OFFICE OF THE SECRETARY OF STATE
DENNIS RICHARDSON
SECRETARY OF STATE

LESLIE CUMMINGS
DEPUTY SECRETARY OF STATE

ARCHIVES DIVISION
MARY BETH HERKERT
DIRECTOR

800 SUMMER STREET NE
SALEM, OR 97310
503-373-0701

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CHAPTER 340
DEPARTMENT OF ENVIRONMENTAL QUALITY

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CONTACT: Emil Hnidey
503-229-5946
hnidey.emil@deq.state.or.us

700 NE Multnomah St.
Suite 600
Portland,OR 97232

Filed By:
Emil Hnidey
Rules Coordinator

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AMEND: 340-012-0030

RULE TITLE: Definitions

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Add “permit attachment” to definition of “violation”

RULE TEXT:
All terms used in this division have the meaning given to the term in the appropriate substantive statute or rule or, in the absence of such definition, their common and ordinary meaning unless otherwise required by context or defined below:
(1) "Alleged Violation" means any violation cited in a written notice issued by DEQ or other government agency.
(2) "Class I Equivalent," which is used to determine the value of the "P" factor in the civil penalty formula, means two Class II violations, one Class II and two Class III violations, or three Class III violations.
(3) "Commission" means the Environmental Quality Commission.
(4) "Compliance" means meeting the requirements of the applicable statutes, and commission or DEQ rules, permits, permit attachments or orders.
(5) "Conduct" means an act or omission.
(6) "Director" means the director of DEQ or the director's authorized deputies or officers.
(7) "DEQ" means the Department of Environmental Quality.
(8) “Expedited Enforcement Offer” (EEO) means a written offer by DEQ to settle an alleged violation in accordance with

the expedited procedure described in OAR 340-012-0170(2).
(9) “Field Penalty” as used in this division, has the meaning given that term in OAR chapter 340, division 150.
(10) "Final Order and Stipulated Penalty Demand Notice" means a written notice issued to a respondent by DEQ demanding payment of a stipulated penalty as required by the terms of an agreement entered into between the respondent and DEQ.
(11) "Flagrant" or "flagrantly" means the respondent had actual knowledge that the conduct was unlawful and consciously set out to commit the violation.
(12) "Formal Enforcement Action" (FEA) means a proceeding initiated by DEQ that entitles a person to a contested case hearing or that settles such entitlement, including, but not limited to, Notices of Civil Penalty Assessment and Order, Final Order and Stipulated Penalty Demand Notices, department or commission orders originating with the Office of Compliance and Enforcement, Mutual Agreement and Orders, accepted Expedited Enforcement Offers, Field Penalties, and other consent orders.
(13) "Intentional" means the respondent acted with a conscious objective to cause the result of the conduct.
(14) "Magnitude of the Violation" means the extent and effects of a respondent's deviation from statutory requirements, rules, standards, permits or orders.
(15) "Negligence" or "Negligent" means the respondent failed to take reasonable care to avoid a foreseeable risk of conduct constituting or resulting in a violation.
(16) “Notice of Civil Penalty Assessment and Order” means a notice provided under OAR 137-003-0505 to notify a person that DEQ has initiated a formal enforcement action that includes a financial penalty and may include an order to comply.
(17) "Pre-Enforcement Notice" (PEN) means an informal written notice of an alleged violation that DEQ is considering for formal enforcement.
(18) "Person" includes, but is not limited to, individuals, corporations, associations, firms, partnerships, trusts, joint stock companies, public and municipal corporations, political subdivisions, states and their agencies, and the federal government and its agencies.
(19) "Prior Significant Action" (PSA) means any violation cited in an FEA, with or without admission of a violation, that becomes final by payment of a civil penalty, by a final order of the commission or DEQ, or by judgment of a court.
(20) "Reckless" or "Recklessly" means the respondent consciously disregarded a substantial and unjustifiable risk that the result would occur or that the circumstance existed. The risk must be of such a nature and degree that disregarding that risk constituted a gross deviation from the standard of care a reasonable person would observe in that situation.
(21) "Residential Owner-Occupant" means the natural person who owns or otherwise possesses a single family dwelling unit, and who occupies that dwelling at the time of the alleged violation. The violation must involve or relate to the normal uses of a dwelling unit.
(22) "Respondent" means the person named in a formal enforcement action (FEA).
(23) "Systematic" means any violation that occurred or occurs on a regular basis.
(24) "Violation" means a transgression of any statute, rule, order, license, permit, permit attachment, or any part thereof and includes both acts and omissions.
(25) "Warning Letter" (WL) means an informal written notice of an alleged violation for which formal enforcement is not anticipated.
(26) "Willful" means the respondent had a conscious objective to cause the result of the conduct and the respondent knew or had reason to know that the result was not lawful.

STATUTORY/OTHER AUTHORITY: ORS 468.020 , 468.130

STATUTES/OTHER IMPLEMENTED: 459.995, 465.900, 468.090-140, 466.880 - 466.895, 468.996 - 468.997, 468A.990 -468A.992, 468B.220, ORS 459.376

AMEND: 340-012-0053

RULE TITLE: Classification of Violations that Apply to all Programs

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Add “permit attachment” to Class I violations

RULE TEXT:

(1) Class I:

(a) Violating a requirement or condition of a commission or department order, consent order, agreement, consent judgment (formerly called judicial consent decree) or compliance schedule contained in a permit or permit attachment;

(b) Submitting false, inaccurate or incomplete information to DEQ where the submittal masked a violation, caused environmental harm, or caused DEQ to misinterpret any substantive fact;

(c) Failing to provide access to premises or records as required by statute, permit, order, consent order, agreement or consent judgment (formerly called judicial consent decree); or

(d) Using fraud or deceit to obtain DEQ approval, permit, permit attachment, certification, or license.

(2) Class II: Violating any otherwise unclassified requirement.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.130

STATUTES/OTHER IMPLEMENTED: ORS 459.376, 459.995, 465.900, 465.992, 466.990 - 466.994, 468.090 - 468.140, 468B.450

AMEND: 340-012-0054

RULE TITLE: Air Quality Classification of Violations

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: New sources that are currently not required to obtain a permit under existing air quality rules will be required to obtain an Air Contaminant Discharge Permit and an Air Toxics Permit Attachment for Cleaner Air Oregon. Existing sources will be required to obtain an Air Toxics Permit Attachment for Cleaner Air Oregon. Failure to do so would be a Class I violation. Exceedances of Cleaner Air Oregon source risk limits would be Class I violations. Exceeding an emissions limit or other standard established to avoid exceeding a Risk Action Level would be a Class I violation Permit attachments may also require testing or monitoring. Best Available Control Technology for air toxics may set emission limitations or performance standards. Failure to perform the required testing or monitoring would be a Class I violation. Failing to hold community engagement meetings or provide notification to the community required under Cleaner Air Oregon would be a Class I violation. Violating terms of conditions of an permit attachment would be a Class II violation unless otherwise classified. Modifying a source that would require an permit attachment without obtaining prior approval would be a Class II
violation unless otherwise classified. Failing to timely submit a complete permit attachment annual report would be a Class II violation. Failing to timely submit a certification, report, or plan as required by an permit attachment, unless otherwise classified; would be a Class II violation. Failing to submit a timely and complete air toxics emissions inventory as required by OAR 340 division 245 would be a Class II violation. Failing to comply with any requirement of a community engagement plan as required by OAR 340 division 245, would be a Class II violation unless otherwise classified. Failing to perform testing or monitoring required by an permit attachment would be a Class III violation.

RULE TEXT:

(1) Class I:

(a) Constructing a new source or modifying an existing source without first obtaining a required New Source Review/Prevention of Significant Deterioration (NSR/PSD) permit;

(b) Constructing a new source, as defined in OAR 340-245-0020, without first obtaining a required Air Contaminant Discharge Permit that includes permit conditions required under OAR 340-245-0005 through 340-245-8050 or without complying with Cleaner Air Oregon rules under OAR 340-245-0005 through 340-245-8050;

(c) Failing to conduct a source risk assessment, as required under OAR 340-245-0050;

(d) Modifying a source in such a way as to require a permit modification under OAR 340-245-0005 through 340-245-8050, that would increase risk above permitted levels under OAR 340-245-0005 through 340-245-8050 without first obtaining such approval from DEQ;

(e) Operating a major source, as defined in OAR 340-200-0020, without first obtaining the required permit;

(f) Operating an existing source, as defined in OAR 340-245-0020, after a submittal deadline under OAR 340-245-0030 without having submitted a complete application for a Toxic Air Contaminant Permit Addendum required under OAR 340-245-0005 through 340-245-8050;

(g) Exceeding a Plant Site Emission Limit (PSEL);

(h) Exceeding a risk limit, including a Source Risk Limit, applicable to a source under OAR 340-245-0100;

(i) Failing to install control equipment or meet emission limits, operating limits, work practice requirements, or performance standards as required by New Source Performance Standards under OAR 340 division 238 or National Emission Standards for Hazardous Air Pollutant Standards under OAR 340 division 244;

(j) Exceeding a hazardous air pollutant emission limitation;

(k) Failing to comply with an Emergency Action Plan;

(l) Exceeding an opacity or emission limit (including a grain loading standard) or violating an operational or process standard, that was established under New Source Review/Prevention of Significant Deterioration (NSR/PSD);

(m) Exceeding an emission limit or violating an operational or process standard that was established to limit emissions to avoid classification as a major source, as defined in OAR 340-200-0020;

(n) Exceeding an emission limit or violating an operational limit, process limit, or work practice requirement that was established to limit risk or emissions to avoid exceeding an applicable Risk Action Level or other requirement under OAR 340-245-0005 through 340-245-8050;
(o) Exceeding an emission limit, including a grain loading standard, by a major source, as defined in OAR 340-200-0020, when the violation was detected during a reference method stack test;
(p) Failing to perform testing or monitoring, required by a permit, permit attachment, rule or order, that results in failure to show compliance with a Plant Site Emission Limit or with an emission limitation or a performance standard established under New Source Review/Prevention of Significant Deterioration, National Emission Standards for Hazardous Air Pollutants, New Source Performance Standards, Reasonably Available Control Technology, Best Available Control Technology, Maximum Achievable Control Technology, Typically Achievable Control Technology, Lowest Achievable Emission Rate, Toxics Best Available Control Technology, Toxics Lowest Achievable Emission Rate, or adopted under section 111(d) of the Federal Clean Air Act;
(q) Causing emissions that are a hazard to public safety;
(r) Violating a work practice requirement for asbestos abatement projects;
(s) Improperly storing or openly accumulating friable asbestos material or asbestos-containing waste material;
(t) Conducting an asbestos abatement project, by a person not licensed as an asbestos abatement contractor;
(u) Violating an OAR 340 division 248 disposal requirement for asbestos-containing waste material;
(v) Failing to hire a licensed contractor to conduct an asbestos abatement project;
(w) Openly burning materials which are prohibited from being open burned anywhere in the state by OAR 340-264-0060(3), or burning materials in a solid fuel burning device, fireplace, trash burner or other device as prohibited by OAR 340-262-0900(1);
(x) Failing to install certified vapor recovery equipment;
(y) Delivering for sale a noncompliant vehicle by an automobile manufacturer in violation of Oregon Low Emission Vehicle rules set forth in OAR 340 division 257;
(z) Exceeding an Oregon Low Emission Vehicle average emission limit set forth in OAR 340 division 257;
(aa) Failing to comply with Zero Emission Vehicle (ZEV) sales requirements set forth in OAR 340 division 257;
(bb) Failing to obtain a Motor Vehicle Indirect Source Permit as required in OAR 340 division 257;
(cc) Selling, leasing, or renting a noncompliant vehicle by an automobile dealer or rental car agency in violation of Oregon Low Emission Vehicle rules set forth in OAR 340 division 257; or
(dd) Failing to comply with any of the clean fuel standards set forth in OAR 340-253-0100(6), OAR 340-253-8010 (Table 1) and OAR 340-253-8020 (Table 2).
(2) Class II:
(a) Constructing or operating a source required to have an Air Contaminant Discharge Permit (ACDP), ACDP attachment, or registration without first obtaining such permit or registration, unless otherwise classified;
(b) Violating the terms or conditions of a permit, permit attachment or license, unless otherwise classified;
(c) Modifying a source in such a way as to require a permit or permit attachment modification from DEQ without first obtaining such approval from DEQ, unless otherwise classified;
(d) Exceeding an opacity limit, unless otherwise classified;
(e) Exceeding a Volatile Organic Compound (VOC) emission standard, operational requirement, control requirement or VOC content limitation established by OAR 340 division 232;
(f) Failing to timely submit a complete ACDP annual report or permit attachment annual report;
(g) Failing to timely submit a certification, report, or plan as required by rule, permit or permit attachment, unless otherwise classified;
(h) Failing to timely submit a complete permit application, ACDP attachment application, or permit renewal application;
(i) Failing to submit a timely and complete toxic air contaminant emissions inventory as required under OAR 340-245-0005 through 340-245-8050;
(j) Failing to comply with the open burning requirements for commercial, construction, demolition, or industrial wastes

in violation of OAR 340-264-0080 through 0180;
(k) Failing to comply with open burning requirements in violation of any provision of OAR 340 division 264, unless otherwise classified; or burning materials in a solid fuel burning device, fireplace, trash burner or other device as prohibited by OAR 340-262-0900(2).
(l) Failing to replace, repair, or modify any worn or ineffective component or design element to ensure the vapor tight integrity and efficiency of a stage I or stage II vapor collection system;
(m) Failing to provide timely, accurate or complete notification of an asbestos abatement project;
(n) Failing to perform a final air clearance test or submit an asbestos abatement project air clearance report for an asbestos abatement project;
(o) Violating on road motor vehicle refinishing rules contained in OAR 340-242-0620; or
(p) Failing to comply with an Oregon Low Emission Vehicle reporting, notification, or warranty requirement set forth in OAR division 257;
(q) Failing to register as a regulated party in the Oregon Clean Fuels Program under OAR 340-253-0100(1) and (4), when the person is a producer or importer of blendstocks, as those terms are defined in OAR 340-253-0040;
(r) Failing to submit a broker designation form under OAR 340-253-0100(3) and (4)(c);
(s) Failing to keep records under OAR 340-253-0600 when the records relate to obtaining a carbon intensity under OAR 340-253-0450; or
(t) Failing to keep records related to obtaining a carbon intensity under OAR 340-253-0450; or
(u) Failing to submit an annual compliance report under OAR 340-253-0100(8).
(3) Class III:
(a) Failing to perform testing or monitoring required by a permit, permit attachment, rule or order where missing data can be reconstructed to show compliance with standards, emission limitations or underlying requirements;
(b) Constructing or operating a source required to have a Basic Air Contaminant Discharge Permit without first obtaining the permit;
(c) Modifying a source in such a way as to require construction approval from DEQ without first obtaining such approval from DEQ, unless otherwise classified;
(d) Failing to revise a notification of an asbestos abatement project when necessary, unless otherwise classified;
(e) Submitting a late air clearance report that demonstrates compliance with the standards for an asbestos abatement project; or
(f) Licensing a noncompliant vehicle by an automobile dealer or rental car agency in violation of Oregon Low Emission Vehicle rules set forth in OAR 340 division 257;
(g) Failing to register as a regulated party in the Oregon Clean Fuels Program under OAR 340-253-0100(1) and (4), when the person is an importer of finished fuels, as those terms are defined in OAR 340-253-0040;
(h) Failing to keep records under OAR 340-253-0600, except as provided in subsection (2)(r); or
(i) Failing to submit quarterly progress reports under OAR 340-253-0100(7).
Note: Tables and Publications referenced are available from the agency.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.045

STATUTES/OTHER IMPLEMENTED: ORS 468.020, 468A.025

AMEND: 340-012-0135

RULE TITLE: Selected Magnitude Categories

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Adding: (e) Exceeding a cancer or noncancer risk limit that is equivalent to a Risk Action Level or a Source Risk Limit if the limit is a Risk Action Level established under OAR 340-245-0005 through 340-245-8050: Major, otherwise apply OAR 340-012-0130.

RULE TEXT:

(1) Magnitudes for selected Air Quality violations will be determined as follows:

(a) Opacity limit violations:

(A) Major — Opacity measurements or readings of 20 percent opacity or more over the applicable limit, or an opacity violation by a federal major source as defined in OAR 340-200-0020;

(B) Moderate — Opacity measurements or readings greater than 10 percent opacity and less than 20 percent opacity over the applicable limit; or

(C) Minor — Opacity measurements or readings of 10 percent opacity or less over the applicable limit.

(b) Operating a major source, as defined in OAR 340-200-0020, without first obtaining the required permit: Major — if a Lowest Achievable Emission Rate (LAER) or Best Available Control Technology (BACT) analysis shows that additional controls or offsets are or were needed, otherwise apply OAR 340-012-0130.

(c) Exceeding an emission limit established under New Source Review/Prevention of Significant Deterioration (NSR/PSD): Major — if exceeded the emission limit by more than 50 percent of the limit, otherwise apply OAR 340-012-0130.

(d) Exceeding an emission limit established under federal National Emission Standards for Hazardous Air Pollutants (NESHAPs): Major — if exceeded the Maximum Achievable Control Technology (MACT) standard emission limit for a directly-measured hazardous air pollutant (HAP), otherwise apply OAR 340-012-0130.

(e) Exceeding a cancer or noncancer risk limit that is equivalent to a Risk Action Level or a Source Risk Limit if the limit is a Risk Action Level established under OAR 340-245-0005 through 340-245-8050: Major, otherwise apply OAR 340-012-0130.

(f) Air contaminant emission limit violations for selected air pollutants: Magnitude determinations under this subsection will be made based upon significant emission rate (SER) amounts listed in OAR 340-200-0020.

(A) Major:

(i) Exceeding the annual emission limit as established by permit, rule or order by more than the annual SER; or

(ii) Exceeding the short-term (less than one year) emission limit as established by permit, rule or order by more than the applicable short-term SER.

(B) Moderate:

(i) Exceeding the annual emission limit as established by permit, rule or order by an amount from 50 up to and including 100 percent of the annual SER; or

(ii) Exceeding the short-term (less than one-year) emission limit as established by permit, rule or order by an amount from 50 up to and including 100 percent of the applicable short-term SER.

(C) Minor:

(i) Exceeding the annual emission limit as established by permit, rule or order by an amount less than 50 percent of the annual SER; or

(ii) Exceeding the short-term (less than one year) emission limit as established by permit, rule or order by an amount less than 50 percent of the applicable short-term SER.

(g) Violations of Emergency Action Plans: Major — Major magnitude in all cases.

(h) Violations of on road motor vehicle refinishing rules contained in OAR 340-242-0620: Minor — Refinishing 10 or fewer on road motor vehicles per year.

