Definitions

The following definitions apply to Rules 437-081-2809 through 437-081-2943.

(1) Agricultural tractor - A two or four-wheel drive type vehicle, or track vehicle, of more than 20 engine horsepower, designed to furnish the power to pull, carry, propel, or drive implements that are designed for agriculture. All self-propelled implements are excluded.

(2) Low profile tractor - A wheeled tractor possessing the following characteristics:

(a) The front wheel spacing is equal to the rear wheel spacing, as measured from the centerline of each right wheel to the centerline of the corresponding left wheel;

(b) The clearance from the bottom of the tractor chassis to the ground does not exceed 18";

(c) The highest point of the hood does not exceed 60"; and

(d) The tractor is designed so that the operator straddles the transmission when seated.

(3) Tractor weight - Includes the protective frame or enclosure, all fuels, and other components required for normal use of the tractor. Ballast shall be added as necessary to achieve a minimum total weight of 110 lbs. (50.0 kilograms) per maximum power take-off horsepower at the rated engine speed or the maximum gross vehicle weight specified by the manufacturer, whichever is the greatest. Front end weight shall be at least 25% of the tractor test weight. In case power take-off horsepower is not available, 95% of net engine flywheel horsepower shall be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-0

437-081-2813

General Requirements

Agricultural tractors manufactured after October 25, 1976, shall meet the following requirements:

(1) Roll-over protective structure. A roll-over protective structure (ROPS) shall be provided by the employer for each tractor operated by an employee;

(2) Except as provided in Rule 437-081-2829, ROPS used on wheel type tractors shall meet the test and performance requirements of Rules 437-081-2843 through 437-081-2943, and ROPS used on tract type tractors shall meet the test and performance requirement of Rules 1926.1001(a) through 1926.1001(g) in Division 003, Construction.

NOTE: OAR 437-081-2816 has been changed to replace the incorrect 437-081-2816 that was previously printed in this codebook.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-1

437-081-2816

General Requirements (Seatbelts)

Seatbelts. Where ROPS are required by Rules 437-081-2809 through 437-081-2943 the employer shall:

(1) Provide each tractor with a seatbelt which meets the requirement of this rule;

(2) Ensure that each employee uses such seatbelt while the tractor is moving; and

(3) Ensure that each employee tightens the seatbelt sufficiently to confine the employee to the protective area provided by the ROPS.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-2

437-081-2819

General Requirements (Seatbelt Strength)

Each seatbelt shall meet the requirements set forth in Society of Automotive Engineers Standard SAEJ4C, 1965 Motor Vehicle Seat Belt Assemblies, except as noted hereafter:

- (1) Where a suspended seat is used, the seatbelt shall be fastened to the movable portion of the seat to accommodate a ride motion of the operator;
- (2) The seatbelt anchorage shall be capable of withstanding a static tensile load of 1,000 lbs. (453.6 kilograms) at 45 degrees to the horizontal equally divided between the anchorages. The seat mounting shall be capable of withstanding this load plus a load equal to four times the weight of all applicable seat components applied at 45 degrees to the horizontal in a forward and upward direction. In addition, the seat mounting shall be capable of withstanding a 500 lb. (226.8 kilograms) belt load plus two times the weight of all applicable seat components both applied at 45 degrees to the horizontal in an upward and rearward direction. Floor and seat deformation is acceptable provided there is not structure failure or release of the seat adjusted mechanism or other locking device;
- (3) The seatbelt webbing material shall have a resistance to acids, alkalis, mildew, aging, moisture, and sunlight equal to or better than that of untreated polyester fiber.

NOTE: Copies may be obtained from the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096-0001; telephone (412) 776-4841.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-3

437-081-2823

General Requirements (Protection from Spillage)

Batteries, fuel tanks, oil reservoirs, and cooling systems shall be constructed and located or sealed to assure that spillage will not occur which may come in contact with the operator in the event of an upset.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-4

437-081-2826

General Requirements (Protection from Sharp Surfaces)

All sharp edges and corners at the operator's station shall be designed to minimize operator injury in the event of an upset.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-5

437-081-2829

General Requirements (Exempted Uses)

Rules 437-081-2813 and 437-081-2819 do not apply to the following uses:

- (1) "Low profile" tractors while they are used in orchards, vineyards or hop yards where the vertical clearance requirements would substantially interfere with normal operations, and while their use is incidental to the work performed therein;
- (2) "Low profile" tractors while used inside a farm building or greenhouse in which the vertical clearance is insufficient to allow a ROPS equipped tractor to operate, and while their use is incidental to the work performed therein;
- (3) Tractors while used with mounted equipment which is incompatible with ROPS (e.g. cornpickers, cotton strippers, vegetable pickers and fruit harvesters);
- (4) Track-type agricultural tractors whose overall width (as measured between the outside edges of the tracks) is at least three times the height of their rated center of gravity, and whose rated maximum speed in either forward or reverse is not greater than 7 mph, when used only for tillage or harvesting operations and while their use is incidental thereto, and which:
 - (a) Do not involve operating on slopes in excess of 40% from horizontal, and
 - (b) Do not involve operating on piled crop products or residue, as for example, silage in stacks or pits, and
 - (c) Do not involve operating in close proximity to irrigation ditches, or other excavations more than 2' deep which contain slopes more than 40% from the horizontal; and
 - (d) Do not involve construction-type operations, such as bulldozing, grading or land clearing.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-6; WCD 2-1981, f. 4-20-81, cert. ef. 6-1-81

437-081-2833

General Requirements (Remounting)

Where ROPS are removed for any reason, they shall be remounted so as to meet the requirements of Rules 437-081-2813 through 437-081-2839.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-7

437-081-2836

General Requirements (Labeling)

Each ROPS shall have a label permanently affixed to the structure, which states:

- (1) Manufacturer's or fabricator's name and address;
- (2) ROPS model number, if any;
- (3) Tractor makes, models, or series numbers that the structure is designed to fit; and
- (4) That the ROPS model was tested in accordance with the requirements of Rules 437-081-2809 through 437-081-2943.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-8

437-081-2839

Employee Operating Instructions

Every employee who operates an agricultural tractor shall be informed of the operating practices listed below and of any other practices dictated by the work environment. Such information shall be provided at the time of initial assignment and at least annually thereafter.

- (1) Securely fasten your seat belt if the tractor has a ROPS.
- (2) Where possible, avoid operating the tractor near ditches, embankments, and holes.
- (3) Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
- (4) Stay off slopes too steep for safe operation.
- (5) Watch where you are going, especially at row ends, on roads, and around trees.
- (6) Do not permit others to ride.
- (7) Operate the tractor smoothly - no jerky turns, starts, or stops.
- (8) Hitch only to the drawbar and hitch points recommended by the tractor manufacturers.
- (9) When tractor is stopped, set brakes securely and use park lock if available.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-9

437-081-2843

Test Procedures and Performance Requirements

Purpose. The purpose of Rules 437-081-2843 through 437-081-2859 is to establish the test and performance requirements for a ROPS designed for wheel-type agricultural tractors to minimize the frequency and severity of operator injury resulting from accident upsets. General requirement for the protection of operators are specified in Rules 437-081-2809 through 437-081-2839.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-20

437-081-2846

Test Procedures and Performance Requirements (Types of Tests)

All protective frames for wheel type agricultural tractors shall be of a model which has been tested as follows:

(1) Laboratory test. A laboratory energy absorption test, either static or dynamic, under repeatable and controlled loading, to permit analysis of the ROPS for compliance with the performance requirements of these rules;

(2) Field upset test. A field upset test under controlled conditions both to the side and rear, to verify effectiveness of the protective system under actual dynamic conditions. Such test may be omitted where:

(a) The analysis of the ROPS static energy absorption test results indicates that both FER_{is} and FER_{ir} (as defined in Rule 437-081-2893(4)) exceed 1.15; or

(b) The analysis of the ROPS dynamic energy absorption test results indicates that the frame can withstand an impact of 15% greater than the impact it is required to withstand for the tractor weight as shown in **Figure C-7**.

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-20

437-081-2849

Test Procedures and Performance Requirements (Description - Protective Frame)

A protective frame is a ROPS comprised of uprights mounted to the tractor, extending above the operator's seat. A typical 2-post frame is shown in **Figure C-1**. (**Figures C-1 through C-16**).

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-22

437-081-2853

Test Procedures and Performance Requirements (Overhead Weather Shield)

If an overhead weather shield is available for attachment to the protective frame, it may be in place during tests provided it does not contribute to the strength of the protective frame.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-23

437-081-2856

Test Procedures and Performance Requirements (Overhead Falling Object Protection)

If an overhead falling object protection device is available for attachment to the protective frame, it may be in place during tests provided it does not contribute to the strength of the protective frame.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-24

437-081-2859

Test Procedures and Performance Requirements (Description - Protective Enclosure)

A protective enclosure is a ROPS comprising a frame or enclosure mounted to the tractor. A typical enclosure is shown in **Figure C-12**.