(i) Asbestos violations — These selected magnitudes apply unless the violation does not cause the potential for human

exposure to asbestos fibers:
(A) Major — More than 260 linear feet or more than 160 square feet of asbestos-containing material or asbestos-containing waste material;
(B) Moderate — From 40 linear feet up to and including 260 linear feet or from 80 square feet up to and including 160 square feet of asbestos-containing material or asbestos-containing waste material; or
(C) Minor — Less than 40 linear feet or 80 square feet of asbestos-containing material or asbestos-containing waste material.
(D) The magnitude of the asbestos violation may be increased by one level if the material was comprised of more than five percent asbestos.
(j) Open burning violations:
(A) Major — Initiating or allowing the initiation of open burning of 20 or more cubic yards of commercial, construction, demolition and/or industrial waste; or 5 or more cubic yards of prohibited materials (inclusive of tires); or 10 or more tires;
(B) Moderate — Initiating or allowing the initiation of open burning of 10 or more, but less than 20 cubic yards of commercial, construction, demolition and/or industrial waste; or 2 or more, but less than 5 cubic yards of prohibited materials (inclusive of tires); or 3 to 9 tires; or if DEQ lacks sufficient information upon which to make a determination of the type of waste, number of cubic yards or number of tires burned; or
(C) Minor — Initiating or allowing the initiation of open burning of less than 10 cubic yards of commercial, construction, demolition and/or industrial waste; or less than 2 cubic yards of prohibited materials (inclusive of tires); or 2 or less tires.
(D) The selected magnitude may be increased one level if DEQ finds that one or more of the following are true, or decreased one level if DEQ finds that none of the following are true:
(i) The burning took place in an open burning control area;
(ii) The burning took place in an area where open burning is prohibited;
(iii) The burning took place in a non-attainment or maintenance area for PM10 or PM2.5; or
(iv) The burning took place on a day when all open burning was prohibited due to meteorological conditions.
(k) Oregon Low Emission Vehicle Non-Methane Gas (NMOG) or Green House Gas (GHG) fleet average emission limit violations:
(A) Major — Exceeding the limit by more than 10 percent; or
(B) Moderate — Exceeding the limit by 10 percent or less.
(l) Oregon Clean Fuels Program violations:
(A) Exceeding the clean fuel standards set forth in OAR 340-253-0100(6), 340-253-8010 (Table 1) and 340-253-8020 (Table 2) by:
(i) Major — more than 15 percent;
(ii) Moderate — more than 10 percent but less than 15 percent;
(iii) Minor — 10 percent or less.
(B) Failing to register under OAR 340-253-0100(1) and (4): Minor — producers and importers of blendstocks;
(C) Failing to submit broker designation form under OAR 340-253-0100(3) and (4)(c): Minor; or
(D) Failing to keep records as set forth in OAR 340-253-0600, when the records relate to obtaining a carbon intensity under OAR 340-253-04500600: Minor; or
(E) Failing to submit annual compliance reports under OAR 340-253-0100(8): Moderate.
(2) Magnitudes for selected Water Quality violations will be determined as follows:
(a) Violating wastewater discharge permit effluent limitations:
(A) Major:
(i) The dilution (D) of the spill or technology based effluent limitation exceedance was less than two, when calculated as follows: D = ((QR /4) + QI)/ QI, where QR is the estimated receiving stream flow and QI is the estimated quantity or discharge rate of the incident;

(ii) The receiving stream flow at the time of the water quality based effluent limitation (WQBEL) exceedance was at or below the flow used to calculate the WQBEL; or
(iii) The resulting water quality from the spill or discharge was as follows:
(I) For discharges of toxic pollutants: CS/D was more than CAcute, where CS is the concentration of the discharge, D is the dilution of the discharge as determined under (2)(a)(A)(i), and CAcute is the concentration for acute toxicity (as defined by the applicable water quality standard);
(II) For spills or discharges affecting temperature, when the discharge temperature is at or above 32 degrees centigrade after two seconds from the outfall; or
(III) For BOD5 discharges: (BOD5)/D is more than 10, where BOD5 is the concentration of the five-day Biochemical Oxygen Demand of the discharge and D is the dilution of the discharge as determined under (2)(a)(A)(i).
(B) Moderate:
(i) The dilution (D) of the spill or the technology based effluent limitation exceedance was two or more but less than 10 when calculated as follows: D = ((QR /4)+ QI)/ QI, where QR is the estimated receiving stream flow and QI is the estimated quantity or discharge rate of the discharge; or
(ii) The receiving stream flow at the time of the WQBEL exceedance was greater than, but less than twice, the flow used to calculate the WQBEL.
(C) Minor:
(i) The dilution (D) of the spill or the technology based effluent limitation exceedance was 10 or more when calculated as follows: D = ((QR/4) + QI)/ QI, where QR is the receiving stream flow and QI is the quantity or discharge rate of the incident; or
(ii) The receiving stream flow at the time of the WQBEL exceedance was twice the flow or more of the flow used to calculate the WQBEL.
(b) Violating numeric water quality standards:
(A) Major:
(i) Increased the concentration of any pollutant except for toxics, dissolved oxygen, pH, and turbidity, by 25 percent or more of the standard;
(ii) Decreased the dissolved oxygen concentration by two or more milligrams per liter below the standard;
(iii) Increased the toxic pollutant concentration by any amount over the acute standard or by 100 percent or more of the chronic standard;
(iv) Increased or decreased pH by one or more pH units from the standard; or
(v) Increased turbidity by 50 or more nephelometric turbidity units (NTU) over background.
(B) Moderate:
(i) Increased the concentration of any pollutant except for toxics, pH, and turbidity by more than 10 percent but less than 25 percent of the standard;
(ii) Decreased dissolved oxygen concentration by one or more, but less than two, milligrams per liter below the standard;
(iii) Increased the concentration of toxic pollutants by more than 10 percent but less than 100 percent of the chronic standard;
(iv) Increased or decreased pH by more than 0.5 pH unit but less than 1.0 pH unit from the standard; or
(v) Increased turbidity by more than 20 but less than 50 NTU over background.
(C) Minor:
(i) Increased the concentration of any pollutant, except for toxics, pH, and turbidity, by 10 percent or less of the standard;
(ii) Decreased the dissolved oxygen concentration by less than one milligram per liter below the standard;
(iii) Increased the concentration of toxic pollutants by 10 percent or less of the chronic standard;
(iv) Increased or decreased pH by 0.5 pH unit or less from the standard; or
(v) Increased turbidity by 20 NTU or less over background.

(c) The selected magnitude under (2)(a) or (b) may be increased one or more levels if the violation:
(A) Occurred in a water body that is water quality limited (listed on the most current 303(d) list) and the discharge is the same pollutant for which the water body is listed;
(B) Depressed oxygen levels or increased turbidity and/or sedimentation in a stream in which salmonids may be rearing or spawning as indicated by the beneficial use maps available at OAR 340-041-0101 through 0340;
(C) Violated a bacteria standard either in shellfish growing waters or during the period from June 1 through September 30; or
(D) Resulted in a documented fish or wildlife kill.
(3) Magnitudes for selected Solid Waste violations will be determined as follows:
(a) Operating a solid waste disposal facility without a permit or disposing of solid waste at an unpermitted site:
(A) Major — The volume of material disposed of exceeds 400 cubic yards;
(B) Moderate — The volume of material disposed of is greater than or equal to 40 cubic yards and less than or equal to 400 cubic yards; or
(C) Minor — The volume of materials disposed of is less than 40 cubic yards.
(D) The magnitude of the violation may be raised by one magnitude if the material disposed of was either in the floodplain of waters of the state or within 100 feet of waters of the state.
(b) Failing to accurately report the amount of solid waste disposed:
(A) Major — The amount of solid waste is underreported by 15 percent or more of the amount received;
(B) Moderate — The amount of solid waste is underreported by 5 percent or more, but less than 15 percent, of the amount received; or
(C) Minor — The amount of solid waste is underreported by less than 5 percent of the amount received.
(4) Magnitudes for selected Hazardous Waste violations will be determined as follows:
(a) Failure to make a hazardous waste determination;
(A) Major — Failure to make the determination on five or more waste streams;
(B) Moderate — Failure to make the determination on three or four waste streams; or
(C) Minor — Failure to make the determination on one or two waste streams.
(b) Hazardous Waste treatment, storage and disposal violations of OAR 340-012-0068(1)(b), (c), (h), (k), (l), (m), (p), (q) and (r):
(A) Major:
(i) Treatment, storage, or disposal of more than 55 gallons or 330 pounds of hazardous waste; or
(ii) Treatment, storage, or disposal of at least one quart or 2.2 pounds of acutely hazardous waste.
(B) Moderate:
(i) Treatment, storage, or disposal of 55 gallons or 330 pounds or less of hazardous waste; or
(ii) Treatment, storage, or disposal of less than one quart or 2.2 pounds of acutely hazardous waste.
(c) Hazardous waste management violations classified in OAR 340-012-0068(1)(d), (e) (f), (g), (i), (j), (n), (s) and (2)(a), (b), (d), (e), (h), (i), (k), (m), (n), (o), (p), (r) and (s):
(A) Major:
(i) Hazardous waste management violations involving more than 1,000 gallons or 6,000 pounds of hazardous waste; or
(ii) Hazardous waste management violations involving at least one quart or 2.2 pounds of acutely hazardous waste.
(B) Moderate:
(i) Hazardous waste management violations involving more than 250 gallons or 1,500 pounds, up to and including 1,000 gallons or 6,000 pounds of hazardous waste; or
(ii) Hazardous waste management violations involving less than one quart or 2.2 pounds of acutely hazardous waste.
(C) Minor:
(i) Hazardous waste management violations involving 250 gallons or 1,500 pounds or less of hazardous waste and no acutely hazardous waste.
(5) Magnitudes for selected Used Oil violations (OAR 340-012-0072) will be determined as follows:

(a) Used Oil violations set forth in OAR 340-012-0072(1)(f), (h), (i), (j); and (2)(a) through (h):
(A) Major — Used oil management violations involving more than 1,000 gallons or 7,000 pounds of used oil or used oil mixtures;
(B) Moderate — Used oil management violations involving more than 250 gallons or 1,750 pounds, up to and including 1,000 gallons or 7,000 pounds of used oil or used oil mixture; or
(C) Minor — Used oil management violations involving 250 gallons or 1,750 pounds or less of used oil or used oil mixtures.
(b) Used Oil spill or disposal violations set forth in OAR 340-012-0072(1)(a) through (e), (g) and (k).
(A) Major — A spill or disposal involving more than 420 gallons or 2,940 pounds of used oil or used oil mixtures;
(B) Moderate — A spill or disposal involving more than 42 gallons or 294 pounds, up to and including 420 gallons or 2,940 pounds of used oil or used oil mixtures; or
(C) Minor — A spill or disposal of used oil involving 42 gallons or 294 pounds or less of used oil or used oil mixtures.
NOTE: Tables & Publications referenced are available from the agency.

STATUTORY/OTHER AUTHORITY: ORS 468.065, 468A.045

STATUTES/OTHER IMPLEMENTED: ORS 468.090 - 468.140, 468A.060

AMEND: 340-012-0140

RULE TITLE: Determination of Base Penalty

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added violation of permit attachment to the violation matrix.

RULE TEXT:

(1) Except for Class III violations and as provided in OAR 340-012-0155, the base penalty (BP) is determined by applying the class and magnitude of the violation to the matrices set forth in this section. For Class III violations, no magnitude determination is required.

(2) $12,000 Penalty Matrix:

(a) The $12,000 penalty matrix applies to the following:

(A) Any violation of an air quality statute, rule, permit, permit attachment, or related order committed by a person that has or should have a Title V permit or an Air Contaminant Discharge Permit (ACDP) issued under New Source Review (NSR) regulations or Prevention of Significant Deterioration (PSD) regulations, or section 112(g) of the federal Clean Air Act.

(B) Open burning violations as follows:

(i) Any violation of OAR 340-264-0060(3) committed by an industrial facility operating under an air quality permit.

(ii) Any violation of OAR 340-264-0060(3) in which 25 or more cubic yards of prohibited materials or more than 15 tires are burned, except when committed by a residential owner-occupant.

(C) Any violation of the Oregon Low Emission Vehicle rules (OAR 340-257) by an automobile manufacturer.

(D) Any violation of ORS 468B.025(1)(a) or (1)(b), or of 468B.050(1)(a) by a person without a National Pollutant Discharge Elimination System (NPDES) permit, unless otherwise classified.

(E) Any violation of a water quality statute, rule, permit or related order by:

(i) A person that has an NPDES permit, or that has or should have a Water Pollution Control Facility (WPCF) permit, for a municipal or private utility sewage treatment facility with a permitted flow of five million or more gallons per day.

(ii) A person that has a Tier 1 industrial source NPDES or WPCF permit.

(iii) A person that has a population of 100,000 or more, as determined by the most recent national census, and either has or should have a WPCF Municipal Stormwater Underground Injection Control (UIC) System Permit, or has an NPDES Municipal Separated Storm Sewer Systems (MS4) Stormwater Discharge Permit.

(iv) A person that installs or operates a prohibited Class I, II, III, IV or V UIC system, except for a cesspool.

(v) A person that has or should have applied for coverage under an NPDES Stormwater Discharge 1200-C General Permit for a construction site that disturbs 20 or more acres.

(F) Any violation of the ballast water statute in ORS Chapter 783 or ballast water management rule in OAR 340, division 143.

(G) Any violation of a Clean Water Act Section 401 Water Quality Certification by a 100 megawatt or more hydroelectric facility.

(H) Any violation of a Clean Water Act Section 401 Water Quality Certification for a dredge and fill project except for Tier 1, 2A or 2B projects.

(I) Any violation of an underground storage tanks statute, rule, permit or related order committed by the owner, operator or permittee of 10 or more UST facilities or a person who is licensed or should be licensed by DEQ to perform tank services.

(J) Any violation of a heating oil tank statute, rule, permit, license or related order committed by a person who is licensed or should be licensed by DEQ to perform heating oil tank services.

(K) Any violation of ORS 468B.485, or related rules or orders regarding financial assurance for ships transporting hazardous materials or oil.

(L) Any violation of a used oil statute, rule, permit or related order committed by a person who is a used oil transporter, transfer facility, processor or re-refiner, off-specification used oil burner or used oil marketer.

(M) Any violation of a hazardous waste statute, rule, permit or related order by:
(i) A person that is a large quantity generator or hazardous waste transporter.
(ii) A person that has or should have a treatment, storage or disposal facility permit.
(N) Any violation of an oil and hazardous material spill and release statute, rule, or related order committed by a covered vessel or facility as defined in ORS 468B.300 or by a person who is engaged in the business of manufacturing, storing or transporting oil or hazardous materials.
(O) Any violation of a polychlorinated biphenyls (PCBs) management and disposal statute, rule, permit or related order.
(P) Any violation of ORS Chapter 465, UST or environmental cleanup statute, rule, related order or related agreement.
(Q) Unless specifically listed under another penalty matrix, any violation of ORS Chapter 459 or any violation of a solid waste statute, rule, permit, or related order committed by:
(i) A person that has or should have a solid waste disposal permit.
(ii) A person with a population of 25,000 or more, as determined by the most recent national census.
(R) Any violation of the Oregon Clean Fuels Program under OAR 340 division 253 by a person registered as an importer of blendstocks.
(b) The base penalty values for the $12,000 penalty matrix are as follows:
(A) Class I:
(i) Major — $12,000;
(ii) Moderate — $6,000;
(iii) Minor — $3,000.
(B) Class II:
(i) Major — $6,000;
(ii) Moderate — $3,000;
(iii) Minor — $1,500.
(C) Class III: $1,000.
(3) $8,000 Penalty Matrix:
(a) The $8,000 penalty matrix applies to the following:
(A) Any violation of an air quality statute, rule, permit, permit attachment, or related order committed by a person that has or should have an ACDP permit, except for NSR, PSD and Basic ACDP permits, unless listed under another penalty matrix.
(B) Any violation of an asbestos statute, rule, permit or related order except those violations listed in section (5) of this rule.
(C) Any violation of a vehicle inspection program statute, rule, permit or related order committed by an auto repair facility.
(D) Any violation of the Oregon Low Emission Vehicle rules (OAR 340-257) committed by an automobile dealer or an automobile rental agency.
(E) Any violation of a water quality statute, rule, permit or related order committed by:
(i) A person that has an NPDES Permit, or that has or should have a WPCF Permit, for a municipal or private utility sewage treatment facility with a permitted flow of two million or more, but less than five million, gallons per day.
(ii) A person that has a Tier 2 industrial source NPDES or WPCF Permit.
(iii) A person that has or should have applied for coverage under an NPDES or a WPCF General Permit, except an NPDES Stormwater Discharge 1200-C General Permit for a construction site of less than five acres in size or 20 or more acres in size.
(iv) A person that has a population of less than 100,000 but more than 10,000, as determined by the most recent national census, and has or should have a WPCF Municipal Stormwater UIC System Permit or has an NPDES MS4 Stormwater Discharge Permit.
(v) A person that owns, and that has or should have registered, a UIC system that disposes of wastewater other than stormwater or sewage or geothermal fluids.

(F) Any violation of a Clean Water Act Section 401 Water Quality Certification by a less than 100 megawatt hydroelectric facility.
(G) Any violation of a Clean Water Act Section 401 Water Quality Certification for a Tier 2A or Tier 2B dredge and fill project.
(H) Any violation of an UST statute, rule, permit or related order committed by a person who is the owner, operator or permittee of five to nine UST facilities.
(I) Unless specifically listed under another penalty matrix, any violation of ORS Chapter 459 or other solid waste statute, rule, permit, or related order committed by:
(i) A person that has or should have a waste tire permit; or
(ii) A person with a population of more than 5,000 but less than or equal to 25,000, as determined by the most recent national census.
(J) Any violation of a hazardous waste management statute, rule, permit or related order committed by a person that is a small quantity generator.
(K) Any violation of an oil and hazardous material spill and release statute, rule, or related order committed by a person other than a person listed in OAR 340-012-0140(2)(a)(N) occurring during a commercial activity or involving a derelict vessel over 35 feet in length.
(L) Any violation of the Oregon Clean Fuels Program under OAR 340 division 253 by a person registered as a credit generator.
(b) The base penalty values for the $8,000 penalty matrix are as follows:
(A) Class I:
(i) Major — $8,000.
(ii) Moderate — $4,000.
(iii) Minor — $2,000.
(B) Class II:
(i) Major — $4,000.
(ii) Moderate — $2,000.
(iii) Minor — $1,000.
(C) Class III: $ 700.
(4) $3,000 Penalty Matrix:
(a) The $3,000 penalty matrix applies to the following:
(A) Any violation of any statute, rule, permit, license, or order committed by a person not listed under another penalty matrix.
(B) Any violation of an air quality statute, rule, permit, permit attachment, or related order committed by a person not listed under another penalty matrix.
(C) Any violation of an air quality statute, rule, permit, permit attachment, or related order committed by a person that has or should have a Basic ACDP or an ACDP or registration only because the person is subject to Area Source NESHAP regulations.
(D) Any violation of OAR 340-264-0060(3) in which 25 or more cubic yards of prohibited materials or more than 15 tires are burned by a residential owner-occupant.
(E) Any violation of a vehicle inspection program statute, rule, permit or related order committed by a natural person, except for those violations listed in section (5) of this rule.
(F) Any violation of a water quality statute, rule, permit, license or related order not listed under another penalty matrix and committed by:
(i) A person that has an NPDES permit, or has or should have a WPCF permit, for a municipal or private utility wastewater treatment facility with a permitted flow of less than two million gallons per day.
(ii) A person that has or should have applied for coverage under an NPDES Stormwater Discharge 1200-C General Permit for a construction site that is more than one, but less than five acres.

(iii) A person that has a population of 10,000 or less, as determined by the most recent national census, and either has an NPDES MS4 Stormwater Discharge Permit or has or should have a WPCF Municipal Stormwater UIC System Permit.
(iv) A person who is licensed to perform onsite sewage disposal services or who has performed sewage disposal services.
(v) A person, except for a residential owner-occupant, that owns and either has or should have registered a UIC system that disposes of stormwater, sewage or geothermal fluids.
(vi) A person that has or should have a WPCF individual stormwater UIC system permit.
(vii) Any violation of a water quality statute, rule, permit or related order committed by a person that has or should have applied for coverage under an NPDES 700-PM General Permit for suction dredges.
(G) Any violation of an onsite sewage disposal statute, rule, permit or related order, except for a violation committed by a residential owner-occupant.
(H) Any violation of a Clean Water Act Section 401 Water Quality Certification for a Tier 1 dredge and fill project.
(I) Any violation of an UST statute, rule, permit or related order if the person is the owner, operator or permittee of two to four UST facilities.
(J) Any violation of a used oil statute, rule, permit or related order, except a violation related to a spill or release, committed by a person that is a used oil generator.
(K) Any violation of a hazardous waste management statute, rule, permit or related order committed by a person that is a conditionally exempt generator, unless listed under another penalty matrix.
(L) Any violation of ORS Chapter 459 or other solid waste statute, rule, permit, or related order committed by a person with a population less than 5,000, as determined by the most recent national census.
(M) Any violation of the labeling requirements of ORS 459A.675 through 459A.685.
(N) Any violation of rigid pesticide container disposal requirements by a conditionally exempt generator of hazardous waste.
(O) Any violation of ORS 468B.025(1)(a) or (b) resulting from turbid discharges to waters of the state caused by non-residential uses of property disturbing less than one acre in size.
(P) Any violation of an oil and hazardous material spill and release statute, rule, or related order committed by a person not listed under another matrix.
(Q) Any violation of the Oregon Clean Fuels Program under OAR 340 division 253 by a person registered as an importer of finished fuels.
(b) The base penalty values for the $3,000 penalty matrix are as follows:
(A) Class I:
(i) Major — $3,000;
(ii) Moderate — $1,500;
(iii) Minor — $750.
(B) Class II:
(i) Major — $1,500;
(ii) Moderate — $750;
(iii) Minor — $375.
(C) Class III: $250.
(5) $1,000 Penalty Matrix:
(a) The $1,000 penalty matrix applies to the following:
(A) Any violation of an open burning statute, rule, permit or related order committed by a residential owner-occupant at the residence, not listed under another penalty matrix.
(B) Any violation of visible emissions standards by operation of a vehicle.
(C) Any violation of an asbestos statute, rule, permit or related order committed by a residential owner-occupant.
(D) Any violation of an onsite sewage disposal statute, rule, permit or related order of OAR chapter 340, division 44 committed by a residential owner-occupant.
(E) Any violation of an UST statute, rule, permit or related order committed by a person who is the owner, operator or

permittee of one UST facility.
(F) Any violation of an HOT statute, rule, permit or related order not listed under another penalty matrix.
(G) Any violation of OAR chapter 340, division 124 or ORS 465.505 by a dry cleaning owner or operator, dry store owner or operator, or supplier of perchloroethylene.
(H) Any violation of ORS Chapter 459 or other solid waste statute, rule or related order committed by a residential owner-occupant.
(I) Any violation of a statute, rule, permit or order relating to rigid plastic containers, except for violation of the labeling requirements under OAR 459A.675 through 459A.685.
(J) Any violation of a statute, rule or order relating to the opportunity to recycle.
(K) Any violation of OAR chapter 340, division 262 or other statute, rule or order relating to solid fuel burning devices, except a violation related to the sale of new or used solid fuel burning devices or the removal and destruction of used solid fuel burning devices.
(L) Any violation of an UIC system statute, rule, permit or related order by a residential owner-occupant, when the UIC disposes of stormwater, sewage or geothermal fluids.
(M) Any Violation of ORS 468B.025(1)(a) or (b) resulting from turbid discharges to waters of the state caused by residential use of property disturbing less than one acre in size.
(b) The base penalty values for the $1,000 penalty matrix are as follows:
(A) Class I:
(i) Major — $1,000;
(ii) Moderate — $500;
(iii) Minor — $250.
(B) Class II:
(i) Major — $500;
(ii) Moderate — $250;
(iii) Minor — $125.
(C) Class III: $100.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.090 - 468.140

STATUTES/OTHER IMPLEMENTED: ORS 459.995, 459A.655, 459A.660, 459A.685, 468.035

AMEND: 340-200-0020

RULE TITLE: General Air Quality Definitions

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added "Toxic Air Contaminants" to "Regulated Air pollutant" definition.
Added: (d) As used in OAR 340 division 202 Ambient Air Quality Standards And PSD Increments through division 210 Stationary Source Notification Requirements; division 215 Greenhouse Reporting Requirements; division 222 Stationary Source Plant Site Emission Limits through division 244 Oregon Federal Hazardous Air Pollutant Program; and division 248 Asbestos Requirements through division 268 Emission Reduction Credits; regulated pollutant means only the air contaminants listed under paragraphs (a)(A) through (F).
Added: (180) “Toxic air contaminant” means an air pollutant that has been determined by the EQC to cause, or reasonably be anticipated to cause, adverse effects to human health and is listed in OAR 340-245-8020 Table 2.

RULE TEXT:
As used in OAR 340 divisions 200 through 268, unless specifically defined otherwise:
(1) "Act" or "FCAA" means the Federal Clean Air Act, 42 U.S.C.A. § 7401 to 7671q.
(2) "Activity" means any process, operation, action, or reaction (e.g., chemical) at a source that emits a regulated pollutant.
(3) "Actual emissions" means the mass emissions of a regulated pollutant from an emissions source during a specified time period as set forth in OAR 340 divisions 214, 220 and 222.
(4) "Adjacent", as used in the definitions of major source and source and in OAR 340-216-0070, means interdependent facilities that are nearby to each other.
(5) "Affected source" means a source that includes one or more affected units that are subject to emission reduction requirements or limitations under Title IV of the FCAA.
(6) "Affected states" means all states:
(a) Whose air quality may be affected by a proposed permit, permit modification, or permit renewal and that are contiguous to Oregon; or
(b) That are within 50 miles of the permitted source.
(7) "Aggregate insignificant emissions" means the annual actual emissions of any regulated pollutant from one or more designated activities at a source that are less than or equal to the lowest applicable level specified in this section. The total emissions from each designated activity and the aggregate emissions from all designated activities must be less than or equal to the lowest applicable level specified:
(a) One ton for total reduced sulfur, hydrogen sulfide, sulfuric acid mist, any Class I or II substance subject to a standard promulgated under or established by Title VI of the FCAA, and each criteria pollutant, except lead;
(b) 120 pounds for lead;
(c) 600 pounds for fluorides;
(d) 500 pounds for PM10 in a PM10 nonattainment area;
(e) 500 pounds for direct PM2.5 in a PM2.5 nonattainment area;
(f) The lesser of the amount established in 40 C.F.R. 68.130 or 1,000 pounds;
(g) An aggregate of 5,000 pounds for all hazardous air pollutants;
(h) 2,756 tons CO2e for greenhouse gases.
(8) "Air contaminant" means a dust, fume, gas, mist, odor, smoke, vapor, pollen, soot, carbon, acid, particulate matter, regulated pollutant, or any combination thereof.
(9) "Air Contaminant Discharge Permit" or "ACDP" means written authorization issued, renewed, amended, or revised by DEQ, under OAR 340 division 216.
(10) "Alternative method" means any method of sampling and analyzing for an air pollutant which is not a reference or equivalent method but which has been demonstrated to DEQ's satisfaction to, in specific cases, produce results adequate for determination of compliance. The alternative method must comply with the intent of the rules, is at least

equivalent in objectivity and reliability to the uniform recognized procedures, and is demonstrated to be reproducible, selective, sensitive, accurate, and applicable to the program. An alternative method used to meet an applicable federal requirement for which a reference method is specified must be approved by EPA unless EPA has delegated authority for the approval to DEQ.

(11) "Ambient air" means that portion of the atmosphere, external to buildings, to which the general public has access.

(12) "Applicable requirement" means all of the following as they apply to emissions units in an Oregon Title V Operating Permit program source or ACDP program source, including requirements that have been promulgated or approved by the EPA through rule making at the time of issuance but have future-effective compliance dates:

(a) Any standard or other requirement provided for in the applicable implementation plan approved or promulgated by the EPA through rulemaking under Title I of the FCAA that implements the relevant requirements of the FCAA, including any revisions to that plan promulgated in 40 C.F.R. part 52;

(b) Any standard or other requirement adopted under OAR 340-200-0040 of the State of Oregon Clean Air Act Implementation Plan that is more stringent than the federal standard or requirement which has not yet been approved by the EPA, and other state-only enforceable air pollution control requirements;

(c) Any term or condition in an ACDP, OAR 340 division 216, including any term or condition of any preconstruction permits issued under OAR 340 division 224, New Source Review, until or unless DEQ revokes or modifies the term or condition by a permit modification;

(d) Any term or condition in a Notice of Construction and Approval of Plans, OAR 340-210-0205 through 340-210-0240, until or unless DEQ revokes or modifies the term or condition by a Notice of Construction and Approval of Plans or a permit modification;

(e) Any term or condition in a Notice of Approval, OAR 340-218-0190, issued before July 1, 2001, until or unless DEQ revokes or modifies the term or condition by a Notice of Approval or a permit modification;

(f) Any term or condition of a PSD permit issued by the EPA until or unless the EPA revokes or modifies the term or condition by a permit modification;

(g) Any standard or other requirement under section 111 of the FCAA, including section 111(d);

(h) Any standard or other requirement under section 112 of the FCAA, including any requirement concerning accident prevention under section 112(r)(7) of the FCAA;

(i) Any standard or other requirement of the acid rain program under Title IV of the FCAA or the regulations promulgated thereunder;

(j) Any requirements established under section 504(b) or section 114(a)(3) of the FCAA;

(k) Any standard or other requirement under section 126(a)(1) and(c) of the FCAA;

(l) Any standard or other requirement governing solid waste incineration, under section 129 of the FCAA;

(m) Any standard or other requirement for consumer and commercial products, under section 183(e) of the FCAA;

(n) Any standard or other requirement for tank vessels, under section 183(f) of the FCAA;

(o) Any standard or other requirement of the program to control air pollution from outer continental shelf sources, under section 328 of the FCAA;

(p) Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the FCAA, unless the Administrator has determined that such requirements need not be contained in an Oregon Title V Operating Permit; and

(q) Any national ambient air quality standard or increment or visibility requirement under part C of Title I of the FCAA, but only as it would apply to temporary sources permitted under section 504(e) of the FCAA.

(13) “Attainment area” or “unclassified area” means an area that has not otherwise been designated by EPA as nonattainment with ambient air quality standards for a particular regulated pollutant. Attainment areas or unclassified areas may also be referred to as sustainment or maintenance areas as designated in OAR 340 division 204. Any particular location may be part of an attainment area or unclassified area for one regulated pollutant while also being in a different type of designated area for another regulated pollutant.

(14) “Attainment pollutant” means a pollutant for which an area is designated an attainment or unclassified area.

(15) "Baseline emission rate" means the actual emission rate during a baseline period as determined under OAR 340 division 222.
(16) "Baseline period" means the period used to determine the baseline emission rate for each regulated pollutant under OAR 340 division 222.
(17) "Best Available Control Technology" or "BACT" means an emission limitation, including, but not limited to, a visible emission standard, based on the maximum degree of reduction of each air contaminant subject to regulation under the FCAA which would be emitted from any proposed major source or major modification which, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such air contaminant. In no event may the application of BACT result in emissions of any air contaminant that would exceed the emissions allowed by any applicable new source performance standard or any standard for hazardous air pollutant. If an emission limitation is not feasible, a design, equipment, work practice, or operational standard, or combination thereof, may be required. Such standard must, to the degree possible, set forth the emission reduction achievable and provide for compliance by prescribing appropriate permit conditions.
(18) "Biomass" means non-fossilized and biodegradable organic material originating from plants, animals, and microorganisms, including products, byproducts, residues and waste from agriculture, forestry, and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic matter.
(19) "Capacity" means the maximum regulated pollutant emissions from a stationary source under its physical and operational design.
(20) “Capture efficiency” means the amount of regulated pollutant collected and routed to an air pollution control device divided by the amount of total emissions generated by the process being controlled.
(21) "Capture system" means the equipment, including but not limited to hoods, ducts, fans, and booths, used to contain, capture and transport a regulated pollutant to a control device.
(22) "Carbon dioxide equivalent" or "CO2e" means an amount of a greenhouse gas or gases expressed as the equivalent amount of carbon dioxide, and is be computed by multiplying the mass of each of the greenhouse gases by the global warming potential published for each gas at 40 C.F.R. part 98, subpart A, Table A–1-Global Warming Potentials, and adding the resulting value for each greenhouse gas to compute the total equivalent amount of carbon dioxide.
(23) "Categorically insignificant activity" means any of the following listed regulated pollutant emitting activities principally supporting the source or the major industrial group. Categorically insignificant activities must comply with all applicable requirements.
(a) Constituents of a chemical mixture present at less than 1 percent by weight of any chemical or compound regulated under divisions 200 through 268 excluding divisions 248 and 262 of this chapter, or less than 0.1 percent by weight of any carcinogen listed in the U.S. Department of Health and Human Service's Annual Report on Carcinogens when usage of the chemical mixture is less than 100,000 pounds/year;
(b) Evaporative and tailpipe emissions from on-site motor vehicle operation;
(c) Distillate oil, kerosene, gasoline, natural gas or propane burning equipment, provided the aggregate expected actual emissions of the equipment identified as categorically insignificant do not exceed the de minimis level for any regulated pollutant, based on the expected maximum annual operation of the equipment. If a source’s expected emissions from all such equipment exceed the de minimis levels, then the source may identify a subgroup of such equipment as categorically insignificant with the remainder not categorically insignificant. The following equipment may never be included as categorically insignificant:
(A) Any individual distillate oil, kerosene or gasoline burning equipment with a rating greater than 0.4 million Btu/hour;
(B) Any individual natural gas or propane burning equipment with a rating greater than 2.0 million Btu/hour.
(d) Distillate oil, kerosene, gasoline, natural gas or propane burning equipment brought on site for six months or less for maintenance, construction or similar purposes, such as but not limited to generators, pumps, hot water pressure

washers and space heaters, provided that any such equipment that performs the same function as the permanent equipment, must be operated within the source's existing PSEL;
(e) Office activities;
(f) Food service activities;
(g) Janitorial activities;
(h) Personal care activities;
(i) Groundskeeping activities including, but not limited to building painting and road and parking lot maintenance;
(j) On-site laundry activities;
(k) On-site recreation facilities;
(l) Instrument calibration;
(m) Maintenance and repair shop;
(n) Automotive repair shops or storage garages;
(o) Air cooling or ventilating equipment not designed to remove air contaminants generated by or released from associated equipment;
(p) Refrigeration systems with less than 50 pounds of charge of ozone depleting substances regulated under Title VI, including pressure tanks used in refrigeration systems but excluding any combustion equipment associated with such systems;
(q) Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including associated vacuum producing devices but excluding research and development facilities;
(r) Temporary construction activities;
(s) Warehouse activities;
(t) Accidental fires;
(u) Air vents from air compressors;
(v) Air purification systems;
(w) Continuous emissions monitoring vent lines;
(x) Demineralized water tanks;
(y) Pre-treatment of municipal water, including use of deionized water purification systems;
(z) Electrical charging stations;
(aa) Fire brigade training;
(bb) Instrument air dryers and distribution;
(cc) Process raw water filtration systems;
(dd) Pharmaceutical packaging;
(ee) Fire suppression;
(ff) Blueprint making;
(gg) Routine maintenance, repair, and replacement such as anticipated activities most often associated with and performed during regularly scheduled equipment outages to maintain a plant and its equipment in good operating condition, including but not limited to steam cleaning, abrasive use, and woodworking;
(hh) Electric motors;
(ii) Storage tanks, reservoirs, transfer and lubricating equipment used for ASTM grade distillate or residual fuels, lubricants, and hydraulic fluids;
(jj) On-site storage tanks not subject to any New Source Performance Standards (NSPS), including underground storage tanks (UST), storing gasoline or diesel used exclusively for fueling of the facility's fleet of vehicles;
(kk) Natural gas, propane, and liquefied petroleum gas (LPG) storage tanks and transfer equipment;
(ll) Pressurized tanks containing gaseous compounds;
(mm) Vacuum sheet stacker vents;
(nn) Emissions from wastewater discharges to publicly owned treatment works (POTW) provided the source is authorized to discharge to the POTW, not including on-site wastewater treatment and/or holding facilities;

(oo) Log ponds;
(pp) Stormwater settling basins;
(qq) Fire suppression and training;
(rr) Paved roads and paved parking lots within an urban growth boundary;
(ss) Hazardous air pollutant emissions in fugitive dust from paved and unpaved roads except for those sources that have processes or activities that contribute to the deposition and entrainment of hazardous air pollutants from surface soils;
(tt) Health, safety, and emergency response activities;
(uu) Emergency generators and pumps used only during loss of primary equipment or utility service due to circumstances beyond the reasonable control of the owner or operator, or to address a power emergency, provided that the aggregate horsepower rating of all stationary emergency generator and pump engines is not more than 3,000 horsepower. If the aggregate horsepower rating of all stationary emergency generator and pump engines is more than 3,000 horsepower, then no emergency generators and pumps at the source may be considered categorically insignificant;
(vv) Non-contact steam vents and leaks and safety and relief valves for boiler steam distribution systems;
(ww) Non-contact steam condensate flash tanks;
(xx) Non-contact steam vents on condensate receivers, deaerators and similar equipment;
(yy) Boiler blowdown tanks;
(zz) Industrial cooling towers that do not use chromium-based water treatment chemicals;
(aaa) Ash piles maintained in a wetted condition and associated handling systems and activities;
(bbb) Uncontrolled oil/water separators in effluent treatment systems, excluding systems with a throughput of more than 400,000 gallons per year of effluent located at the following sources:
(A) Petroleum refineries;
(B) Sources that perform petroleum refining and re-refining of lubricating oils and greases including asphalt production by distillation and the reprocessing of oils and/or solvents for fuels; or
(C) Bulk gasoline plants, bulk gasoline terminals, and pipeline facilities;
(ccc) Combustion source flame safety purging on startup;
(ddd) Broke beaters, pulp and repulping tanks, stock chests and pulp handling equipment, excluding thickening equipment and repulpers;
(eee) Stock cleaning and pressurized pulp washing, excluding open stock washing systems; and
(fff) White water storage tanks.
(24) "Certifying individual" means the responsible person or official authorized by the owner or operator of a source who certifies the accuracy of the emission statement.
(25) "Class I area" or “PSD Class I area” means any Federal, State or Indian reservation land which is classified or reclassified as a Class I area under OAR 340-204-0050 and 340-204-0060.
(26) “Class II area” or “PSD Class II area’ means any land which is classified or reclassified as a Class II area under OAR 340-204-0050 and 340-204-0060.
(27) “Class III area” or “PSD Class III area’ means any land which is reclassified as a Class III area under OAR 340-204-0060.
(28) "Commence" or "commencement" means that the owner or operator has obtained all necessary preconstruction approvals required by the FCAA and either has:
(a) Begun, or caused to begin, a continuous program of actual on-site construction of the source to be completed in a reasonable time; or
(b) Entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of construction of the source to be completed in a reasonable time.
(29) "Commission" or "EQC" means Environmental Quality Commission.
(30) "Constant process rate" means the average variation in process rate for the calendar year is not greater than plus

or minus ten percent of the average process rate.
(31) "Construction":
(a) Except as provided in subsection (b) means any physical change including, but not limited to, fabrication, erection, installation, demolition, or modification of a source or part of a source;
(b) As used in OAR 340 division 224 means any physical change including, but not limited to, fabrication, erection, installation, demolition, or modification of an emissions unit, or change in the method of operation of a source which would result in a change in actual emissions.
(32) "Continuous compliance determination method" means a method, specified by the applicable standard or an applicable permit condition, which:
(a) Is used to determine compliance with an emission limitation or standard on a continuous basis, consistent with the averaging period established for the emission limitation or standard; and
(b) Provides data either in units of the standard or correlated directly with the compliance limit.
(33) "Continuous monitoring systems" means sampling and analysis, in a timed sequence, using techniques which will adequately reflect actual emissions or concentrations on a continuing basis as specified in the DEQ Continuous Monitoring Manual, found in OAR 340-200-0035, and includes continuous emission monitoring systems, continuous opacity monitoring system (COMS) and continuous parameter monitoring systems.
(34) “Control device” means equipment, other than inherent process equipment that is used to destroy or remove a regulated pollutant prior to discharge to the atmosphere. The types of equipment that may commonly be used as control devices include, but are not limited to, fabric filters, mechanical collectors, electrostatic precipitators, inertial separators, afterburners, thermal or catalytic incinerators, adsorption devices, such as carbon beds, condensers, scrubbers, such as wet collection and gas absorption devices, selective catalytic or non-catalytic reduction systems, flue gas recirculation systems, spray dryers, spray towers, mist eliminators, acid plants, sulfur recovery plants, injection systems, such as water, steam, ammonia, sorbent or limestone injection, and combustion devices independent of the particular process being conducted at an emissions unit, e.g., the destruction of emissions achieved by venting process emission streams to flares, boilers or process heaters. For purposes of OAR 340-212-0200 through 340-212-0280, a control device does not include passive control measures that act to prevent regulated pollutants from forming, such as the use of seals, lids, or roofs to prevent the release of regulated pollutants, use of low-polluting fuel or feedstocks, or the use of combustion or other process design features or characteristics. If an applicable requirement establishes that particular equipment which otherwise meets this definition of a control device does not constitute a control device as applied to a particular regulated pollutant-specific emissions unit, then that definition will be binding for purposes of OAR 340-212-0200 through 340-212-0280.
(35) “Control efficiency” means the product of the capture and removal efficiencies.
(36) "Criteria pollutant" means any of the following regulated pollutants: nitrogen oxides, volatile organic compounds, particulate matter, PM10, PM2.5, sulfur dioxide, carbon monoxide, and lead.
(37) "Data" means the results of any type of monitoring or method, including the results of instrumental or non-instrumental monitoring, emission calculations, manual sampling procedures, recordkeeping procedures, or any other form of information collection procedure used in connection with any type of monitoring or method.
(38) “Day” means a 24-hour period beginning at 12:00 a.m. midnight or a 24-hour period as specified in a permit.
(39) "De minimis emission level" means the level for the regulated pollutants listed below:
(a) Greenhouse Gases (CO_2e) = 2,756 tons per year.
(b) CO = 1 ton per year.
(c) NOx = 1 ton per year.
(d) SO_2 = 1 ton per year.
(e) VOC = 1 ton per year.
(f) PM = 1 ton per year.
(g) PM10 (except Medford AQMA) = 1 ton per year.
(h) PM10 (Medford AQMA) = 0.5 ton per year and 5.0 pounds/day.