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-25

437-081-2863

General Test Procedures

The tractor weight used shall be that of the heaviest tractor model on which the ROPS is to be used.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-30

437-081-2866

General Test Procedures (New ROPS)

Each test required under Rules 437-081-2863 through 437-081-2889 shall be performed on a new ROPS. Mounting connections of the same design shall be used during each such test.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-31

437-081-2869

General Test Procedures (Deflection)

Instantaneous deflection shall be measured and recorded for each segment of the test. See Rule 437-081-2923 for permissible deflection.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-32

437-081-2873

General Test Procedures (Seat Reference Point)

Seat reference point (SRP) is that point where the vertical line that is tangent to the most forward point at the longitudinal seat centerline of the seat back, and the horizontal line that is tangent to the highest point of the seat cushion intersect in the longitudinal seat section. The seat reference point shall be determined with the seat unloaded and adjusted to the highest and most rearward position provided for seated operation of the tractor (see **Figure C-3** for the SRP of a protective frame; **Figure C-14** for the SRP of a protective enclosure).

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-33

437-081-2876

General Test Procedures (Frame Loading Tests)

Where the centerline of the seat is off the longitudinal center, the frame loading shall be on the side with the least space between the centerline of seat and the ROPS.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-34

437-081-2879

General Test Procedures (Low Temperatures Tests)

Low temperature characteristics of the ROPS or its material shall be demonstrated as specified in Rule 437-081-2926.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-35

437-081-2883

General Test Procedures (Rear Input Tests)

Rear input energy tests (static, dynamic, or field upset) need not be performed on frames mounted to tractors having 4 driven wheels and more than their unballasted weight on the front wheels.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-36

437-081-2886

General Test Procedures (Accuracy Table)

Accuracy table:

[ED NOTE: The Table referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-37

437-081-2889

General Test Procedures (Movable or Removable Portions)

Where movable or normally removable portions of the enclosure add to structural strength, they shall be placed in configurations that contribute least to the structural strength during the test.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-38

437-081-2893

Static Test Procedure

The following static test conditions shall be met:

- (1) The laboratory mounting base shall be the tractor chassis for which the ROPS is designed, or its equivalent;
- (2) The ROPS shall be instrumented with the necessary equipment to obtain the required load deflection data at the locations and directions specified in **Figures C-2** and **C-3** for a protective frame and **Figures C-13** and **C-14** for a protective enclosure;
- (3) If the protective frame is of a one or two upright design, mounting connections shall be instrumented with the necessary equipment to record the required force to be used in Rule 437-081-2903. Instrumentation shall be placed on mounting connections before installation of load is applied;
- (4) The following definitions shall apply:
 - (a) W = Tractor weight (see Rule 437-081-2809) in lb. (W' in kg.)
 - (b) E_{is} = Energy input to be absorbed during side loading in ft-lb (E'_{is} in m-kg.).
 - (c) $E_{is} = 723 + 0.4 W$ ($E'_{is} = 100 + 0.12 W'$).
 - (d) E_{ir} = Energy input to be absorbed during rear loading in ft-lb (E'_{ir} in m-kg.).
 - (e) $E_{ir} = 0.47 W$ ($E'_{ir} = 0.14 W'$).
 - (f) L = Static load, lbf [pounds force], (N) [newtons].
 - (g) D = Deflection under L , in. (mm.).
 - (h) L - D = Static load-deflection diagram.
 - (i) L_{max} = Maximum observed static load.
 - (j) Load Limit = Point on a continuous L - D curve where observed static load is 0.8 L_{max} on down slope of curve (refer to **Figure C-5**).

(k) E_u = Strain energy absorbed by the frame, ft-lb (m-kJ). Area under L-D curve.

(l) FER = Factor of energy ratio.

(m) P_b = Maximum observed force in mounting connection under static load, L lbf(N).

(n) P_u = Ultimate force capacity of mounting connection, lbf(N).

(o) FSB = Design margin for mounting connection.

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-40

437-081-2896

Static Test Procedure (Static Rear Load Test)

The static rear load test procedures shall be as follows:

- (1) When testing a protective frame or ROPS in which the protective frame structure is not an integral part of the enclosure, apply the rear load in accordance with **Figure C-3** and record L and D simultaneously; or
- (2) When the protective frame structure is an integral part of the protective enclosure, apply the rear load in accordance with **Figure C-14** and record L and D simultaneously.
 - (a) Rear load application shall be uniformly distributed on the frame over an area perpendicular to the direction of load application, no greater than 160 sq. in. (1032 square centimeters) in size, with the greater dimension no greater than 27" (686 millimeters).
 - (b) The load shall be applied to the upper extremity of the frame at the point which is midway between the center of the frame and the inside of the frame upright. If no structural cross member exists at the rear of the frame, a substitute test beam which does not add strength to the frame may be utilized to complete this test procedure.
- (3) The test shall be stopped when:
 - (a) The strain energy absorbed by the frame is equal to or greater than the required input energy E_{ir} , or
 - (b) Deflection of the frame exceeds the allowable deflection (see Rule 437-081-2903), or
 - (c) Frame load limit (see **Figure C-5**) occurs before the allowable deflection is reached in rear load.
- (4) Using data obtained in Rule 437-081-2896 (1) and (2), construct the L-D diagram as shown typically in Figure C-5.
- (5) Calculate E_{ir} .
- (6) Calculate FER_{ir} .
- (7) Calculate FSB where required by Rule 437-081-2893(3).

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-41

437-081-2903

Static Test Procedure (Static Side Load Test)

The static side load test procedures shall be as follows:

(1) When testing a protective frame or ROPS in which the protective frame structure is not an integral part of the enclosure, apply the side load test on the same frame and record L and D simultaneously.

(a) Side load application shall be at the upper extremity of the frame at a 90 degree angle to the center line of the vehicle.

(b) The side load shall be applied to the longitudinal side farthest from the point of rear load application.

(c) Apply side load L as shown in **Figure C-2**; or

(2) When the protective frame structures are an integral part of the enclosure, apply the side load in accordance with **Figure C-13** and record L and D simultaneously.

(a) Static side load application shall be uniformly distributed on the frame over an area perpendicular to the direction of load application, and no greater than 160 sq. in. (1032 square centimeters) in size, with a largest dimension no greater than 27" (686 millimeters).

(b) Side load application shall be at a 90 degree angle to the center line of the vehicle.

(c) The center of side load application shall be located between a point "k", 24" (610 millimeters) forward; and point "l" 12" (305 millimeters) rearward of the seat reference point to best utilize the structural strength (see **Figure C-13**).

(d) This side load shall be applied to the longitudinal side farthest from the point of rear load application.

(3) The test shall be stopped when:

(a) The strain energy absorbed by the frame is equal to or greater than the required input energy E_{is} , or

(b) Deflection of the frame exceeds the allowable deflection (See Rule 437-081-2923), or

(c) Frame load limit (see **Figure C-5**) occurs before the allowable deflection is reached in side load.

(4) Using data obtained in Rule 437-081-2903(1), construct the L-D diagram as shown typically in **Figure C-5**.

(5) Calculate E_{is} .

(6) Calculate FER_{is} .

(7) Calculate FSB where required by Rule 437-081-2893(3).

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-42

437-081-2906

Dynamic Test Procedure

The following dynamic test conditions shall be met:

(1) The ROPS and tractor shall be tested at the weight as defined in Rule 437-081-2809(3).

(2) The dynamic loading shall be accomplished by use of a 4410 lbs. (2000 kilogram) weight acting as a pendulum. The impact face of the weight shall be 27 ± 1 " by 27 ± 1 " (686 ± 25 millimeters) and shall be constructed so that its center of gravity is within 1" (25.4 millimeters) of its geometric center. The weight shall be suspended from a pivot point 18 to 22' (5.5-6.7 meters) above the point of impact on the ROPS and shall be conveniently and safely adjustable for height (see **Figure C-6**).

(3) For each phase of testing, the tractor shall be restrained from moving when the dynamic load is applied. The restraining members shall have strength no less than, and elasticity no greater than, that of 0.50" (12.7 millimeters) steel cable. Points of attachment of restraining members shall be located an appropriate distance behind the rear axle and in front of the front axle to provide a 15 to 30 degree angle between a restraining cable and the horizontal. For the impact from the rear, the restraining cables shall be located in the plane in which the center of gravity of the pendulum will swing, or alternatively, two sets of symmetrically located cables may be used at lateral locations on the tractor. For impact from the side, restraining cables shall be used as shown in **Figure C-8** and **C-9** for data on protective frames and **Figures C-15** and **C-16** for data on protective enclosures.

(4) The front and rear wheel tread settings, where adjustable, shall be at the position nearest to halfway between the minimum and maximum settings obtainable on the vehicle. Where only two settings are obtainable, the minimum setting shall be used. The tires shall have no liquid ballast and shall be inflated to the maximum operating pressure recommended by the manufacturer. With specified tire inflation, the restraining cable shall be tightened to provide tire deflection of 6 to 8% of nominal tire section width. After the vehicle is properly restrained, a wooden beam no less than 6 x 6" (150 x 150 centimeters) cross section shall be driven tightly against the appropriate wheels and clamped. For the test to the side, an additional wooden beam shall be placed as a prop against the wheel nearest the operator's station and shall be secured to the base so that it is held tightly against the wheel rim during impact. The length of this beam shall be chosen so that it is at an angle of 25 to 40 degree to the horizontal when it is positioned against the wheel rim. It shall have a length 20 to 25 times its depth and a width 2 to 3 times its depth (see **Figures C-8** and **C-9**).