(i) Direct PM2.5 = 1 ton per year.
(j) Lead = 0.1 ton per year.
(k) Fluorides = 0.3 ton per year.
(l) Sulfuric Acid Mist = 0.7 ton per year.
(m) Hydrogen Sulfide = 1 ton per year.
(n) Total Reduced Sulfur (including hydrogen sulfide) = 1 ton per year.
(o) Reduced Sulfur = 1 ton per year.
(p) Municipal waste combustor organics (dioxin and furans) = 0.0000005 ton per year.
(q) Municipal waste combustor metals = 1 ton per year.
(r) Municipal waste combustor acid gases = 1 ton per year.
(s) Municipal solid waste landfill gases (measured as nonmethane organic compounds) = 1 ton per year
(t) Single HAP = 1 ton per year
(u) Combined HAP (aggregate) = 1 ton per year
(40) "Department" or “DEQ”:
(a) Means Department of Environmental Quality; except
(b) As used in OAR 340 divisions 218 and 220 means Department of Environmental Quality, or in the case of Lane County, LRAPA.
(41) “DEQ method [#]” means the sampling method and protocols for measuring a regulated pollutant as described in the DEQ Source Sampling Manual, found in OAR 340-200-0035.
(42) “Designated area” means an area that has been designated as an attainment, unclassified, sustainment, nonattainment, reattainment, or maintenance area under OAR 340 division 204 or applicable provisions of the FCAA.
(43) “Destruction efficiency” means removal efficiency.
(44) "Device" means any machine, equipment, raw material, product, or byproduct at a source that produces or emits a regulated pollutant.
(45) "Direct PM2.5" has the meaning provided in the definition of PM2.5.
(46) "Director" means the Director of DEQ or the Director's designee.
(47) "Draft permit" means the version of an Oregon Title V Operating Permit for which DEQ or LRAPA offers public participation under OAR 340-218-0210 or the EPA and affected State review under 340-218-0230.
(48) "Dry standard cubic foot" means the amount of gas that would occupy a volume of one cubic foot, if the gas were free of uncombined water at standard conditions.
(49) "Effective date of the program" means the date that the EPA approves the Oregon Title V Operating Permit program submitted by DEQ on a full or interim basis. In case of a partial approval, the "effective date of the program" for each portion of the program is the date of the EPA approval of that portion.
(50) "Emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the owner or operator, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency does not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
(51) "Emission" means a release into the atmosphere of any regulated pollutant or any air contaminant.
(52) "Emission estimate adjustment factor" or "EEAF" means an adjustment applied to an emission factor to account for the relative inaccuracy of the emission factor.
(53) "Emission factor" means an estimate of the rate at which a regulated pollutant is released into the atmosphere, as the result of some activity, divided by the rate of that activity (e.g., production or process rate).
(54) "Emission limitation" or "Emission standard" or “Emission limitation or standard” means:
(a) Except as provided in subsection (b), a requirement established by a state, local government, or the EPA which limits the quantity, rate, or concentration of emissions of regulated pollutants on a continuous basis, including any

requirements which limit the level of opacity, prescribe equipment, set fuel specifications, or prescribe operation or maintenance procedures for a source to assure continuous emission reduction.
(b) As used in OAR 340-212-0200 through 340-212-0280, any applicable requirement that constitutes an emission limitation, emission standard, standard of performance or means of emission limitation as defined under the FCAA. An emission limitation or standard may be expressed in terms of the pollutant, expressed either as a specific quantity, rate or concentration of emissions, e.g., pounds of SO2 per hour, pounds of SO2 per million British thermal units of fuel input, kilograms of VOC per liter of applied coating solids, or parts per million by volume of SO2, or as the relationship of uncontrolled to controlled emissions, e.g., percentage capture and destruction efficiency of VOC or percentage reduction of SO2. An emission limitation or standard may also be expressed either as a work practice, process or control device parameter, or other form of specific design, equipment, operational, or operation and maintenance requirement. For purposes of 340-212-0200 through 340-212-0280, an emission limitation or standard does not include general operation requirements that an owner or operator may be required to meet, such as requirements to obtain a permit, operate and maintain sources using good air pollution control practices, develop and maintain a malfunction abatement plan, keep records, submit reports, or conduct monitoring.
(55) "Emission Reduction credit banking" means to presently reserve, subject to requirements of OAR 340 division 268, Emission Reduction Credits, emission reductions for use by the reserver or assignee for future compliance with air pollution reduction requirements.
(56) "Emission reporting form" means a paper or electronic form developed by DEQ that must be completed by the permittee to report calculated emissions, actual emissions, or permitted emissions for interim emission fee assessment purposes.
(57) "Emissions unit" means any part or activity of a source that emits or has the potential to emit any regulated pollutant.
(a) A part of a source is any machine, equipment, raw material, product, or byproduct that produces or emits regulated pollutants. An activity is any process, operation, action, or reaction, e.g., chemical, at a stationary source that emits regulated pollutants. Except as described in subsection (d), parts and activities may be grouped for purposes of defining an emissions unit if the following conditions are met:
(A) The group used to define the emissions unit may not include discrete parts or activities to which a distinct emissions standard applies or for which different compliance demonstration requirements apply; and
(B) The emissions from the emissions unit are quantifiable.
(b) Emissions units may be defined on a regulated pollutant by regulated pollutant basis where applicable.
(c) The term emissions unit is not meant to alter or affect the definition of the term "unit" under Title IV of the FCAA.
(d) Parts and activities cannot be grouped for determining emissions increases from an emissions unit under OAR 340 divisions 210 and 224, or for determining the applicability of any New Source Performance Standard.
(58) "EPA" or "Administrator" means the Administrator of the United States Environmental Protection Agency or the Administrator's designee.
(59) "EPA Method 9" means the method for Visual Determination of the Opacity of Emissions From Stationary Sources described in 40 C.F.R. part 60, Appendix A–4.
(60) "Equivalent method" means any method of sampling and analyzing for a regulated pollutant that has been demonstrated to DEQ's satisfaction to have a consistent and quantitatively known relationship to the reference method, under specified conditions. An equivalent method used to meet an applicable federal requirement for which a reference method is specified must be approved by EPA unless EPA has delegated authority for the approval to DEQ.
(61) "Event" means excess emissions that arise from the same condition and occur during a single calendar day or continue into subsequent calendar days.
(62) "Exceedance" means a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions, or opacity, are greater than the applicable emission limitation or standard, or less than the applicable standard in the case of a percent reduction requirement, consistent with any averaging period specified for averaging the results of the monitoring.

(63) "Excess emissions" means emissions in excess of a permit or permit attachment limit, in excess of a risk limit under OAR chapter 340, division 245, or in violation of any applicable air quality rule.
(64) "Excursion" means a departure from an indicator range established for monitoring under OAR 340-212-0200 through 340-212-0280 and 340-218-0050(3)(a), consistent with any averaging period specified for averaging the results of the monitoring.
(65) "Federal Land Manager" means with respect to any lands in the United States, the Secretary of the federal department with authority over such lands.
(66) "Federal Major Source" means any source listed in subsections (a) or (d) below:
(a) A source with potential to emit:
(A) 100 tons per year or more of any individual regulated pollutant, excluding greenhouse gases and hazardous air pollutants listed in OAR 340 division 244 if in a source category listed in subsection (c), or
(B) 250 tons per year or more of any individual regulated pollutant, excluding greenhouse gases and hazardous air pollutants listed in OAR 340 division 244, if not in a source category listed in subsection (c).
(b) Calculations for determining a source's potential to emit for purposes of subsections (a) and (d) must include the following:
(A) Fugitive emissions and insignificant activity emissions; and
(B) Increases or decreases due to a new or modified source.
(c) Source categories:
(A) Fossil fuel-fired steam electric plants of more than 250 million BTU/hour heat input;
(B) Coal cleaning plants with thermal dryers;
(C) Kraft pulp mills;
(D) Portland cement plants;
(E) Primary zinc smelters;
(F) Iron and steel mill plants;
(G) Primary aluminum ore reduction plants;
(H) Primary copper smelters;
(I) Municipal incinerators capable of charging more than 50 tons of refuse per day;
(J) Hydrofluoric acid plants;
(K) Sulfuric acid plants;
(L) Nitric acid plants;
(M) Petroleum refineries;
(N) Lime plants;
(O) Phosphate rock processing plants;
(P) Coke oven batteries;
(Q) Sulfur recovery plants;
(R) Carbon black plants, furnace process;
(S) Primary lead smelters;
(T) Fuel conversion plants;
(U) Sintering plants;
(V) Secondary metal production plants;
(W) Chemical process plants, excluding ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140;
(X) Fossil fuel fired boilers, or combinations thereof, totaling more than 250 million BTU per hour heat input;
(Y) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
(Z) Taconite ore processing plants;
(AA) Glass fiber processing plants;
(BB) Charcoal production plants.

(d) A major stationary source as defined in part D of Title I of the FCAA, including:
(A) For ozone nonattainment areas, sources with the potential to emit 100 tons per year or more of VOCs or oxides of nitrogen in areas classified as "marginal" or "moderate," 50 tons per year or more in areas classified as "serious," 25 tons per year or more in areas classified as "severe," and 10 tons per year or more in areas classified as "extreme"; except that the references in this paragraph to 100, 50, 25, and 10 tons per year of nitrogen oxides do not apply with respect to any source for which the Administrator has made a finding, under section 182(f)(1) or (2) of the FCAA, that requirements under section 182(f) of the FCAA do not apply;
(B) For ozone transport regions established under section 184 of the FCAA, sources with the potential to emit 50 tons per year or more of VOCs;
(C) For carbon monoxide nonattainment areas that are classified as "serious" and in which stationary sources contribute significantly to carbon monoxide levels as determined under rules issued by the Administrator, sources with the potential to emit 50 tons per year or more of carbon monoxide.
(D) For PM10 nonattainment areas classified as "serious," sources with the potential to emit 70 tons per year or more of PM10.
(67) "Final permit" means the version of an Oregon Title V Operating Permit issued by DEQ or LRAPA that has completed all review procedures required by OAR 340-218-0120 through 340-218-0240.
(68) "Form" means a paper or electronic form developed by DEQ.
(69) “Fuel burning equipment” means equipment, other than internal combustion engines, the principal purpose of which is to produce heat or power by indirect heat transfer.
(70) "Fugitive emissions":
(a) Except as used in subsection (b), means emissions of any air contaminant which escape to the atmosphere from any point or area that is not identifiable as a stack, vent, duct, or equivalent opening.
(b) As used to define a major Oregon Title V Operating Permit program source, means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.
(71) "General permit":
(a) Except as provided in subsection (b), means an Oregon Air Contaminant Discharge Permit established under OAR 340-216-0060;
(b) As used in OAR 340 division 218 means an Oregon Title V Operating Permit established under OAR 340-218-0090.
(72) "Generic PSEL" means the levels for the regulated pollutants listed below:
(a) Greenhouse Gases (CO2e) = 74,000 tons per year
(b) CO = 99 tons per year
(c) NOx = 39 tons per year
(d) SO2 = 39 tons per year
(e) VOC = 39 tons per year
(f) PM = 24 tons per year
(g) PM10 (except Medford AQMA) = 14 tons per year
(h) PM10 (Medford AQMA) = 4.5 tons per year and 49 pounds per day
(i) PM2.5 = 9 tons per year
(j) Lead = 0.5 tons per year
(k) Fluorides = 2 tons per year
(l) Sulfuric Acid Mist = 6 tons per year
(m) Hydrogen Sulfide = 9 tons per year
(n) Total Reduced Sulfur (including hydrogen sulfide) = 9 tons per year
(o) Reduced Sulfur = 9 tons per year
(p) Municipal waste combustor organics (Dioxin and furans) = 0.0000030 tons per year
(q) Municipal waste combustor metals = 14 tons per year
(r) Municipal waste combustor acid gases = 39 tons per year

(s) Municipal solid waste landfill gases (measured as nonmethane organic compounds) = 49 tons per year
(t) Single HAP = 9 tons per year
(u) Combined HAPs (aggregate) = 24 tons per year
(73)(a) "Greenhouse gases" or "GHGs" means the aggregate group of the following six gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Each gas is also individually a greenhouse gas.
(b) The definition of greenhouse gases in subsection (a) of this section does not include, for purposes of division 216, 218, and 224, carbon dioxide emissions from the combustion or decomposition of biomass except to the extent required by federal law.
(74) "Growth allowance" means an allocation of some part of an airshed's capacity to accommodate future proposed sources and modifications of sources.
(75) "Hardboard" means a flat panel made from wood that has been reduced to basic wood fibers and bonded by adhesive properties under pressure.
(76) “Hazardous Air Pollutant” or “HAP” means an air contaminant listed by the EPA under section 112(b) of the FCAA or determined by the EQC to cause, or reasonably be anticipated to cause, adverse effects to human health or the environment.
(77) "Immediately" means as soon as possible but in no case more than one hour after a source knew or should have known of an excess emission period.
(78) "Indian governing body" means the governing body of any tribe, band, or group of Indians subject to the jurisdiction of the United States and recognized by the United States as possessing power of self-government.
(79) "Indian reservation" means any federally recognized reservation established by Treaty, Agreement, Executive Order, or Act of Congress.
(80) "Inherent process equipment" means equipment that is necessary for the proper or safe functioning of the process, or material recovery equipment that the owner or operator documents is installed and operated primarily for purposes other than compliance with air pollution regulations. Equipment that must be operated at an efficiency higher than that achieved during normal process operations in order to comply with the applicable emission limitation or standard is not inherent process equipment. For the purposes of OAR 340-212-0200 through 340-212-0280, inherent process equipment is not considered a control device.
(81) "Insignificant activity" means an activity or emission that DEQ has designated as categorically insignificant, or that meets the criteria of aggregate insignificant emissions.
(82) "Insignificant change" means an off-permit change defined under OAR 340-218-0140(2)(a) to either a significant or an insignificant activity which:
(a) Does not result in a re-designation from an insignificant to a significant activity;
(b) Does not invoke an applicable requirement not included in the permit; and
(c) Does not result in emission of regulated pollutants not regulated by the source's permit.
(83) “Internal combustion engine” means stationary gas turbines and reciprocating internal combustion engines.
(84) "Late payment" means a fee payment which is postmarked after the due date.
(85) "Liquefied petroleum gas" has the meaning given by the American Society for Testing and Materials in ASTM D1835-82, "Standard Specification for Liquid Petroleum Gases."
(86) "Lowest Achievable Emission Rate" or "LAER" means that rate of emissions which reflects: the most stringent emission limitation which is contained in the implementation plan of any state for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable; or the most stringent emission limitation which is achieved in practice by such class or category of source, whichever is more stringent. The application of this term cannot permit a proposed new or modified source to emit any air contaminant in excess of the amount allowable under applicable New Source Performance Standards (NSPS) or standards for hazardous air pollutants.
(87) "Maintenance area" means any area that was formerly nonattainment for a criteria pollutant but has since met the

ambient air quality standard, and EPA has approved a maintenance plan to comply with the standards under 40 C.F.R. 51.110. Maintenance areas are designated by the EQC according to division 204.
(88) "Maintenance pollutant" means a regulated pollutant for which a maintenance area was formerly designated a nonattainment area.
(89) "Major Modification" means any physical change or change in the method of operation of a source that results in satisfying the requirements of OAR 340-224-0025.
(90) “Major New Source Review” or “Major NSR” means the new source review process and requirements under OAR 340-224-0010 through 340-224-0070 and 340-224-0500 through 340-224-0540 based on the location and regulated pollutants emitted.
(91) "Major source":
(a) Except as provided in subsection (b) of this section, means a source that emits, or has the potential to emit, any regulated air pollutant at a Significant Emission Rate. The fugitive emissions and insignificant activity emissions of a stationary source are considered in determining whether it is a major source. Potential to emit calculations must include emission increases due to a new or modified source and may include emission decreases.
(b) As used in OAR 340 division 210, Stationary Source Notification Requirements, OAR 340 division 218, Oregon Title V Operating Permits, OAR 340 division 220, Oregon Title V Operating Permit Fees, 340-216-0066, Standard ACDPs, and OAR 340 division 236, Emission Standards for Specific Industries, means any stationary source or any group of stationary sources that are located on one or more contiguous or adjacent properties and are under common control of the same person or persons under common control belonging to a single major industrial grouping or supporting the major industrial group and that is described in paragraphs (A), (B), or (C). For the purposes of this subsection, a stationary source or group of stationary sources is considered part of a single industrial grouping if all of the regulated pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same major group (i.e., all have the same two-digit code) as described in the Standard Industrial Classification Manual (U.S. Office of Management and Budget, 1987) or support the major industrial group.
(A) A major source of hazardous air pollutants, which means:
(i) For hazardous air pollutants other than radionuclides, any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, in the aggregate, 10 tons per year or more of any hazardous air pollutants that has been listed under OAR 340-244-0040; 25 tons per year or more of any combination of such hazardous air pollutants, or such lesser quantity as the Administrator may establish by rule. Emissions from any oil or gas exploration or production well, along with its associated equipment, and emissions from any pipeline compressor or pump station will not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources; or
(ii) For radionuclides, "major source" will have the meaning specified by the Administrator by rule.
(B) A major stationary source of regulated pollutants, as defined in section 302 of the FCAA, that directly emits or has the potential to emit 100 tons per year or more of any regulated pollutant, except greenhouse gases, including any major source of fugitive emissions of any such regulated pollutant. The fugitive emissions of a stationary source are not considered in determining whether it is a major stationary source for the purposes of section 302(j) of the FCAA, unless the source belongs to one of the following categories of stationary sources:
(i) Coal cleaning plants (with thermal dryers);
(ii) Kraft pulp mills;
(iii) Portland cement plants;
(iv) Primary zinc smelters;
(v) Iron and steel mills;
(vi) Primary aluminum ore reduction plants;
(vii) Primary copper smelters;
(viii) Municipal incinerators capable of charging more than 50 tons of refuse per day;

(ix) Hydrofluoric, sulfuric, or nitric acid plants;
(x) Petroleum refineries;
(xi) Lime plants;
(xii) Phosphate rock processing plants;
(xiii) Coke oven batteries;
(xiv) Sulfur recovery plants;
(xv) Carbon black plants (furnace process);
(xvi) Primary lead smelters;
(xvii) Fuel conversion plants;
(xviii) Sintering plants;
(xix) Secondary metal production plants;
(xx) Chemical process plants, excluding ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140;
(xxi) Fossil-fuel boilers, or combination thereof, totaling more than 250 million British thermal units per hour heat input;
(xxii) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
(xxiii) Taconite ore processing plants;
(xxiv) Glass fiber processing plants;
(xxv) Charcoal production plants;
(xxvi) Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; or
(xxvii) Any other stationary source category, that as of August 7, 1980 is being regulated under section 111 or 112 of the FCAA.
(C) From July 1, 2011 through November 6, 2014, a major stationary source of regulated pollutants, as defined by Section 302 of the FCAA, that directly emits or has the potential to emit 100 tons per year or more of greenhouse gases and directly emits or has the potential to emit 100,000 tons per year or more CO2e, including fugitive emissions.
(92) "Material balance" means a procedure for determining emissions based on the difference in the amount of material added to a process and the amount consumed and/or recovered from a process.
(93) "Modification," except as used in the terms "major modification" “permit modification” and “Title I modification,” means any physical change to, or change in the method of operation of, a source or part of a source that results in an increase in the source or part of the source's potential to emit any regulated pollutant on an hourly basis. Modifications do not include the following:
(a) Increases in hours of operation or production rates that do not involve a physical change or change in the method of operation;
(b) Changes in the method of operation due to using an alternative fuel or raw material that the source or part of a source was physically capable of accommodating during the baseline period; and
(c) Routine maintenance, repair and like-for-like replacement of components unless they increase the expected life of the source or part of a source by using component upgrades that would not otherwise be necessary for the source or part of a source to function.
(94) "Monitoring" means any form of collecting data on a routine basis to determine or otherwise assess compliance with emission limitations or standards. Monitoring may include record keeping if the records are used to determine or assess compliance with an emission limitation or standard such as records of raw material content and usage, or records documenting compliance with work practice requirements. Monitoring may include conducting compliance method tests, such as the procedures in appendix A to 40 C.F.R. part 60, on a routine periodic basis. Requirements to conduct such tests on a one-time basis, or at such times as a regulatory authority may require on a non-regular basis, are not considered monitoring requirements for purposes of this definition. Monitoring may include one or more than one of the following data collection techniques as appropriate for a particular circumstance:
(a) Continuous emission or opacity monitoring systems.
(b) Continuous process, capture system, control device or other relevant parameter monitoring systems or procedures,

including a predictive emission monitoring system.
(c) Emission estimation and calculation procedures (e.g., mass balance or stoichiometric calculations).
(d) Maintaining and analyzing records of fuel or raw materials usage.
(e) Recording results of a program or protocol to conduct specific operation and maintenance procedures.
(f) Verifying emissions, process parameters, capture system parameters, or control device parameters using portable or in situ measurement devices.
(g) Visible emission observations and recording.
(h) Any other form of measuring, recording, or verifying on a routine basis emissions, process parameters, capture system parameters, control device parameters or other factors relevant to assessing compliance with emission limitations or standards.
(95) "Natural gas" means a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal component is methane.
(96) "Netting basis" means an emission rate determined as specified in OAR 340-222-0046.
(97) "Nitrogen oxides" or "NOx" means all oxides of nitrogen except nitrous oxide.
(98) "Nonattainment area" means a geographical area of the state, as designated by the EQC or the EPA, that exceeds any state or federal primary or secondary ambient air quality standard. Nonattainment areas are designated by the EQC according to division 204.
(99) "Nonattainment pollutant" means a regulated pollutant for which an area is designated a nonattainment area. Nonattainment areas are designated by the EQC according to division 204.
(100) "Normal source operation" means operation that does not include such conditions as forced fuel substitution, equipment malfunction, or highly abnormal market conditions.
(101) "Odor" means that property of an air contaminant that affects the sense of smell.
(102) "Offset" means an equivalent or greater emission reduction that is required before allowing an emission increase from a source that is subject to Major NSR or State NSR.
(103) "Opacity" means the degree to which emissions, excluding uncombined water, reduce the transmission of light and obscure the view of an object in the background as measured by EPA Method 9 or other method, as specified in each applicable rule.
(104) "Oregon Title V operating permit" or “Title V permit” means written authorization issued, renewed, amended, or revised under OAR 340 division 218.
(105) "Oregon Title V operating permit program" or “Title V program” means the Oregon program described in OAR 340 division 218 and approved by the Administrator under 40 C.F.R. part 70.
(106) "Oregon Title V operating permit program source" or “Title V source” means any source subject to the permitting requirements, OAR 340 division 218.
(107) "Ozone precursor" means nitrogen oxides and volatile organic compounds.
(108) "Ozone season" means the contiguous 3 month period during which ozone exceedances typically occur, i.e., June, July, and August.
(109) "Particleboard" means matformed flat panels consisting of wood particles bonded together with synthetic resin or other suitable binder.
(110) "Particulate matter" means all finely divided solid or liquid material, other than uncombined water, emitted to the ambient air as measured by the test method specified in each applicable rule, or where not specified by rule, in the permit.
(111) "Permit" means an Air Contaminant Discharge Permit or an Oregon Title V Operating Permit, permit attachment and any amendments or modifications thereof.
(112) "Permit modification" means a permit revision that meets the applicable requirements of OAR 340 division 216, OAR 340 division 224, or OAR 340-218-0160 through 340-218-0180.
(113) "Permit revision" means any permit modification or administrative permit amendment.
(114) "Permitted emissions" as used in OAR 340 division 220 means each regulated pollutant portion of the PSEL, as

identified in an ACDP, Oregon Title V Operating Permit, review report, or by DEQ under OAR 340-220-0090.
(115) "Permittee" means the owner or operator of a source, authorized to emit regulated pollutants under an ACDP or Oregon Title V Operating Permit.
(116) "Person" means individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the State of Oregon and any agencies thereof, and the federal government and any agencies thereof.
(117) "Plant Site Emission Limit" or "PSEL" means the total mass emissions per unit time of an individual regulated pollutant specified in a permit for a source. The PSEL for a major source may consist of more than one permitted emission for purposes of Oregon Title V Operating Permit Fees in OAR 340 division 220.
(118) “Plywood" means a flat panel built generally of an odd number of thin sheets of veneers of wood in which the grain direction of each ply or layer is at right angles to the one adjacent to it.
(119) "PM10":
(a) When used in the context of emissions, means finely divided solid or liquid material, including condensable particulate, other than uncombined water, with an aerodynamic diameter less than or equal to a nominal 10 micrometers, emitted to the ambient air as measured by the test method specified in each applicable rule or, where not specified by rule, in each individual permit;
(b) When used in the context of ambient concentration, means airborne finely divided solid or liquid material with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured under 40 C.F.R. part 50, Appendix J or an equivalent method designated under 40 C.F.R. part 53.
(120) "PM2.5":
(a) When used in the context of direct PM2.5 emissions, means finely divided solid or liquid material, including condensable particulate, other than uncombined water, with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers, emitted to the ambient air as measured by the test method specified in each applicable rule or, where not specified by rule, in each individual permit.
(b) When used in the context of PM2.5 precursor emissions, means sulfur dioxide (SO2) and nitrogen oxides (NOx) emitted to the ambient air as measured by the test method specified in each applicable rule or, where not specified by rule, in each individual permit.
(c) When used in the context of ambient concentration, means airborne finely divided solid or liquid material with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers as measured under 40 C.F.R. part 50, Appendix L, or an equivalent method designated under 40 C.F.R. part 53.
(121) "PM2.5 fraction" means the fraction of PM2.5 in relation to PM10 for each emissions unit that is included in the netting basis and PSEL.
(122) "Pollutant-specific emissions unit" means an emissions unit considered separately with respect to each regulated pollutant.
(123) “Portable” means designed and capable of being carried or moved from one location to another. Indicia of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.
(124) "Potential to emit" or "PTE" means the lesser of:
(a) The regulated pollutant emissions capacity of a stationary source; or
(b) The maximum allowable regulated pollutant emissions taking into consideration any physical or operational limitation, including use of control devices and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, if the limitation is enforceable by the Administrator.
(c) This definition does not alter or affect the use of this term for any other purposes under the FCAA or the term "capacity factor" as used in Title IV of the FCAA and the regulations promulgated thereunder. Secondary emissions are not considered in determining the potential to emit.
(125) "ppm" means parts per million by volume unless otherwise specified in the applicable rule or an individual permit. It is a dimensionless unit of measurement for gases that expresses the ratio of the volume of one component gas to the volume of the entire sample mixture of gases.

(126) "Predictive emission monitoring system" or "PEMS" means a system that uses process and other parameters as inputs to a computer program or other data reduction system to produce values in terms of the applicable emission limitation or standard.
(127) "Press/cooling vent" means any opening through which particulate and gaseous emissions from plywood, particleboard, or hardboard manufacturing are exhausted, either by natural draft or powered fan, from the building housing the process. Such openings are generally located immediately above the board press, board unloader, or board cooling area.
(128) "Process upset" means a failure or malfunction of a production process or system to operate in a normal and usual manner.
(129) "Proposed permit" means the version of an Oregon Title V Operating Permit that DEQ or LRAPA proposes to issue and forwards to the Administrator for review in compliance with OAR 340-218-0230.
(130) "Reattainment area" means an area that is designated as nonattainment and has three consecutive years of monitoring data that shows the area is meeting the ambient air quality standard for the regulated pollutant for which the area was designated a nonattainment area, but a formal redesignation by EPA has not yet been approved. Reattainment areas are designated by the EQC according to division 204.
(131) "Reattainment pollutant" means a regulated pollutant for which an area is designated a reattainment area.
(132) "Reference method" means any method of sampling and analyzing for a regulated pollutant as specified in 40 C.F.R. part 52, 60, 61 or 63.
(133) "Regional agency" means Lane Regional Air Protection Agency.
(134) "Regulated air pollutant" or "Regulated pollutant":
(a) Except as provided in subsections (b), (c) and (d), means:
(A) Nitrogen oxides or any VOCs;
(B) Any pollutant for which an ambient air quality standard has been promulgated, including any precursors to such pollutants;
(C) Any pollutant that is subject to any standard promulgated under section 111 of the FCAA;
(D) Any Class I or II substance subject to a standard promulgated under or established by Title VI of the FCAA;
(E) Any pollutant listed under OAR 340-244-0040 or 40 C.F.R. 68.130;
(F) Greenhouse gases; and
(G) Toxic Air Contaminants.
(b) As used in OAR 340 division 220, Oregon Title V Operating Permit Fees, regulated pollutant means particulate matter, volatile organic compounds, oxides of nitrogen and sulfur dioxide.
(c) As used in OAR 340 division 222, Plant Site Emission Limits and division 224, New Source Review, regulated pollutant does not include any pollutant listed in OAR 340 divisions 244 and 246.
(d) As used in OAR 340 division 202 Ambient Air Quality Standards And PSD Increments through division 210 Stationary Source Notification Requirements; division 215 Greenhouse Reporting Requirements; division 222 Stationary Source Plant Site Emission Limits through division 244 Oregon Federal Hazardous Air Pollutant Program; and division 248 Asbestos Requirements through division 268 Emission Reduction Credits; regulated pollutant means only the air contaminants listed under paragraphs (a)(A) through (F).
(135) "Removal efficiency" means the performance of an air pollution control device in terms of the ratio of the amount of the regulated pollutant removed from the airstream to the total amount of regulated pollutant that enters the air pollution control device.
(136) "Renewal" means the process by which a permit is reissued at the end of its term.
(137) "Responsible official" means one of the following:
(a) For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(A) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or
(B) The delegation of authority to such representative is approved in advance by DEQ or LRAPA.
(b) For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
(c) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this division, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of EPA (e.g., a Regional Administrator of the EPA); or
(d) For affected sources:
(A) The designated representative in so far as actions, standards, requirements, or prohibitions under Title IV of the FCAA or the regulations promulgated there under are concerned; and
(B) The designated representative for any other purposes under the Oregon Title V Operating Permit program.
(138) "Secondary emissions" means emissions that are a result of the construction and/or operation of a source or modification, but that do not come from the source itself. Secondary emissions must be specific, well defined, quantifiable, and impact the same general area as the source associated with the secondary emissions. Secondary emissions may include, but are not limited to:
(a) Emissions from ships and trains coming to or from a facility;
(b) Emissions from off-site support facilities that would be constructed or would otherwise increase emissions as a result of the construction or modification of a source.
(139) "Section 111" means section 111 of the FCAA, 42 U.S.C. § 7411, which includes Standards of Performance for New Stationary Sources (NSPS).
(140) "Section 111(d)" means subsection 111(d) of the FCAA, 42 U.S.C. § 7411(d), which requires states to submit to the EPA plans that establish standards of performance for existing sources and provides for implementing and enforcing such standards.
(141) "Section 112" means section 112 of the FCAA, 42 U.S.C. § 7412, which contains regulations for Hazardous Air Pollutants.
(142) "Section 112(b)" means subsection 112(b) of the FCAA, 42 U.S.C. § 7412(b), which includes the list of hazardous air pollutants to be regulated.
(143) "Section 112(d)" means subsection 112(d) of the FCAA, 42 U.S.C. § 7412(d), which directs the EPA to establish emission standards for sources of hazardous air pollutants. This section also defines the criteria to be used by the EPA when establishing the emission standards.
(144) "Section 112(e)" means subsection 112(e) of the FCAA, 42 U.S.C. § 7412(e), which directs the EPA to establish and promulgate emissions standards for categories and subcategories of sources that emit hazardous air pollutants.
(145) "Section 112(r)(7)" means subsection 112(r)(7) of the FCAA, 42 U.S.C. § 7412(r)(7), which requires the EPA to promulgate regulations for the prevention of accidental releases and requires owners or operators to prepare risk management plans.
(146) "Section 114(a)(3)" means subsection 114(a)(3) of the FCAA, 42 U.S.C. § 7414(a)(3), which requires enhanced monitoring and submission of compliance certifications for major sources.
(147) "Section 129" means section 129 of the FCAA, 42 U.S.C. § 7429, which requires the EPA to establish emission standards and other requirements for solid waste incineration units.
(148) "Section 129(e)" means subsection 129(e) of the FCAA, 42 U.S.C. § 7429(e), which requires solid waste incineration units to obtain Oregon Title V Operating Permits.
(149) "Section 182(f)" means subsection 182(f) of the FCAA, 42 U.S.C. § 7511a(f), which requires states to include plan provisions in the SIP for NOx in ozone nonattainment areas.
(150) "Section 182(f)(1)" means subsection 182(f)(1) of the FCAA, 42 U.S.C. § 7511a(f)(1), which requires states to apply those plan provisions developed for major VOC sources and major NOx sources in ozone nonattainment areas.
(151) "Section 183(e)" means subsection 183(e) of the FCAA, 42 U.S.C. § 7511b(e), which requires the EPA to study and

develop regulations for the control of certain VOC sources under federal ozone measures.
(152) "Section 183(f)" means subsection 183(f) of the FCAA, 42 U.S.C. § 7511b(f), which requires the EPA to develop regulations pertaining to tank vessels under federal ozone measures.
(153) "Section 184" means section 184 of the FCAA, 42 U.S.C. § 7511c, which contains regulations for the control of interstate ozone air pollution.
(154) "Section 302" means section 302 of the FCAA, 42 U.S.C. § 7602, which contains definitions for general and administrative purposes in the FCAA.
(155) "Section 302(j)" means subsection 302(j) of the FCAA, 42 U.S.C. § 7602(j), which contains definitions of "major stationary source" and "major emitting facility."
(156) "Section 328" means section 328 of the FCAA, 42 U.S.C. § 7627, which contains regulations for air pollution from outer continental shelf activities.
(157) "Section 408(a)" means subsection 408(a) of the FCAA, 42 U.S.C. § 7651g(a), which contains regulations for the Title IV permit program.
(158) "Section 502(b)(10) change" means a change which contravenes an express permit term but is not a change that:
(a) Would violate applicable requirements;
(b) Would contravene federally enforceable permit terms and conditions that are monitoring, recordkeeping, reporting, or compliance certification requirements; or
(c) Is a FCAA Title I modification.
(159) "Section 504(b)" means subsection 504(b) of the FCAA, 42 U.S.C. § 7661c(b), which states that the EPA can prescribe by rule procedures and methods for determining compliance and for monitoring.
(160) "Section 504(e)" means subsection 504(e) of the FCAA, 42 U.S.C. § 761c(e), which contains regulations for permit requirements for temporary sources.
(161) "Significant emission rate" or "SER," except as provided in subsections (v) and (w), means an emission rate equal to or greater than the rates specified for the regulated pollutants below:
(a) Greenhouse gases (CO2e) = 75,000 tons per year
(b) Carbon monoxide = 100 tons per year except in a serious nonattainment area = 50 tons per year, provided DEQ has determined that stationary sources contribute significantly to carbon monoxide levels in that area.
(c) Nitrogen oxides (NOX) = 40 tons per year.
(d) Particulate matter = 25 tons per year.
(e) PM10 = 15 tons per year.
(f) Direct PM2.5 = 10 tons per year.
(g) PM2.5 precursors (SO2 or NOx) = 40 tons per year.
(h) Sulfur dioxide (SO2) = 40 tons per year.
(i) Ozone precursors (VOC or NOx) = 40 tons per year except:
(I) In a serious or severe ozone nonattainment area = 25 tons per year.
(II) In an extreme ozone nonattainment area = any emissions increase.
(j) Lead = 0.6 tons per year.
(k) Fluorides = 3 tons per year.
(l) Sulfuric acid mist = 7 tons per year.
(m) Hydrogen sulfide = 10 tons per year.
(n) Total reduced sulfur (including hydrogen sulfide) = 10 tons per year.
(o) Reduced sulfur compounds (including hydrogen sulfide) = 10 tons per year.
(p) Municipal waste combustor organics (measured as total tetra- through octa- chlorinated dibenzo-p-dioxins and dibenzofurans) = 0.0000035 tons per year.
(q) Municipal waste combustor metals (measured as particulate matter) = 15 tons per year.
(r) Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride) = 40 tons per year.
(s) Municipal solid waste landfill emissions (measured as nonmethane organic compounds) = 50 tons per year.

(t) Ozone depleting substances in aggregate = 100 tons per year.
(u) For the Medford-Ashland Air Quality Maintenance Area, the SER for PM10 is defined as 5 tons per year on an annual basis and 50.0 pounds per day on a daily basis.
(v) For regulated pollutants not listed in subsections (a) through (u), the SER is zero unless DEQ determines the rate that constitutes a SER.
(w) Any new source or modification with an emissions increase less than the rates specified above and that is located within 10 kilometers of a Class I area, and would have an impact on such area equal to or greater than 1 ug/m3 (24 hour average) is emitting at a SER. This subsection does not apply to greenhouse gas emissions.
(162) "Significant impact" means an additional ambient air quality concentration equal to or greater than the significant impact level. For sources of VOC or NOx, a source has a significant impact if it is located within the ozone impact distance defined in OAR 340 division 224.
(163) “Significant impact level” or “SIL” means the ambient air quality concentrations listed below. The threshold concentrations listed below are used for comparison against the ambient air quality standards and PSD increments established under OAR 340 division 202, but do not apply for protecting air quality related values, including visibility.
(a) For Class I areas:
(A) PM2.5:
(i) Annual = 0.06 g/m3.
(ii) 24-hour = 0.07 g/m3.
(B) PM10:
(i) Annual = 0.20 g/m3.
(ii) 24-hour = 0.30 g/m3.
(C) Sulfur dioxide:
(i) Annual = 0.10 g/m3.
(ii) 24-hour = 0.20 g/m3.
(iii) 3-hour = 1.0 g/m3.
(D) Nitrogen dioxide: annual = 0.10 g/m3.
(b) For Class II areas:
(A) PM2.5:
(i) Annual = 0.3 g/m3.
(ii) 24-hour = 1.2 g/m3.
(B) PM10:
(i) Annual = 0.20 g/m3.
(ii) 24-hour = 1.0 g/m3.
(C) Sulfur dioxide:
(i) Annual = 1.0 g/m3.
(ii) 24-hour = 5.0 g/m3.
(iii) 3-hour =25.0 g/m3.
(iv) 1-hour = 8.0 g/m3.
(D) Nitrogen dioxide:
(i) Annual =1.0 g/m3.
(ii) 1-hour = 8.0 g/m3.
(E) Carbon monoxide:
(i) 8-hour = 0.5 mg/m3.
(ii) 1-hour = 2.0 mg/m3.
(c) For Class III areas:
(A) PM2.5:
(i) Annual = 0.3 g/m3.

(ii) 24-hour = 1.2 g/m3.
(B) PM10:
(i) Annual = 0.20 g/m3.
(ii) 24-hour = 1.0 g/m3.
(C) Sulfur dioxide:
(i) Annual = 1.0 g/m3.
(ii) 24-hour = 5.0 g/m3.
(iii) 3-hour = 25.0 g/m3.
(D) Nitrogen dioxide: annual = 1.0 g/m3
(E) Carbon monoxide:
(i) 8-hour = 0.5 mg/m3.
(ii) 1-hour = 2.0 mg/m3.
(164) "Significant impairment" occurs when DEQ determines that visibility impairment interferes with the management, protection, preservation, or enjoyment of the visual experience within a Class I area. DEQ will make this determination on a case-by-case basis after considering the recommendations of the Federal Land Manager and the geographic extent, intensity, duration, frequency, and time of visibility impairment. These factors will be considered along with visitor use of the Class I areas, and the frequency and occurrence of natural conditions that reduce visibility.
(165) "Small scale local energy project" means:
(a) A system, mechanism or series of mechanisms located primarily in Oregon that directly or indirectly uses or enables the use of, by the owner or operator, renewable resources including, but not limited to, solar, wind, geothermal, biomass, waste heat or water resources to produce energy, including heat, electricity and substitute fuels, to meet a local community or regional energy need in this state;
(b) A system, mechanism or series of mechanisms located primarily in Oregon or providing substantial benefits to Oregon that directly or indirectly conserves energy or enables the conservation of energy by the owner or operator, including energy used in transportation;
(c) A recycling project;
(d) An alternative fuel project;
(e) An improvement that increases the production or efficiency, or extends the operating life, of a system, mechanism, series of mechanisms or project otherwise described in this section of this rule, including but not limited to restarting a dormant project;
(f) A system, mechanism or series of mechanisms installed in a facility or portions of a facility that directly or indirectly reduces the amount of energy needed for the construction and operation of the facility and that meets the sustainable building practices standard established by the State Department of Energy by rule; or
(g) A project described in subsections (a) to (f), whether or not the existing project was originally financed under ORS 470, together with any refinancing necessary to remove prior liens or encumbrances against the existing project.
(h) A project described in subsections (a) to (g) that conserves energy or produces energy by generation or by processing or collection of a renewable resource.
(166) "Source" means any building, structure, facility, installation or combination thereof that emits or is capable of emitting air contaminants to the atmosphere, is located on one or more contiguous or adjacent properties and is owned or operated by the same person or by persons under common control. The term includes all air contaminant emitting activities that belong to a single major industrial group, i.e., that have the same two-digit code, as described in the Standard Industrial Classification Manual, U.S. Office of Management and Budget, 1987, or that support the major industrial group.
(167) "Source category":
(a) Except as provided in subsection (b), means all the regulated pollutant emitting activities that belong to the same industrial grouping, i.e., that have the same two-digit code, as described in the Standard Industrial Classification Manual, U.S. Office of Management and Budget, 1987.