(5) Means shall be provided for indicating the maximum instantaneous deflection along the line of impact. A simple friction device is illustrated in **Figure C-4**.

(6) No repairs or adjustments shall be made during the test.

(7) If any cables, props, or blocking shift or break during the test, the test shall be repeated.

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-43

437-081-2909

Dynamic Test Procedure (4410 lbs.)

H = Vertical height of center of gravity of 4410 lbs. (2000 kilograms) weight in inches (H' in millimeters). The weight shall be pulled back so that the height of its center of gravity above the point of impact is:

$$H = 4.92 + 0.00190 W$$

or

$$H' = 125 + 0.170 W'$$

(Figure C-7)

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-44

437-081-2913

Dynamic Test Procedure (Loading and Impact Tests)

The test procedure shall be as follows:

(1) The ROPS shall be evaluated by imposing dynamic loading from the rear followed by a load to the side on the same frame. The pendulum swinging from the height determined by Rule 437-081-2906 shall be used to impose the dynamic load. The position of the pendulum shall be so selected that the initial point of impact on the frame is in line with the arc of travel of the center of gravity of the pendulum. Where a quick release mechanism is used, it shall not influence the attitude of the block.

(2) Impact at rear: The tractor shall be properly restrained in accordance with Rules 437-081-2906(3) and (4). The tractor shall be positioned with respect to the pivot point of the pendulum is 20 degrees from the vertical prior to impact as shown in **Figure C-8**. The impact shall be applied to the upper extremity of the frame at the point which is midway between the center line of the frame and the inside of the frame upright. If no structural cross member exists at the rear of the frame, a substitute test beam which does not add to the strength of the frame may be utilized to complete the test procedure.

(3) Impact at side: The blocking and restraining shall conform to Rules 437-081-2906(3) and (4). The point of impact on a protective frame shall be at the upper extremity of the frame at a point most likely to hit the ground first and at a 90 degree angle to the center line of the vehicle as shown in Figure C-9. The side impact shall be applied to the longitudinal side farthest from the point of rear impact. The center point of impact on a protective enclosure shall be at the upper extremity of the enclosure at a 90 degree angle to the centerline of the vehicle and located between a point "k", 24" (610 millimeters) forward, and a point "l", 12" (305 millimeters) rearward of the seat reference point, to best utilize the structural strength (see **Figure C-13**). The side impact shall be applied to the longitudinal side farthest from the point of rear impact.

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-45

437-081-2916

Field Upset Test Procedure

The following field upset test conditions shall be met:

- (1) The tractor shall be tested at the weight as defined in Rule 437-081-2809(3).
- (2) The test shall be conducted on a dry, firm soil bank. The soil in the impact area shall have an average cone index in the 0 to 6" (0 to 152 millimeters) layer of not less than 150. Cone index shall be determined in accordance with American Society of Agricultural Engineers Recommendation ASAE R313.1, Soil Cone Penetrometer (1971). The patch of vehicle travel shall be 12± degrees to the top edge of the bank.
- (3) An 18" (457 millimeter) high ramp as described in **Figure C-10** shall be used to assist in upsetting the vehicle to the side.
- (4) The front and rear wheel tread settings, where adjustable, shall be at the position nearest to halfway between the minimum and maximum settings obtainable on the vehicle. Where only two settings are obtainable, the minimum setting shall be used.

NOTE: Copies may be obtained from American Society of Agricultural Engineers, 2950 Nils Road, St. Joseph, Missouri 49085-9659; telephone (616) 429-0300.

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-46

437-081-2919

Field Upset Test Procedure (Rear and Side Tests)

Field upsets shall be induced to the rear and side.

(1) Rear upset shall be induced by engine power with the tractor operating in a gear to obtain 3 to 5 mph (4.8 to 8.0 kilometers per hour) at maximum governed engine rpm by driving forward directly up a minimum slope of 60 degrees \pm 5 degrees as shown in **Figure C-11** or by an alternate equivalent means. The engine clutch may be used to aid in inducing the upset.