(b) As used in OAR 340 division 220, Oregon Title V Operating Permit Fees, means a group of major sources that DEQ determines are using similar raw materials and have equivalent process controls and pollution control device.
(168) "Source test" means the average of at least three test runs conducted under the DEQ Source Sampling Manual found in 340-200-0035.
(169) "Standard conditions" means a temperature of 68° Fahrenheit (20° Celsius) and a pressure of 14.7 pounds per square inch absolute (1.03 Kilograms per square centimeter).
(170) "Startup" and "shutdown" means that time during which a source or control device is brought into normal operation or normal operation is terminated, respectively.
(171) "State Implementation Plan" or "SIP" means the State of Oregon Clean Air Act Implementation Plan as adopted by the EQC under OAR 340-200-0040 and approved by EPA.
(172) “State New Source Review” or “State NSR” means the new source review process and requirements under OAR 340-224-0010 through 340-224-0038, 340-224-0245 through 340-224-0270 and 340-224-0500 through 340-224-0540 based on the location and regulated pollutants emitted.
(173) "Stationary source" means any building, structure, facility, or installation at a source that emits or may emit any regulated pollutant. Stationary source includes portable sources that are required to have permits under OAR 340 division 216.
(174) "Substantial underpayment" means the lesser of 10 percent of the total interim emission fee for the major source or five hundred dollars.
(175) “Sustainment area” means a geographical area of the state for which DEQ has ambient air quality monitoring data that shows an attainment or unclassified area could become a nonattainment area but a formal redesignation by EPA has not yet been approved. The presumptive geographic boundary of a sustainment area is the applicable urban growth boundary in effect on the date this rule was last approved by the EQC, unless superseded by rule. Sustainment areas are designated by the EQC according to division 204.
(176) “Sustainment pollutant” means a regulated pollutant for which an area is designated a sustainment area.
(177) "Synthetic minor source" means a source that would be classified as a major source under OAR 340-200-0020, but for limits on its potential to emit regulated pollutants contained in an ACDP or Oregon Title V permit issued by DEQ.
(178) "Title I modification" means one of the following modifications under Title I of the FCAA:
(a) A major modification subject to OAR 340-224-0050, Requirements for Sources in Nonattainment Areas or OAR 340-224-0055, Requirements for Sources in Reattainment Areas;
(b) A major modification subject to OAR 340-224-0060, Requirements for Sources in Maintenance Areas;
(c) A major modification subject to OAR 340-224-0070, Prevention of Significant Deterioration Requirements for Sources in Attainment or Unclassified Areas or 340-224-0045 Requirements for Sources in Sustainment Areas;
(d) A modification that is subject to a New Source Performance Standard under Section 111 of the FCAA; or,
(e) A modification under Section 112 of the FCAA.
(179) "Total reduced sulfur" or "TRS" means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, dimethyl disulfide, and any other organic sulfides present expressed as hydrogen sulfide (H_2S).
(180) “Toxic air contaminant” means an air pollutant that has been determined by the EQC to cause, or reasonably be anticipated to cause, adverse effects to human health and is listed in OAR 340-245-8020 Table 2.
(181) “Type A State NSR” means State NSR as specified in OAR 340-224-0010(2)(a).
(182) “Type B State NSR” means State NSR that is not Type A State NSR.
(183) "Typically Achievable Control Technology" or "TACT" means the emission limit established on a case-by-case basis for a criteria pollutant from a particular emissions unit under OAR 340-226-0130.
(184) "Unassigned emissions" means the amount of emissions that are in excess of the PSEL but less than the netting basis.
(185) "Unavoidable" or "could not be avoided" means events that are not caused entirely or in part by design, operation, maintenance, or any other preventable condition in either process or control device.

(186) “Unclassified area” or “attainment area” means an area that has not otherwise been designated by EPA as nonattainment with ambient air quality standards for a particular regulated pollutant. Attainment areas or unclassified areas may also be referred to as sustainment or maintenance areas as designated in OAR 340 division 204. Any particular location may be part of an attainment area or unclassified area for one regulated pollutant while also being in a different type of designated area for another regulated pollutant.
(187) "Upset" or "Breakdown" means any failure or malfunction of any pollution control device or operating equipment that may cause excess emissions.
(188) "Veneer" means a single flat panel of wood not exceeding 1/4 inch in thickness formed by slicing or peeling from a log.
(189) "Veneer dryer" means equipment in which veneer is dried.
(190) "Visibility impairment" means any humanly perceptible change in visual range, contrast or coloration from that which existed under natural conditions. Natural conditions include fog, clouds, windblown dust, rain, sand, naturally ignited wildfires, and natural aerosols.
(191) "Volatile organic compounds" or "VOC" means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, that participates in atmospheric photochemical reactions.
(a) This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity:
(A) Methane;
(B) Ethane;
(C) Methylene chloride (dichloromethane);
(D) 1,1,1-trichloroethane (methyl chloroform);
(E) 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);
(F) Trichlorofluoromethane (CFC-11);
(G) Dichlorodifluoromethane (CFC-12);
(H) Chlorodifluoromethane (HCFC-22);
(I) Trifluoromethane (HFC-23);
(J) 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114);
(K) Chloropentafluoroethane (CFC-115);
(L) 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123);
(M) 1,1,1,2-tetrafluoroethane (HFC-134a);
(N) 1,1-dichloro 1-fluoroethane (HCFC-141b);
(O) 1-chloro 1,1-difluoroethane (HCFC-142b);
(P) 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
(Q) Pentafluoroethane (HFC-125);
(R) 1,1,2,2-tetrafluoroethane (HFC-134);
(S) 1,1,1-trifluoroethane (HFC-143a);
(T) 1,1-difluoroethane (HFC-152a);
(U) Parachlorobenzotrifluoride (PCBTF);
(V) Cyclic, branched, or linear completely methylated siloxanes;
(W) Acetone;
(X) Perchloroethylene (tetrachloroethylene);
(Y) 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca);
(Z) 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb);
(AA) 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee);
(BB) Difluoromethane (HFC-32);
(CC) Ethylfluoride (HFC-161);

(DD) 1,1,1,3,3,3-hexafluoropropane (HFC-236fa);
(EE) 1,1,2,2,3-pentafluoropropane (HFC-245ca);
(FF) 1,1,2,3,3-pentafluoropropane (HFC-245ea);
(GG) 1,1,1,2,3-pentafluoropropane (HFC-245eb);
(HH) 1,1,1,3,3-pentafluoropropane (HFC-245fa);
(II) 1,1,1,2,3,3-hexafluoropropane (HFC-236ea);
(JJ) 1,1,1,3,3-pentafluorobutane (HFC-365mfc);
(KK) chlorofluoromethane (HCFC-31);
(LL) 1 chloro-1-fluoroethane (HCFC-151a);
(MM) 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a);
(NN) 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C4 F9 OCH3 or HFE-7100);
(OO) 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF3)2 CFCF2 OCH3);
(PP) 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C4 F9 OC2 H5 or HFE-7200);
(QQ) 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF3)2 CFCF2 OC2 H5);
(RR) Methyl acetate;
(SS) 1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-C3F7OCH3, HFE-7000);
(TT) 3-ethoxy- 1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500);
(UU) 1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea);
(VV) Methyl formate (HCOOCH3);
(WW) 1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane (HFE-7300);
(XX) Propylene carbonate;
(YY) Dimethyl carbonate;
(ZZ) Trans -1,3,3,3-tetrafluoropropene (also known as HFO-1234ze);
(AAA) HCF2 OCF2 H (HFE-134);
(BBB) HCF2 OCF2 OCF2 H (HFE-236cal2);
(CCC) HCF2 OCF2 CF2 OCF2 H (HFE-338pcc13);
(DDD) HCF2 OCF2 OCF2 CF2 OCF2 H (H-Galden 1040x or H-Galden ZT 130 (or 150 or 180));
(EEE) Trans 1-chloro-3,3,3-trifluoroprop-1-ene (also known as SolsticeTM 1233zd(E));
(FFF) 2,3,3,3-tetrafluoropropene (also known as HFO–1234yf);
(GGG) 2-amino-2-methyl-1-propanol; and
(HHH) perfluorocarbon compounds which fall into these classes:
(i) Cyclic, branched, or linear, completely fluorinated alkanes;
(ii) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
(iii) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
(iv) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.
(b) For purposes of determining compliance with emissions limits, VOC will be measured by an applicable reference method in the DEQ Source Sampling Manual referenced in OAR 340-200-0035. Where such a method also measures compounds with negligible photochemical reactivity, these negligibly-reactive compounds may be excluded as VOC if the amount of such compounds is accurately quantified, and DEQ approves the exclusion.
(c) DEQ may require an owner or operator to provide monitoring or testing methods and results demonstrating, to DEQ's satisfaction, the amount of negligibly-reactive compounds in the source's emissions.
(d) The following compounds are VOC for purposes of all recordkeeping, emissions reporting, photochemical dispersion modeling and inventory requirements which apply to VOC and must be uniquely identified in emission reports, but are not VOC for purposes of VOC emissions limitations or VOC content requirements: t-butyl acetate.
(192) "Wood fired veneer dryer" means a veneer dryer, that is directly heated by the products of combustion of wood fuel in addition to or exclusive of steam or natural gas or propane combustion.
(193) “Wood fuel-fired device” means a device or appliance designed for wood fuel combustion, including cordwood

stoves, woodstoves and fireplace stove inserts, fireplaces, wood fuel-fired cook stoves, pellet stoves and combination fuel furnaces and boilers that burn wood fuels.

(194) "Year" means any consecutive 12 month period of time.

NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan that EQC adopted under OAR 340-200-0040 with the exception of all references to toxic air contaminants and OAR chapter 340, division 245.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A

STATUTES/OTHER IMPLEMENTED: ORS 468A.025, 468A.035, 468A.040, 468A.050, 468A.055, 468A.070, 468A.075, 468A.085, 468A.105, 468A.135, 468A.140, 468A.155, 468A.280, 468A.310, 468A.315, 468A.360, 468A.363, 468A.380, 468A.385, 468A.420, 468A.495, 468A.500, 468A.505, 468A.515, 468A.575, 468A.595, 468A.600, 468A.610, 468A.612, 468A.620, 468A.635, 468A.707, 468A.740, 468A.745, 468A.750, 468A.775, 468A.780, 468A.797, 468A.799, 468A.803, 468A.820, & Or. Laws 2009, chapter 754

OAR 340-200-0020
Table 1 Significant Air Quality Impact

Pollutant	Averaging Time	Air Quality Area Designation		
		Class I	Class II	Class III
SO_2 ($\mu g/m^3$)*	Annual	0.10	1.0	1.0
	24-hour	0.20	5.0	5.0
	3-hour	1.0	25.0	25.0
	1-hour	---	8.0	---
PM10 (µg/m3)	Annual	0.20	0.2	0.2
	24-hour	0.30	1.0	1.0
PM2.5 (µg/m3)	Annual	0.06	0.3	0.3
	24-hour	0.07	1.2	1.2
NO2 (µg/m3)	Annual	0.10	1.0	1.0
	1-hour	---	8.0	---
CO (mg/m3)**	8 hour	---	0.5	0.5
	1-hour	---	2.0	2.0

* micrograms/cubic meter
**milligrams/cubic meter

OAR 340-200-0020
Table 2 Significant Emission Rates

Pollutant	Emission Rate
Greenhouse Gases (CO2e)	75,000 tons/year
Carbon Monoxide	100 tons/year
Nitrogen Oxides (NOX)	40 tons/year
Particulate Matter	25 tons/year
PM10	15 tons/year
Direct PM2.5	10 tons/year
PM2.5 precursors (SO2 or NOx)	40 tons/year
Sulfur Dioxide (SO2)	40 tons/year
Volatile Organic Compounds (VOC)	40 tons/year
Ozone precursors (VOC or NOx)	40 tons/year
Lead	0.6 ton/year
Fluorides	3 tons/year
Sulfuric Acid Mist	7 tons/year
Hydrogen Sulfide	10 tons/year
Total Reduced Sulfur (including hydrogen sulfide)	10 tons/year
Reduced sulfur compounds (including hydrogen sulfide)	10 tons/year
Municipal waste combustor organics (measured as total tetra- through octa- chlorinated dibenzo-p- dioxins and dibenzofurans)	0.0000035 ton/year
Municipal waste combustor metals (measured as particulate matter)	15 tons/year
Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride)	40 tons/year
Municipal solid waste landfill emissions (measured as nonmethane organic compounds)	50 tons/year

OAR 340-200-0020
Table 3 Significant Emission Rates for the Medford-Ashland Air Quality Maintenance Area

Air Contaminant	Emission Rate	
	Annual	Day
PM10	5 tons	50 lbs.

OAR 340-200-0020(33)
Table 4 De Minimis Emission Levels

Pollutant	De Minimis (tons/year, except as noted)
Greenhouse Gases (CO2e)	2,756
CO	1
NOx	1
SO2	1
VOC	1
PM	1
PM10 (except Medford AQMA)	1
PM10/PM2.5 (Medford AQMA)	0.5 [5.0 lbs/day]
Direct PM2.5	1
Lead	0.1
Fluorides	0.3
Sulfuric Acid Mist	0.7
Hydrogen Sulfide	1
Total Reduced Sulfur (including hydrogen sulfide)	1
Reduced Sulfur	1
Municipal waste combustor organics (Dioxin and furans)	0.0000005
Municipal waste combustor metals	1
Municipal waste combustor acid gases	1
Municipal solid waste landfill gases	1
Single HAP	1
Combined HAP (aggregate)	1

OAR 340-200-0020(60)
Table 5 Generic PSELS

Pollutant	Generic PSEL (tons/year, except as noted)
Greenhouse Gases (CO2e)	74,000
CO	99
NOx	39
SO2	39
VOC	39
PM	24
PM10 (except Medford AQMA)	14
PM10/PM2.5 (Medford AQMA)	4.5 [49 lbs/day]
Direct PM2.5	9
Lead	0.5
Fluorides	2
Sulfuric Acid Mist	6
Hydrogen Sulfide	9
Total Reduced Sulfur (including hydrogen sulfide)	9
Reduced Sulfur	9
Municipal waste combustor organics (Dioxin and furans)	0.0000030
Municipal waste combustor metals	14
Municipal waste combustor acid gases	39
Municipal solid waste landfill gases	49
Single HAP	9
Combined HAPs (aggregate)	24

AMEND: 340-200-0035

RULE TITLE: Reference Materials

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Updated the C.F.R. and Source Sampling Manual referenced.

RULE TEXT:

As used in divisions 200 through 268, the following materials refer to the versions listed below.

(1) "C.F.R." means Code of Federal Regulations and, unless otherwise expressly identified, refers to the July 1, 2018 edition.

(2) The DEQ Source Sampling Manual refers to the November 2018 edition.

(3) The DEQ Continuous Monitoring Manual refers to the March 2015 edition.

NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan that EQC adopted under OAR 340-200-0040 with the exception of all references to toxic air contaminants and OAR chapter 340, division 245.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A

STATUTES/OTHER IMPLEMENTED: ORS 468A

Air Quality Program

Source Sampling Manual

Volume 1

January, 1976

Revisions:
April, 1979
August, 1981
January, 1992
April, 2015
November, 2018

Air Quality Division

700 NE Multnomah St., Suite 600
Portland, OR 97232
Phone:
(503) 229-5696
(800) 452-4011
Fax:
(503) 229-6762
Contact: Mark Bailey

www.oregon.gov/DEQ

DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

Oregon Department of Environmental Quality

This report prepared by:

Oregon Department of Environmental Quality
700 NE Multnomah St., Suite 600

Portland, OR 97232
1-800-452-4011
www.oregon.gov/deq

Contact:
Mark Bailey, 541-633-2006

Alternative formats (Braille, large type) of this document can be made available.
Contact DEQ's Office of Communications & Outreach, Portland, at
503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696.

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Executive Summary

DEQ's Source Sampling Manual provides the procedures and test methods for conducting source sampling (i.e., stack testing) at facilities regulated by DEQ. The manual includes procedures for notifying DEQ of testing projects; preparing and obtaining approval of source test plans prior to conducting the testing; and preparing source test reports after the testing is completed. The manual identifies established sampling methods that are approved for source sampling projects, as well as procedures for obtaining approval for modifications or alternatives to the methods. Most of the sampling methods are federal methods that have been incorporated by reference. However, there are several test methods that are unique to DEQ. The Source Sampling Manual was first written in 1976 with revisions in 1979, 1981, 1992, 2015 and 2018. The Source Sampling Manual is included in Oregon's State Implementation Plan.

1.0 INTRODUCTION

1.1. PURPOSE AND SCOPE

This manual has been prepared by the Oregon Department of Environmental Quality (DEQ) for the purpose of delineating practices for the measurement and sampling of exhaust gas streams originating from point sources in accordance with Oregon Administrative Rules. Within this document, the references to *permit* signify either an Air Contaminant Discharge Permit (ACDP) or an Oregon Title V Operating Permit, both issued by the State of Oregon.

This manual applies to DEQ personnel, testing contractors, and permittees. Collectively, with permit requirements and promulgated sampling guidance documents, it outlines source sampling techniques approved by DEQ for use in conducting stationary source emissions testing. Unless otherwise specified in an Oregon Administrative Rule, permit, or DEQ letter, these general requirements must be followed when conducting source testing in Oregon. If there is a conflict with a permit or rule and this manual, the permit or rule will take precedence.

This 2018 revision of the Source Sampling Manual, Volume I, supersedes all previous versions of this manual.

1.2. APPLICABILITY

The procedures specified in this manual are standard requirements for measuring point source emissions under normal circumstances. Methods or techniques not cited in this manual may be approved on a case-by-case basis.

The measurement of point source emissions (i.e. stack testing) is conducted to determine the quantity, concentration, or destruction/removal of a specific pollutant or pollutants being emitted into the atmosphere by a regulated or non-regulated source.

This manual references test methods published by DEQ, EPA, and other agencies or organizations.

2.0 SOURCE SAMPLING GENERAL REQUIREMENTS

2.1. TESTING DEADLINES FOR CONDUCTING SOURCE SAMPLING

2.1.a. Identifying Regulation(s)

The deadlines for conducting source sampling projects may be established by any or all of the following:

- Air Contaminant Discharge Permit;
- Oregon Title V Operating Permit;
- Chapter 340 of Oregon Administrative Rules;

- Title 40 of Code of Federal Regulations; or
- Enforcement document (e.g., Mutual Agreement Order).

2.1.b. Time Extensions

For sampling projects conducted to meet federal & state requirements, regulatory provisions to extend testing deadlines are limited and take into account the circumstances contributing to the delay. Failure to test a source by the required deadline may violate federal or state rule and may result in enforcement actions.

2.2. DEPARTMENT NOTIFICATION

DEQ must be notified of all source sampling projects that are required by DEQ, including federal requirements that have been delegated to DEQ by the Environmental Protection Agency (EPA). Unless specified by rule or by permit condition, DEQ must receive notification at least 30 days in advance of the source test date. Notification may be submitted electronically or by hardcopy, and accompanied by a source test plan.

In addition, DEQ must be notified of all source sampling projects that are not required by DEQ if test results are relied upon in permitting a source, used as evidence in an enforcement case, or used to demonstrate compliance with non-delegated federal requirements.

2.3. SOURCE TEST PLAN

A source test plan must be approved by DEQ in advance of all source sampling projects that are required by DEQ, including federal requirements delegated to DEQ by EPA. If not otherwise specified by rule or permit condition, DEQ must be provided at least 30 days to review and approve source test plans. For routine testing programs, the permit or rule often specifies 15 days notice. Conversely, particularly complex source testing programs may require 45 days or more for protocol approval. The source test plan may be prepared by the source owner, operator, or consultant representing the owner or operator. The source test plan will be reviewed by the DEQ or by an agent representing DEQ.

A source test plan must include, as a minimum, the information stipulated by Table A-1 in Appendix A. The source test plan should *not* include a copy of the published sampling method unless specifically requested by the regulating authority. In addition, sample system diagrams should *not* be included within the source test plan unless the proposed schematic deviates from published methodology.

2.4. MODIFICATIONS/ALTERNATIVES TO METHODS OR PROCEDURES

2.4.a. Testing Projects Required by DEQ

All modifications and/or alternatives to testing methods or procedures that are performed to satisfy DEQ testing requirements must receive approval from DEQ prior to their use in the field. When possible, these requests are to be addressed within the Source Test Plan.

If the need for testing modifications or alterations to the approved Source Test Plan is discovered during field activities, approval must first be obtained from the observing Department representative. If a DEQ representative is not on site during field activities, approval from any DEQ Source Test Coordinator or other DEQ representative may be obtained. Changes not acknowledged by the DEQ could be basis for invalidating an entire test run and potentially the entire testing program. Documentation of any deviations must be incorporated in the source test report and include an evaluation of the impact of the deviation on the test data.

2.4.b. Testing Projects Required by Federal Regulations

For all testing projects performed to satisfy federal testing requirements (e.g. NSPS, NESHAP), approval for modifications and alterations of federal testing requirements must follow the procedures outlined in the Emission Measurement Center Guideline Document GD-022R3. As per this guideline, minor changes to test methods and procedures may be approved by DEQ personnel. All other changes must be approved by EPA.

Minor change to a test method is a modification to a federally enforceable test method that (a) does not decrease the stringency of the emission limitation or standard; (b) has no national significance (e.g., does not affect implementation of the applicable regulation for other affected sources, does not set a national precedent, and individually does not result in a revision to the test method); and (c) is site-specific, made to reflect or accommodate the operational characteristics, physical constraints, or safety concerns of an affected source. Examples of minor changes to a test procedure are:

- Modified sampling traverse or location to avoid interference from an obstruction in the stack,
- Increasing the sampling time or volume,
- Use of additional impingers for a high moisture situation,
- Accepting particulate emission results for a test run that was conducted with a lower than specified temperature,
- Substitution of a material in the sampling train that has been demonstrated to be more inert for the sample matrix, and
- Changes in recovery and analytical techniques such as a change in QA/QC requirements needed to adjust for analysis of a certain sample matrix.

(Per memo from John S. Seitz, Director OAQPS, *Delegation of 40 CFR Part 63 General Provisions Authorities to State and Local Air Pollution Control Agencies,* Attachment 1, July 10, 1998)

2.5. SAMPLE REPLICATES

Unless otherwise specified by permit, State rule, federal regulation, or Department letter, each source test must consist of at least three (3) test runs and the emission results reported for each run individually and as the arithmetic average of all valid test runs. If for reasons beyond the control of the permittee (e.g., forced shutdown, extreme meteorological conditions, failure of an irreplaceable portion of the sample train) a test run is invalidated and cannot be replaced by a valid test run, DEQ may consider accepting two (2) test runs for demonstrating compliance with the emission limit or standard. However, all test runs, including those deemed invalid, are to be included in the test report.

2.6. SAMPLE POSTPONEMENTS & STOPPAGES

It is acceptable to postpone a scheduled test or suspend a test in progress if the discontinuation is due to equipment failure beyond the facility's control, construction delays beyond the facility's control, severe meteorological conditions, and situations that would jeopardize the safety of the testing contractors and/or operators. If the test is underway, the permittee should make every effort to complete the test run. All recoverable test information (process & sample data) must be available for DEQ review.

It is unacceptable to postpone or suspend a test run in progress if it is discontinued because the source is not able to comply with an emission limit, verify an existing emission factor, or comply with a control equipment performance standard. The permittee must provide DEQ written documentation explaining the reasons for the postponement or stoppage, and any data collected prior to the stoppage . DEQ will review the documentation and all available stack test data to determine if a violation occurred.

2.7. TEST DURATION & SAMPLE VOLUMES

2.7.a. General Duration & Volume Requirements

Unless otherwise specified by permit, state rule, federal regulation, or Department letter, each source test must be a minimum of one (1) hour long. For criteria pollutants (PM, PM_{10}, $PM_{2.5}$, SO_x, NO_x, CO, & VOCs) measured utilizing wet-chemistry methods, the sample volume must be sufficient to ensure a minimum In-Stack Detection Limit (ISDL) of one-half (1/2) the emission standard. Refer to Section 2.8 of this manual for the definition and calculation of ISDL.

Unless otherwise specified by rule, permit condition, or source test plan approval letter, all toxic air contaminants and hazardous air pollutants (HAPs) sampling programs must ensure adequate sample volumes so that the mass recovered is at least five (5) times the limit of detection for the analytical method chosen. Alternatively, the ISDL must be less than or equal to one-fifth (1/5) the emission standard.

For purposes of this section, "emission standard" refers to emission limits (other than Plant Site Emission Limits), emission factor(s), and/or destruction and removal efficiencies.

2.7.b. DEQ Methods Specific Duration & Volume Requirements

For DEQ Methods 5 & 7, the minimum sample volume must be the greater of 31.8 dry standard cubic feet (dscf) or sufficient to ensure a minimum In-Stack Detection Limit (ISDL) of one-half (1/2) the emission standard. In addition, the minimum sample duration must be 60 minutes.

For DEQ Method 8 (high volume sampler), the minimum sample volume must be the greater of 150 dry standard cubic feet (dscf) or sufficient to ensure a minimum In-Stack Detection Limit of one-half (1/2) the emission standard. In addition, the minimum sample duration must be 15 minutes.

2.8. IN-STACK DETECTION LIMIT

2.8.a. General In-Stack Detection Limit (ISDL)

In general practice, the In-Stack Detection Limit (ISDL) is defined as follows:

$$ISDL = \frac{AxB}{C}$$

Where:

ISDL	=	In-Stack detection limit
A	=	Analytical detection limit for analyte (e.g., pollutant) in a sample matrix (e.g., solution, filter, resin)
B	=	Quantity of sample matrix (e.g. milliliters of solution)
C	=	Volume of stack gas sampled

Example:

For an HCl sample with the following characteristics:

A	=	1 ug (HCl) per ml of solution;
B	=	300 mls of sample solution; and
C	=	1 dscm of exhaust gas (C) drawn through the sample solution.

The ISDL in ug/dscm would be calculated as follows:

ISDL	=	(A x B)/C
ISDL	=	(1 ug/ml x 300 ml)/1 dscm
ISDL	=	300 ug/dscm

2.8.b. ISDL for Particulate Measurement Methods

When calculating the ISDL for particulate sampling methods, the analytical detection limits (A) are:

- 7 mg for ODEQ Methods 5 & 7 (total particulate),
- 3 mg for EPA Methods 5, 5A, 5B, 5D, 5E, 5F, & 17 (filterable particulate),
- 4 mg for EPA Method 202 (condensable particulate), and
- 100 mg for ODEQ Method 8 (high volume sampler-filterable particulate).

Additionally, when calculating the ISDL for the above particulate sampling methods, the quantity of sample matrix (character "B" in equation) equals "1 sample train".

2.8.c. ISDL for Instrumental Monitoring Reference Methods

The ISDL for continuous emission monitoring (CEM) reference methods (i.e., 3A, 6C, 16C, 7E, 10, 20, & 25A), is equal to the sensitivity of the instrumentation, which is two percent (2%) of the span value (as per the CEMS Methods).

2.8.d. ISDL Expressed on a Mass Rate or Process Rate Basis

If the emission standard is expressed on a mass rate basis, a representative flow and/or process rate is to be applied in conjunction with the ISDL (on a concentration basis) to obtain a value expressed in comparable units.

2.9. REPRESENTATIVE TESTING CONDITIONS

For demonstrating compliance with an emission standard, the stack test must successfully demonstrate that a facility is capable of complying with the applicable standard under all normal operating conditions. Therefore, an owner or operator should conduct the source test while operating under typical worst-case conditions that generate the highest emissions. During the compliance demonstration, new or modified equipment should operate at levels that equal or exceed ninety-percent (90%) of the design capacity. For existing equipment, emission units should operate at levels that equal or exceed ninety-percent (90%) of normal maximum operating rates. Furthermore, the process material(s) and fuel(s) that generate the highest emissions for the pollutant(s) being tested should be used during the testing. Operating requirements for performance tests are often specified by State or federal rule, or by permit condition.

When verifying or determining an emission factor, the stack test must generate an emission factor that represents normal emissions for the operating condition tested. Multiple testing projects may be required for sources that experience variations in process, have frequent start-ups and shut-downs, use multiple fuel combinations, utilize numerous process materials, or manufacture diverse products.

Whether sampling to demonstrate compliance, to establish an emission factor, or to support an toxic air contaminant risk assessment, it is imperative to describe in detail the proposed process conditions within the Source Test Plan. Refer to Section 2.3 and Appendix A of this manual for Source Test Plan requirements.

2.10. SIGNIFICANT FIGURES & ROUNDING PROCEDURES

2.10.a. Significant Figures

All federal emission standards have at least two (2) significant figures but no more than three (3) (Memorandum from William G. Lawton and John S. Seitz to New Source Performance Standards/National Emission Standards for Hazardous Pollutants Compliance Contacts, subject “Performance Test Calculation Guidelines”, June 6, 1990). For example, 0.04 gr/dscf is considered to be 0.040 gr/dscf and 90 mg/dscm is considered to be 90. mg/dscm.

Generally, DEQ emission standards have at least two (2) significant figures. However, the number of significant figures for DEQ standards are defined by the standards themselves. For example, 40 lbs/hr is considered to be 40. lbs/hr and 0.1 gr/dscf does not include additional significant figures.

It is imperative to maintain an appropriate number of significant figures within the intermediate calculations to minimize the discrepancy of results due to rounding inconsistencies. In general, at least five (5) significant figures should be retained throughout the intermediate calculations.

2.10.b. Rounding Procedures

The procedure for rounding of a figure or a result may mean the difference between demonstrating compliance or demonstrating a violation. Based on the routine specified by the American Society for Testing and Materials (ASTM, Standard for Metric Practice E 380) the following procedure must be used:

> *If the first digit to be discarded is less than five (5), the last digit retained should not be changed. When the first digit discarded is greater than five (5), or if it is a five (5) followed by at least one digit other than zero (0), the last figure retained should be increased by one unit. When the first digit discarded is exactly five, followed only by zeros (0s), the last digit retained should be rounded upward if it is an odd number, but no adjustment made if it is an even number.*

For example, if the emission standard is 0.040 gr/dscf, then 0.040341 would be rounded to 0.040, 0.040615 would be rounded to 0.041, 0.040500 would be rounded to 0.040, and 0.041500 would be rounded to 0.042 (note that five significant figures were retained prior to rounding).

2.11. REPORTING & RECORDKEEPING

2.11.a. Report Content & Format

At a minimum, the content of the source sampling report must be consistent with the requirements outlined in Table A-2 in Appendix A. DEQ recognizes that the presentation and format of the reports will vary between sampling projects and testing contractors. However, the report must comprehensively include all essential information and maintain sufficient detail to satisfactorily communicate the test objectives and results.

To conserve storage space and natural resources, all test reports should be published utilizing both-sides of each page. In addition, each page of the report body and of the appendices is to be numbered for ease of reference. Refer to Section 2.11.b. for information on the Source Test Audit Report.

2.11.b. Source Test Audit Report (STAR)

A Source Testing Audit Report (STAR) is required for all testing required by DEQ. Like test reports, the submittal of the STAR is the responsibility of the owner or operator. DEQ may not accept test reports that do not include the STAR or if the submitted STAR is incomplete or inaccurate. Refer to the document, *"Guidelines for Completing Source Testing Audit Report"* for more details regarding the STAR. Contact a DEQ Source Test Coordinator to receive instructions on how to obtain the most current STAR forms.

2.11.c. Reporting Results that are below the In-Stack Detection Limits

Emission tests occasionally yield results that are below the in-stack detection limit (ISDL) for a given pollutant. These data frequently provide important information, depending on the purpose of the test and if the tester extracted an adequate sample volume (see Section 2.7). Therefore, unless otherwise stated by method, rule, or permit, the following reporting procedures are to be followed when results from replicate tests are below the in-stack detection limit. Substitution at less than the

ISDL may be used in Cleaner Air Oregon risk assessments conducted under OAR 340 division 245 if approved by DEQ.

- Each test replicate that is below the ISDL should be reported as less than (<) the detection limit value (e.g., <0.14). If the test replicate is included in a multi-run test series, the ISDL value is used when calculating the numerical average.
- Label the average result as less than (<) if the numerical average of a test series includes at least one test replicate below the ISDL.

Several groups of toxic air contaminants are generally reported as the sum of the individual compounds (or elements) within that group. For example, the individual dioxin/furan compounds (or 'congeners') specified in the test method are summed using toxicity factors and reported as a single value (i.e., 2,3,7,8-TCDD Equivalents). The corresponding emission limits and/or emission factors are also expressed as 2,3,7,8-TCDD Equivalents. If any of the individual congeners are reported as 'below the detection limit' for a given test result, the contribution of that congener to the 2,3,7,8-TCDD Equivalent value shall be calculated as 0.5 x the detection limit. The 2,3,7,8-TCDD Equivalent value is a 'composite result' of the individual dioxin/furan compounds in a given sample. Although this TCDD Equivalent value may contain non-detectable quantities, the value is reported as a quantity (i.e., not a '< DL' value).

Other groups of compounds that present similar reporting complexities are polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), Total Organic Hazardous Air Pollutants (OHAPs), and Total Selected Metals (TSM). A specific regulation, method, or permit condition may dictate other calculation procedures to be followed in combining non-detectable with measured quantities within a composite result; these shall take precedent over the above-described approach.

2.11.d. Report Submittal

Unless otherwise specified by rule or permit, one (1) bound copy of the source test report must be submitted to the regional Source Test Coordinator within 30 days following the field work. Requests for extensions will be evaluated by DEQ on a case- by-case basis. An electronic version of the report can also be submitted in addition to the bound copy.

2.11.e. Recordkeeping

All documentation of sampling equipment calibrations and analytical results should be maintained for a minimum of five years.

In general, the unanalyzed portions (aliquots) of the source test samples must be preserved up to the maximum holding times as specified by method. Sample filters gravimetrically analyzed for particulate matter are to be archived for a minimum of 6 months. However, sample archiving specifications pertaining to laboratory glassware is left to the discretion of the analyzing laboratory and the testing contractor.

3.0 SAMPLING METHODS

3.1. ESTABLISHED SAMPLING METHODS

Established sampling methods for various pollutants are listed within Appendix B of this manual. These methods have historically been accepted by DEQ and originate from various governmental agencies and organizations. This list is not all-inclusive and may not reflect current method updates. The use of a listed method is not automatically approved by DEQ. Instead, written DEQ approval is required prior to all testing projects that are executed to satisfy state or federal testing requirements. Refer to Sections 2.2 & 2.3 of this manual for notification and source test plan requirements.

Generally, DEQ sampling methods (ODEQ Methods) or EPA methods (promulgated, alternative, & conditional) are preferable for conducting a testing program. In some cases, utilizing methods published by other public agencies and organizations are often valid and more desirable, but must be evaluated cautiously to ensure that the test requirements established by rule or permit are satisfied.

3.2. DEQ SOURCE SAMPLING METHODS

DEQ test methods are presented in Appendix C of this manual. These methods do not encompass all the provisions and procedures critical to their successful use. Persons performing these methods must have a comprehensive understanding of the physical sciences, have ample experience utilizing the testing equipment, and have a thorough knowledge of the sources to which they are applied.

DEQ test methods should only be applied to sampling situations that are consistent with their applicability. A careful and thorough evaluation of the applicability of each method to a specific testing condition is strongly recommended. Modifications or alterations to DEQ test methods must receive approval from DEQ prior to their utilization within the testing program. Refer to Section 2.4 of this manual for requirements pertaining to modifications to methods or procedures.

There are multiple references to EPA test methods within the Oregon Source Sampling Manual and test methods. The EPA methods are incorporated into this manual by reference as of the date they were published in the CFR, as shown below. Sampling provisions and procedures published within the most up-to-date revisions to the CFR may be incorporated into the testing program if approved by the administrator.

EPA Methods incorporated by reference:

Methods 1 through 30B: 40 CFR, Part 60, Appendix A, July 2012
Methods 201 through 207: 40 CFR Part 52, Appendix M, July 2012
Methods 301 through 323: 40 CFR Part 63, Appendix A, July 2012
EPA Publication SW-846, Third Edition

3.3. Quality Assurance Requirements

Quality assurance , including minimum calibration requirements are typically specified within each test method. DEQ test methods often refer to EPA test methods for quality assurance procedures The calibration requirements for Oregon DEQ Methods 4, 5, 7, & 8 are summarized within Appendix D. Where inconsistencies exist, quality assurance requirements specified by method or by regulation supersede those presented within Appendix D.

APPENDIX A

SOURCE TEST PLAN
&
TEST REPORT
REQUIREMENTS

MINIMUM SOURCE TEST PLAN REQUIREMENTS

DEQ does not require that source test plans adhere to a specific format, but the information listed in Table A-1 must be included (as applicable). In addition, the following statements must be included in the test plan:

- Sampling replicate(s) will not be accepted if separated by a time duration of twenty-four (24) hours or more, unless prior authorization is granted by DEQ.

- All compliance source tests must be performed while the emission unit(s) are operating at normal maximum operating rates. Unless defined by permit condition or applicable rule, normal maximum operating rate is defined as the 90th percentile of the average hourly operating rates during a 12 month period immediately preceding the source test. Rates not in agreement with those stipulated in the Air Contaminant Discharge Permit can result in rejection of the test data. Imposed process limitations could also result from operating at atypical rates during the compliance demonstration.

- The DEQ must be notified of any changes in the source test plan and/or the specified methods prior to testing. Significant changes not acknowledged by the DEQ could be the basis for invalidating a test run and potentially the entire testing program. Documentation of any deviations must include an evaluation of the impact of the deviation on the test data.

- Method-specific quality assurance/quality control (QA/QC) procedures must be performed to ensure that the data is valid for determining source compliance. Documentation of the procedures and results shall be presented in the source test report for review. Omission of this critical information will result in rejection of the data, requiring a retest.

- Only regular operating staff may adjust the combustion system or production process and emission control parameters during the source performance tests and within two (2) hours prior to the tests. Any operating adjustments made during the source performance tests, which are a result of consultation during the tests with source testing personnel, equipment vendors or consultants, may render the source performance test invalid.

- Source test reports must be submitted to DEQ within thirty (30) days of the test dates, unless another deadline has been stipulated, either by permit condition, or by DEQ written approval.

Table A-1

SOURCE TEST PLAN REQUIREMENTS

Item #	Description	Explanatory Notes
1	Facility Identification	- Facility Name; - Facility Address; - Permit Number (and source number if under General Permit); - Emission Unit(s) included within proposed testing project
2	Facility Personnel	Name, address, phone number(s) and e-mail for: - Project Manager - On-site Contact (if different than Project Manager)
3	Testing Contractor Personnel	Name, physical address, phone number(s) and e-mail for: - Project Manager - Site Personnel (Team Leader, Technicians) - Laboratory Support
4	Project Purpose	- Specify purpose of project (compliance, emission factor verification, applicability study, etc.) - Specify permit condition or rule initiating project - Specify applicable compliance limits and emission factors
5	Schedule	- Specify testing dates for each unit tested - Specify starting times (approximate) for each test day
6	Source Description	Description of the emission unit(s), including the following: - Narrative of the emission source (system type, manufacturer, date installed, capacity, configuration, fuel type, etc.) - Narrative of the pollution control device (system type, manufacturer, date installed, configuration, etc.) - Narrative of the sample locations (where in system, distances to disturbances, duct configuration, etc.)
7	Pollutant(s) Measured	Specify the following for each pollutant measured: - Pollutant (CO, PM, Formaldehyde, etc.) - Reporting unit for each pollutant (ppmdv, lbs/hr, lbs/ton, etc.)
8	Test Methods	Include the following for each test method proposed: - Method reference number (e.g., EPA 1, ODEQ 7); - Copy of method (only if requested by DEQ); - Quantifiable or detectable limits for each pollutant
9	Sampling Replicates	- Specify the number of sample replicates for each method on each emission unit; - Specify the duration of each sample replicate for each method.
10	Production and Process Information	- List the parameters to be recorded - Specify the frequency of measurements and recordings - Specify how each parameter is measured (manual, instrument, etc.)

11	Pollution Control Device Information	- List the parameters to be recorded - Specify the frequency of measurements and recordings - Specify how each parameter is measured (manual, instrument, etc.)
		-
12	Fuel Sampling and Analysis	- Specify how sample(s) will be collected (include references to established procedures such as ASTM, if applicable) - Specify frequency of collection - Specify the type of analysis, the analytical procedure, and the analytical laboratory
13	Other Test Method Considerations	<u>Include in the test plan a brief discussion of:</u> - Applicability of proposed test methods - Any and all proposed method modifications/deviations, including modifications/deviations to QA/QC activities - Any foreseeable problems with sample recovery - Any known errors in the proposed method(s) - Simultaneous testing (multiple parameters or methods) - Multiple exhaust points of the source (if applicable) - Possible method interferences - Cyclonic flow measurements (if applicable) - Stratification measurements
14	Other Process Considerations	<u>Include in the test plan a brief discussion of:</u> - Target process rate(s) and how it compares to day-to-day operations and the unit's rated capacity - Product (e.g., type, size, specie, etc.) - Potential process variability (i.e., continuous, cyclical, etc.) - Whether the proposed test conditions represent worst-case conditions with respect to emissions

MINIMUM SOURCE TEST REPORT REQUIREMENTS

The DEQ does not require that test reports adhere to a specific format, but the information listed in Table A-2 (below) needs to be included (as applicable). Reports shall be organized in a clear and logical fashion to promote correctness and accuracy.

Table A-2

SOURCE TEST REPORT REQUIREMENTS

Item#	Description	Explanatory Notes
1	Facility Identification	- Facility Name - Facility Address - Permit Number (and source number if under General Permit) - Emission Unit(s) included within the testing project
2	Facility Personnel	Name, address, phone number(s) and e-mail for: - Project Manager - On-site Contact (if different than Project Manager)
3	Testing Contractor Personnel	Name, physical address, phone number(s) and e-mail for: - Project Manager - Site Personnel (Team Leader, Technicians) - Laboratory Support
4	Project Purpose	- Specify purpose of project (compliance, emission factor verification, applicability study, etc.) - Specify permit condition or rule initiating project - Specify applicable compliance limits and emission factors
5	Schedule	- Specify testing dates for each unit tested - Specify starting and ending times for each test run
6	Source Description	Description of the emission unit(s), including the following: - Narrative of the emission source (system type, manufacturer, date installed, capacity, configuration, fuel type, etc.) - Stack height above the ground - Orientation of the exhaust (vertical, horizontal, etc.) - Narrative of the pollution control device (system type, manufacturer, date installed, configuration, etc.) - Narrative of the sample locations (where in system, distances to disturbances, duct configuration, etc.)
7	Process & Pollution Control Operating Rates & Settings	Operating rates and parameters, including the following: - Process rates for each run on each emission unit - Process characteristics for each test run (temperature, process time, size, species, pressures, settings, fuel characteristics, etc.) - Pollution control device parameters for each test run (temperature, pressure drop, water injection rate, voltage, settings, etc.)