(2) To induce side upset, the tractor shall be driven under its own power along the specified path of travel at a minimum speed of 10 mph (16 kilometers per hour), or at a maximum vehicle speed if under 10 mph (16 kilometers per hour), and over the ramps described in Rule 437-081-2916(3).

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-47

437-081-2923

General Performance Requirements

The ROPS, overhead weather shield, fenders, or other parts in the operator area may be deformed in these tests but shall not shatter or leave sharp edges exposed to the operator.

(1) No part shall encroach on the dimensions shown in **Figures C-2** and **C-3** for a protective frame.

(2) No part shall encroach on a transverse plane passing through points d and f within the projected area defined by dimensions d, e, and g or on the dimensions shown in **Figures C-13** and **C-14** for a protective enclosure.

(3) The following dimensions shall apply to Rules 437-081-2923(1) and (2).

(a) d = 2" (51 mm) inside of protective structure to vertical centerline of seat.

(b) e = 30" (762 mm) at the longitudinal centerline.

(c) f = Not greater than 4 inches (102 mm) measured forward of the seat reference point (SRP) at the longitudinal centerline as shown in **Figure C-14**.

(d) g = 24" (610 mm) minimum.

(e) h = 17.5" (445 mm) minimum.

(f) i = 2.0" (51 mm) measured from outer periphery of steering wheel.

(g) m = Not greater than 12" (305 mm) measured from SRP to forward edge of crossbar.

[ED NOTE: The Figure referenced in this rule is not printed in the OAR Compilation. Copies are available from the Occupational Safety and Health Division.]

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-48

437-081-2926

General Performance Requirements (Temperature)

(1) The ROPS and connecting fasteners must pass the static or dynamic tests described in Rules 437-081-2893 through 437-081-2919 at a metal temperature of 0° Fahrenheit or below, or exhibit Charpy V-notch impact strengths as follows:

10 mm x 10 mm specimen: 8 ft.lb. at 20° F.

10 mm x 7.5 mm specimen: 7 ft.lb. at 20° F.

10 mm x 5 mm specimen: 5.5 ft.lb. at 20° F.

10 mm x 2.5 mm specimen: 4 ft.lb. at 20° F.

(2) Specimens shall be longitudinal and taken from flat stock, tubular, or structural sections before forming or welding for use in the protective enclosure. Specimens from tubular or structural sections shall be taken from the middle of the side of greatest dimension, not to include welds.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-49

437-081-2929

General Performance Requirements (Glazing Requirements)

Glazing shall conform to the requirements contained in Society of Automotive Engineers Standard SAE J674, Safety Glazing Materials (1963).

NOTE: Copies may be obtained from the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096-0001; telephone (412) 776-4841.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-50

437-081-2933

General Performance Requirements (Exits)

Two or more operator exits shall be provided and positioned to avoid the possibility of both being blocked by the same

accident.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-51

437-081-2936

General Performance Requirements (Static Tests)

Static test performance requirements. In addition to meeting the requirements of Rules 437-081-2923 and 437-081-2926 in both side and rear loads, FERis and FERir shall be greater than 1, and where the ROPS contains 1 or 2 upright frames only, FSB shall be greater than 1.3.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-52

437-081-2939

General Performance Requirements (Dynamic Tests)

Dynamic test performance requirements. The structural requirements will be met where the dimensions in Rules 437-081-2923 and 437-081-2926 are adhered to in both side and rear loads.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-53

437-081-2943

General Performance Requirements (Field Upset Tests)

Field upset test performance requirements. The requirements of Rules 437-081-2923 and 437-081-2926 shall be met in both side and rear upsets.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist: WCB (Safety) 22-1976, f. 7-20-76, cert. ef. 9-15-76; WCD 5-1977, f. 4-20-77, cert. ef. 6-1-77; Renumbered from 33-29-54

Field Sanitation

437-081-2950

Scope

(1) OAR 437-081-2950 through 437-081-2990 shall apply to any agricultural establishment where employees are engaged in hand-labor operations in the field.

(2) These rules do not apply to:

(a) Logging operations;

(b) The care or feeding of livestock;

(c) Hand-labor operations in permanent structures (e.g., canning facilities or packing houses); or

(d) Machine operators working entirely separate from hand-labor operations.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 20-1988, f. 12-5-88, ef. 1-1-89

437-081-2955

Definitions

(1) "Agricultural Employer" means any person, corporation, association, or other legal entity that:

(a) Owns or operates an agricultural establishment;

(b) Contracts with the owner or operator of an agricultural establishment in advance of production for the purchase of a crop and exercises substantial control over production; or

(c) Recruits and supervises employees or is responsible for the management and condition of an agricultural establishment.

(2) "Agricultural Establishment" is a business operation that uses employees in the production of food, fiber, or other materials such as seed, seedlings, plants, or parts of plants.

(3) "Hand-labor Operation" means agricultural activities or agricultural operations performed by hand or with hand tools, including:

(a) Hand-cultivation, hand-weeding, hand-planting, and hand-harvesting of vegetables, nuts, fruits, seedlings, or other crops (including mushrooms);

(b) Hand packing or sorting, whether done on the ground, on a moving machine, or in a temporary packing shed located in the field; and

(c) Except for purposes of OAR 437-081-2970(7), operation of vehicles or machinery, when such activity is performed in conjunction with other hand-labor operations.

(4) "Handwashing Facility" means a facility providing either a basin, container, or outlet with an adequate supply of potable water, soap, and single-use towels.

(5) "Potable Water" means water which meets the quality standards prescribed in **42 CFR Part 72**, U.S. Public Health Service Drinking Water Standards, or water which is approved for drinking purposes by the state or local authority having jurisdiction, or water which meets the quality standards contained in OAR Chapter 333, Division 61, Public Water Systems, of the Oregon State Health Division.

(6) "Toilet Facility" means a fixed or portable facility designed for the purpose of adequate collection and containment of the products of both defecation and urination which is supplied with toilet paper adequate to employee needs. Toilet facility includes biological, chemical, flush, and combustion toilets and sanitary privies.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 20-1988, f. 12-5-88, ef. 1-1-89

437-081-2960

General Requirements

Agricultural employers shall provide the requirements in OAR 437-081-2965 through 437-081-2990 for employees engaged in hand-labor operations in the field, without cost to the employee.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 20-1988, f. 12-5-88, ef. 1-1-89

437-081-2965

Potable Drinking Water

(1) Potable water shall be provided and shall be placed in locations that are available immediately to all employees.

(2) The water shall be suitably cool and in sufficient amounts, taking into account the air temperature, humidity, and the nature of the work performed, to meet the needs of all employees.

(3) The water shall be dispensed in single-use drinking cups or by angle jet fountains. The use of common drinking cups or dippers is prohibited.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 20-1988, f. 12-5-88, ef. 1-1-89

437-081-2970

Toilet and Handwashing Facilities

(1) One toilet facility and one handwashing facility shall be provided for each twenty (20) employees or fraction thereof.

- (2) Toilet facilities shall be adequately ventilated, appropriately screened, have self-closing doors that can be closed and latched from the inside and shall be constructed to ensure privacy.
- (3) Privies and portable toilets shall be maintained as follows:
 - (a) Structures shall be free of hazards, maintained in good repair and be stable;
 - (b) Except for urinals, multiple units shall be provided with separate compartments fitted with doors which have inside latches to ensure privacy;
 - (c) Seats shall be fitted with lids that can be raised to allow use as urinals.
- (4) Privies and portable toilets constructed after the effective date of these rules shall be constructed in accordance with the rules of the Department of Environmental Quality.
- (5) Where practicable, toilet facilities shall be provided for each sex. They shall be distinctly marked for "women" and "men" in English and in the native language of employees expected to work in the fields or marked with easily understood pictures or symbols.
- (6) The employer shall ensure that for each toilet facility:
 - (a) Toilet paper is supplied in sufficient quantity to meet the workers' needs during the work shift; and
 - (b) Toilet paper holders or dispensers are provided for each seat.
- (7) Toilet and handwashing facilities shall be adjacent to each other and in a location that is no more than a five-minute or a one-quarter-mile (1320 feet) unobstructed walk from each hand laborer's place of work in the field.
- (8) Where, due to terrain, it is not feasible to locate facilities as required above, the facilities shall be located at the point of closest vehicular access.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 20-1988, f. 12-5-88, ef. 1-1-89

437-081-2975

Maintenance

Potable drinking water and toilet and handwashing facilities shall be maintained in accordance with appropriate public health sanitation practices, including the following:

- (1) Drinking water containers shall be constructed of materials that maintain water quality, shall be refilled daily or more often as necessary, shall be kept covered, and shall be regularly cleaned;
- (2) Toilet facilities shall be operational and maintained in a clean, sanitary and safe condition;
- (3) Chemical toilets shall be emptied and recharged prior to the start of each season of operation and at least every six months thereafter during use or when the tank is three-quarters full, whichever occurs first;
- (4) Where crops intended for human consumption are produced, toilets shall be designed and constructed to prevent crop contamination;

(5) Handwashing facilities shall be refilled with potable water as necessary to ensure an adequate supply and shall be maintained in a clean and sanitary condition; and

(6) Disposal of wastes from facilities, including handwashing water and towels, shall not cause unsanitary conditions or contamination of crops.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 20-1988, f. 12-5-88, ef. 1-1-89

437-081-2985

Field Sanitation Notice

Employers engaged in the production of food crops for human consumption shall ensure that a notice describing the requirements of these rules (OAR 437-081-2950 through 437-081-2990) and advising where workers may file complaints regarding field sanitation matters, is conspicuously posted and shall be printed in the language of the majority of the workers.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 20-1988, f. 12-5-88, ef. 1-1-89

437-081-2990

Reasonable Use

The employer shall notify each employee of the location of the sanitation facilities and water, and shall allow each employee reasonable opportunities during the workday to use them. The employer also shall inform each employee of the importance of the following good hygiene practices to minimize exposure to the hazards in the field of heat, communicable diseases, retention of urine and agricultural residues:

(1) Using the water and facilities provided for drinking, handwashing, and elimination;

(2) Drinking water frequently and especially on hot days;

(3) Urinating as frequently as necessary;

(4) Washing hands both before and after using the toilet; and

(5) Washing hands before eating and smoking.

Stat. Auth.: ORS 654.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: APD 20-1988, f. 12-5-88, ef. 1-1-89

437-081-3000

Adoption by Reference

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal rules as printed in the Code of Federal Regulations, 29 **CFR** 1928: 29 **CFR** 1928.1027, **Cadmium**, published 9-14-92, **FR** Vol. 57, No. 178, pp. 42453 - 42463; amended 4-23-93, **FR** Vol. 58, No. 77, p. 21778.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Occupational Safety and Health Division and the United States Government Printing Office.

Stat. Auth.: ORS 654.025 & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 15-1993, f. & cert. ef. 10-22-93

437-081-3010

Adoption by Reference of Federal Standard

In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal regulations printed as part of the **Code of Federal Regulations**, 40 **CFR** 170, in the **Federal Register** on 8-12-92, Vol. 57, No. 163:

(1) Subpart A -- General Provisions:

- (a) 40 **CFR** 170.1, **Scope and Purpose**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
- (b) 40 **CFR** 170.3, **Definitions**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
- (c) 40 **CFR** 170.5, **Effective Date and Compliance Dates**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
- (d) 40 **CFR** 170.7, **General Duties and Prohibited Actions**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
- (e) 40 **CFR** 170.9, **Violations of This Part**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176.

(2) Subpart B -- Standard for Workers:

- (a) 40 **CFR** 170.102, **Applicability of This Subpart**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
- (b) 40 **CFR** 170.110, **Restrictions Associated with Pesticide Applications**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
- (c) 40 **CFR** 170.112, **Entry Restrictions**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
- (d) 40 **CFR** 170.120, **Notice of Applications**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
- (e) 40 **CFR** 170.122, **Providing Specific Information About Applications**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
- (f) 40 **CFR** 170.124, **Notice of Applications to Handler Employers**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;

- (g) 40 CFR 170.130, **Pesticide Safety Training**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
- (h) 40 CFR 170.135, **Posted Pesticide Safety Information**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
- (i) 40 CFR 170.150, **Decontamination**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
- (j) 40 CFR 170.160, **Emergency Assistance**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176.
- (3) Subpart C -- Standard for Pesticide Handlers:
 - (a) 40 CFR 170.202, **Applicability of This Subpart**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
 - (b) 40 CFR 170.210, **Restrictions During Applications**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
 - (c) 40 CFR 170.222, **Providing Specific Information About Applications**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
 - (d) 40 CFR 170.224, **Notice of Applications to Agricultural Employers**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
 - (e) 40 CFR 170.230, **Pesticide Safety Training**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
 - (f) 40 CFR 170.232, **Knowledge of Labeling and Site-Specific Information**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
 - (g) 40 CFR 170.234, **Safe Operation of Equipment**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
 - (h) 40 CFR 170.235, **Posted Pesticide Safety Information**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
 - (i) 40 CFR 170.240, **Personal Protective Equipment**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
 - (j) 40 CFR 170.250, **Decontamination**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176;
 - (k) 40 CFR 170.260, **Emergency Assistance**, published 8-21-92, **FR** Vol. 57, No. 163, pp. 38102 - 38176.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the Occupational Safety and Health Division and the United States Government Printing Office.]

Stat. Auth.: ORS 664.025(2) & 656.726(3)

Stats. Implemented: ORS 654.001 - 654.295

Hist.: OSHA 18-1993, f. 11-24-93, cert. ef. 1-1-94

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