		- Description of process changes and interruptions that occurred during testing.
8	Pollutant(s) Measured	<u>Discuss the following for each pollutant measured:</u> - Specie (CO, PM, Formaldehyde, Opacity, etc.) - Reporting unit for each specie (ppmdv, lbs/hr, lbs/ton, etc.)
9	Test Methods	<u>Include the following for each test method:</u> - Method reference number (e.g., EPA 1, ODEQ 7) - Discuss deviations from published methods and their impact on test results
10	Summary of Results	- One summary table for each emission unit (when possible) - List individual run results and average (when possible) - Include applicable emission standard, factor, or compliance limit
11	Supporting Sampling Information	- Spreadsheets & electronic data records - Field data sheets, notes, and forms - Equipment calibration documentation (field & laboratory equipment) - Example calculations - Sampling equipment description - Pre-test procedure documentation (stratification, cyclonic, etc.)
12	Laboratory Analysis	- Electronic data records - Data sheets, notes, and forms - Analytical detection limit for each constituent - Applicable analytical QA/QC information - Chain of custody
13	Supporting Process & Pollution Control Information	- Electronic generated output (if applicable) - Log sheets and forms - Operating capacity - 90% Percentile 12 Month Operating Analysis (existing sources)
14	Source Test Audit Report	- Complete for each test method and emission unit - Complete certification form
15	Test Correspondence	- Test plan - Test plan approval correspondence - Approval for method deviations - Applicable permit excerpts that pertain to testing requirements, emission limits, and emission factors

APPENDIX B

LISTING OF SOURCE SAMPLING METHODS

ALPHABETICALLY BY POLLUTANT OR STACK PARAMETER

ESTABLISHED SAMPLING METHODS

POLLUTANT OR STACK PARAMETER	TEST METHOD	COMMENTS
Ammonia	EPA CTM-027, BAAQMD ST-1B, EPA 320,	Method depends on isokinetic requirements
Carbon Dioxide (CO_2)	EPA 3, EPA 3A, EPA 3B	
Carbon Monoxide	EPA 10	
Chloride (Total)	EPA 26A, EPA 26 SW846-0050	
Dioxins & Furans	EPA 23, SW846-23a	
Formaldehyde	NCASI 98.01,NCASI 99.02, NCASI A105.1, EPA 316, EPA 320, EPA 323	Method depends on source type, isokinetic and ISDL requirements.
Gaseous Organics	EPA 18	Not applicable for high molecular weight compounds or for compounds with very low vapor pressure at stack or instrument conditions.
Hydrogen Chloride, Hydrogen Halide and Halogens	EPA 26, EPA 26A, SW846-0050, EPA 321	Use EPA 26A when isokinetic sampling is required. EPA 321 utilizes FTIR and is specific to Portland Cement Kilns
Methanol	EPA 308, NCASI 98.01, NCASI 99.02 NCASI A105.1	Methods may also be applicable to phenol with approval
Moisture Content	EPA 4, ODEQ 4	
Molecular Weight	EPA 3, EPA 3A, EPA 3B	
Metals	EPA 29, SW846-0060	Includes: Antimony, Arsenic, Barium, Beryllium, Cadmium, Total Chromium, Cobalt, Copper, Lead, Manganese, Mercury, Nickel, Phosphorus, Selenium, Silver, Thallium, Zinc.
Nitrogen Oxides	EPA 7E, EPA 20	
Nonmethane Organic Compounds (NMOC)	EPA 25, EPA 25C, BAAQMD ST-7, SCAQMD 25.3, EPA CTM-042	EPA 25 subject to interference by H_2O and CO_2. ST-7 applicable for compounds that respond well to FID. 25.3 for low concentration sources. EPA 25C for LFG. CTM-042 for bakeries.
Opacity	EPA 9, EPA ALT Method 082	ALT 082 when pre-approved by DEQ
Oxygen	EPA 3, EPA 3A, EPA 3B	
Particulate Matter-Filterable	EPA 5, EPA 5A, EPA 5B, EPA 5D, EPA 5E, EPA 5F, EPA 5i, EPA 17, Modified DEQ 5, DEQ 8	ODEQ 8 acceptable under limited conditions EPA 5i for low level particulate
Particulate Matter - Total	ODEQ 5, ODEQ 7, EPA 5/202	
Particulate Matter - $\leq$10um	EPA 201A/202	

Particulate Matter-<2.5um	EPA 201A/202	
Phenol	NCASI 98.01, NCASI 99.02, EPA 18, NCASI A105.1	
Sulfur Dioxide	EPA 6, EPA 6C, EPA 8	EPA 8 also measures sulfuric acid mist
Total Enclosure	EPA 204	Use for determining capture efficiency.
Total Hydrocarbons	EPA 25A, EPA 18	Applicable to alkanes, alkenes, and aromatic hydrocarbons. EPA 25A has a fractional response to many other organic compounds.
Total Reduced Sulfur	EPA 16, EPA 16A, EPA 16C	
Velocity and Volumetric Flow Rate	EPA 2, EPA 2A, EPA 2C, EPA 2E, EPA 2F, EPA 2G, EPA 2H	EPA 2 if duct ≥12" in diameter EPA 2A if duct < 12" in diameter
Volatile Organic Compounds by FTIR	EPA 320	Analyzes for specific defined VOCs
Volatile Organic Compounds-Uncharacterized	EPA 25, EPA 25A, EPA 25B	Total VOC's reported on an equivalent basis (i.e. "as propane")
Volatile Organic Compounds by GC	EPA 18, EPA CTM-028	Analyzes for specific defined VOCs. EPA 18 not applicable for high molecular weight compounds or for compounds with very low vapor pressure at stack or instrument conditions. CTM-028 direct interface.

APPENDIX C

OREGON DEQ
SOURCE SAMPLING
METHODS

C-4: Oregon Method 4 (moisture)
C-5: Oregon Method 5 (PM)
C-7: Oregon Method 7 (PM)
C-8: Oregon Method 8 (PM, High Volume)

SUB-APPENDIX C-4

OREGON DEQ
SOURCE SAMPLING
METHOD 4

Oregon Method 4

State of Oregon
Department of Environmental Quality
Source Sampling Method 4

Determination of Moisture Content of Stack Gases
(Alternate Method)

1. **Principle.** Under certain conditions, the quantity of water vapor in the gas stream can be determined by measuring the wet-bulb and dry-bulb temperatures of the gaseous fluid.

2. **Applicability**. This method is applicable for the determination of the moisture content of the sample stream when EPA Method 4 is not suitable or when rigid moisture content measurements are not essential to the success of the testing program.

3. **Procedure.**

   3.1 Measure the dry bulb temperature in the conventional way using either a thermometer or thermocouple.

   3.2 Wrap the end of the temperature-measuring device in a cloth sock soaked with water. Insert the sock and temperature-measuring device into the flowing gas stream and allow the temperature to reach a steady state value. Caution: after the water on the sock has evaporated, the temperature will rise to the dry bulb temperature. (Refer to Figure 4-1). The wet bulb temperature must be taken while the sock is saturated with moisture.

   3.3 Apply the wet bulb readings to Table 4-1 to determine the water vapor pressure in the gas stream. Then use the dry bulb reading and equation 4.4-1 to determine the approximate water vapor content. In lieu of using Table 4-1, equation 4.4-2 may be utilized to determine the vapor pressure at saturation if the wet bulb temperature is less than 175^{o}F.

   3.4 Alternately, if the barometric pressure is 29.92 $\pm$ 0.5 inches of mercury (in. Hg) apply the wet bulb and dry bulb readings to a standard psychrometric chart and determine the approximate water vapor content.

4. **Interferences and Calculations**

   4.1 Wet-bulb temperature readings may be affected by other gas stream components that ionize when dissolved in water (e.g., salts, acids, bases) or hydrocarbon compounds, particularly water-soluble solvents. The effect of these components on the wet-bulb temperature is usually negligible. However, should any of the above compounds exist at levels that cause inaccurate wet-bulb readings, the tester must utilize an alternative approach to determine moisture.

   4.2 The wet depression temperature is dependent on the total pressure (i.e., barometric pressure $\pm$ static pressure) in the gas stream. Moisture concentrations that are obtained

from a psychometric chart are reliable only if the gas stream is at, or near, 1 atmosphere pressure (i.e., 29.92 in. Hg $\pm$ 0.5 in. Hg). For other pressure conditions, the tester must use Equation 4.4-1 to calculate the gas stream moisture content.

4.3 Additionally, the following conditions can lead to difficulties:

4.3.a. Very high dry bulb temperature (in excess of 500º F).
4.3.b. Very high or very low gas velocities.
4.3.c. High concentrations of particulate matter which may adhere to the wet sock.

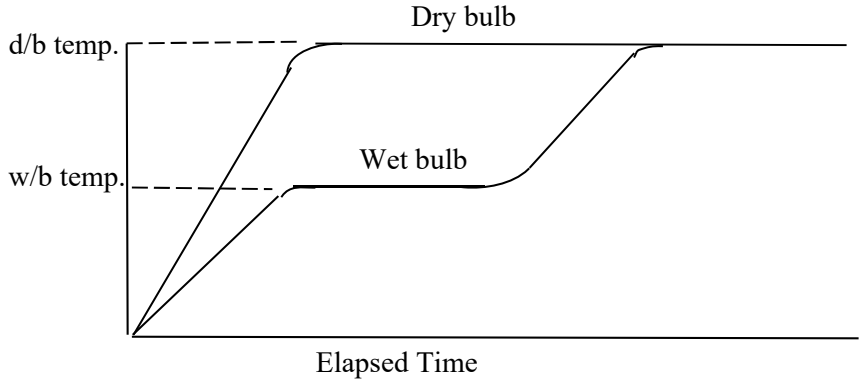


Figure 4-1

4.4 Moisture Equation:

$$H_2O = \frac{e'' - \frac{(P_s - e'')(t_d - t_w)}{2800 - (1.3t_w)}}{P_s} x100 \qquad (Eq.\ 4.4\text{-}1)$$

where:

e" = Vapor pressure of H_2O at t_w, in. Hg (See Table 4-1)
P_s = Exhaust gas pressure (absolute), in. Hg
t_d = Dry bulb temperature, ºF
t_w = Wet bulb temperature, ºF

TABLE 4-1: VAPOR PRESSURE OF WATER AT SATURATION* (Inches of Mercury)

Wet Bulb Temperature (°F)	0	1	2	3	4	5	6	7	8	9
-20	0.0126	0.0119	0.0112	0.0106	0.0100	0.0095	0.0089	0.0084	0.0080	0.0075
-10	0.0222	0.0209	0.0190	0.0187	0.0176	0.0168	0.0158	0.0150	0.0142	0.0134
-0	0.0376	0.0359	0.0339	0.0324	0.0306	0.0289	0.0275	0.0259	0.0247	0.0233
0	0.0376	0.0398	0.0417	0.0441	0.0463	0.0489	0.0517	0.0541	0.0571	0.0598
10	0.0631	0.0660	0.0696	0.0728	0.0768	0.0810	0.0846	0.0892	0.0932	0.0982
20	0.1025	0.1080	0.1127	0.1186	0.1248	0.1302	0.1370	0.1429	0.1502	0.1567
30	0.1647	0.1716	0.1803	0.1878	0.1955	0.2035	0.2118	0.2203	0.2292	0.2383
40	0.2478	0.2576	0.2677	0.2782	0.2891	0.300	0.3120	0.3240	0.3364	0.3493
50	0.3626	0.3764	0.3906	0.4052	0.4203	0.4359	0.4520	0.4586	0.4858	0.5035
60	0.5218	0.5407	0.5601	0.5802	0.6009	0.6222	0.6442	0.6669	0.6903	0.7144
70	0.7392	0.7648	0.7912	0.8183	0.8462	0.8750	0.9046	0.9352	0.9666	0.9989
80	1.032	1.066	1.102	1.138	1.175	1.213	1.253	1.293	1.335	1.378
90	1.422	1.467	1.513	1.561	1.610	1.660	1.712	1.765	1.819	1.875
100	1.932	1.992	2.052	2.114	2.178	2.243	2.310	2.379	2.449	2.521
110	2.596	2.672	2.749	2.829	2.911	2.995	3.081	3.169	3.259	3.351
120	3.446	3.543	3.642	3.744	3.848	3.954	4.063	4.174	4.89	4.406
130	4.525	4.647	4.772	4.900	5.031	5.165	5.302	5.442	5.585	5.732
140	5.881	6.034	6.190	6.350	6.513	6.680	6.850	7.024	7.202	7.384
150	7.569	7.759	7.952	8.150	8.351	8.557	8.767	8.981	9.200	9.424
160	9.652	9.885	10.12	10.36	10.61	10.86	11.12	11.38	11.65	11.92
170	12.20	12.48	12.77	13.07	13.37	13.67	13.98	14.30	14.62	14.96
180	15.29	15.63	15.98	16.34	16.70	17.07	17.44	17.82	18.21	18.61
190	19.01	19.42	19.84	20.27	20.70	21.14	21.59	22.05	22.52	22.99
200	23.47	23.96	24.46	24.97	25.48	26.00	26.53	27.07	27.62	28.18
210	28.75	29.33	29.92	30.52	31.13	31.75	32.38	33.02	33.67	34.33
220	35.00	35.68	36.37	37.07	37.78	38.50	39.24	39.99	40.75	41.52
230	42.31	43.11	43.92	44.74	45.57	46.41	47.27	48.18	49.03	49.93
240	50.84	51.76	52.70	53.65	54.62	55.60	56.60	57.61	58.63	59.67

*Methods for Determination of Velocity, Volume, Dust, and Mist Content of Gases, Bulletin WP-50, Western Precipitation Corp., Los Angeles, CA

The following equation can be substituted for the above table for determining vapor pressures (e") from measured wet bulb (t_w) temperatures:

$$e'' = 0.1805 \times e^{\left[\frac{(17.27\times(t_w-32))}{(t_w+395)}\right]} \qquad \text{(Eq. 4.4-2)}$$

SUB-APPENDIX C-5

OREGON DEQ
SOURCE SAMPLING
METHOD 5

Oregon Method 5

State of Oregon
Department of Environmental Quality
Source Sampling Method 5

Sampling Particulate Emissions from Stationary Sources

1.0 Principle and Applicability

1.1 **Principle.** Particulate matter including condensable aerosols are withdrawn isokinetically from a flowing gas stream. Filterable particulate matter is determined gravimetrically after removal of combined water. Condensable particulate matter is determined gravimetrically after extraction with an organic solvent and evaporation.

1.2 **Applicability.** This method is applicable to the determination of particulate emissions from stationary sources except those sources for which specified sampling methods have been devised and are on file with DEQ.

2.0 **Acceptability.** Results of this method will be accepted as demonstration of compliance (or non-compliance) provided that the methods included or referenced in this procedure are strictly adhered to and a report is prepared according to Section 2.11 of DEQ's Source Sampling Manual, Volume I. Deviations from the procedures described herein will be permitted only if authorization from DEQ is obtained in writing in advance of the tests. EPA Method 5 combined with EPA Method 202 may be substituted for this method.

3.0 Equipment and Supplies

3.1 **Sampling Train (figure 5-1)**: Same as EPA Method 5 Section 6.1. with the following exception: Use of a glass frit filter support is prohibited. The support must be fabricated such that it can be quantitatively rinsed with acetone during sample recovery (refer to Section 5.7.1)

3.2 **Barometer:** Same as EPA Method 5 Section 6.1.2.

3.3 **Gas Density Determination Equipment:** Same as EPA Method 5 Section 6.1.3.

3.4 **Sample Recovery:** Same as EPA Method 5 Section 6.2.

3.5 **Sample Analysis:** Same as EPA Method 5 Section 6.3 with the following addition:

3.5.1 Glass separatory funnel (500-1000 ml) with Teflon[1] stopcock and plug.

4.0 Reagents and Standards

4.1 **Sample Collection**: Same as EPA Method 5 Section 7.1 with the following condition:

4.1.1 Distilled water with a residue content of ≤ 0.001% (0.0l mg/ml) must be used in the impingers. The distilled water reagent blank weight correction will not exceed 0.001%, or 0.01 mg/ml.

4.1.2 Stopcock grease (Section 7.1.5 of EPA Method 5) can bias test results and its use should be avoided whenever possible.

4.2 **Sample Recovery**: Same as EPA Method 5 Section 7.2.

4.3 **Analysis:** Same as EPA Method 5 Section 7.3 with following addition:

4.3.1 Methylene Chloride reagent grade, with a residue content of ≤0.001% (0.013 mg/ml). The methylene chloride reagent blank weight correction will not exceed 0.001%, or 0.013 mg/ml. Hexane may be substituted for methylene chloride. The same purity is required.

4.3.2 Distilled water with a residue content of ≤ 0.001% (0.0l mg/ml). The distilled water reagent blank weight correction will not exceed 0.001%, or 0.01 mg/ml.

5.0 Sample Collection, Preservation, Storage, and Transport

5.1 **Pretest Preparation:** Same as EPA Method 5 Section 8.1.

5.2 **Preliminary Determinations**: Same as EPA Method 5 Section 8.2.

5.3 **Preparation of Sampling Train:** Same as EPA Method 5 Section 8.3.

5.4 **Leak-Check Procedures:** Same as EPA Method 5 Section 8.4.

5.5 **Sampling Train Operation:** Same as EPA Method 5 Section 8.5.

5.6 **Calculation of % Isokinetics:** Same as EPA Method 5 Section 8.6.

5.7 **Sample Recovery:** Same as EPA Method 5 Section 8.7 (with the following additions:

5.7.1 In addition to the nozzle, probe, and filter-holder rinses, the filter frit support is to be rinsed with acetone and stored in Container No. 2.

5.7.2 Container No. 4. The contents of impingers 1 through 3 along with a distilled water rinse of impingers and all interconnects between the heated filter holder to the silica gel impinger must be transferred to Container No. 4. To adequately recover the sample from the impingers and interconnects, each component is to be rinsed in triplicate and the total rinse volume should equal or exceed 75 mls of reagent (distilled water).

5.7.3 Container 5. Rinse all sample exposed surfaces between the filter frit support and the inlet to the silica gel impinger with acetone and store in container No. 5. To adequately recover the sample from this portion of the sampling train, each component is to be rinsed in triplicate and the total rinse volume should equal or exceed 100 mls of reagent (acetone).

5.8 **Sample Transport:** Same as EPA Method 5 Section 8.8.

6.0 Quality Control

6.1 **Miscellaneous Quality Control Procedures:** Same as EPA Method 5 Section 9.1 with the following additions:

6.1.1 Analytical balance calibration and auditing procedures as per Section 7.8 of this method.

6.2 **Volume Metering System Checks:** Same as EPA Method 5 Section 9.2.

7.0 Calibration and Standardization

7.1 **Documentation:** The calibration data and/or calibration curves shall be included in the source test report.

7.2 **Nozzles**: Same as EPA Method 5 Section 10.1.

7.3 **Pitot Tube**: Same as EPA Method 5 Section 10.2 with the following addition:

7.3.1 If calibrated against a standard pitot, Type S pitot tubes shall be recalibrated at least once every six months.

7.3.2 If default Cp value used based on measured pitot features, measurements must be conducted pre and post test.

7.4 **Metering System:** Same as EPA Method 5 Section 10.3.

7.5 **Probe Heater Calibration:** Same as EPA Method 5 Section 10.4.

7.6 **Temperature Sensors:** Same as EPA Method 5 Section 10.5 with the following additions:

7.6.1 Thermometers that measure the filter-oven, impinger exit, and dry-gas meter temperatures are to be calibrated at 32° F and 212°F against an ASTM mercury thermometer or NIST traceable thermometer. At a minimum, the filter-oven, impinger exit, and dry-gas meter thermometers are to be calibrated before initial use and at least once every six months thereafter.

7.6.2 Alternatively, in-stack temperature thermometers are to be calibrated at 32° F and 212°F against an ASTM mercury thermometer or NIST traceable thermometer. At a minimum, the in-stack temperature thermometers are to be calibrated before initial use and at least once every six months thereafter.

7.7 **Barometer:** Same as EPA Method 5 Section 10.6.

7.8 **Analytical Balance:** The following calibration and standardization procedures must be performed on the analytical balance:

7.8.1 The balance must be audited utilizing 0.500 g, 1.0000 g, 10.0000 g, 50.0000 g, and 100.0000 g Class-S standard weights. Alternatively, five (5) Class-S standard weights may be substituted that accurately represent the anticipated measurement range. The balance results must agree within $\pm$1 mg of the Class-S weights. At a minimum, the balance calibration must be performed subsequent to disturbing the analytical balance and annually thereafter.

7.8.2 Prior to weighing filters before and after sampling, adjust the analytical balance to zero and check the accuracy with a 0.5 g Class-S weight. A Class-S standard weight within 1 g of the filter weight may be used as an alternate. The balance results must agree within ±0.5 mg and the relative humidity in the weighing environment must be ≤50%.

7.8.3 Prior to weighing beakers before and after sampling, adjust the analytical balance to zero and check the accuracy with a 100 g Class-S standard weight. A Class-S standard weight within 1 g of the beaker weight may be used as an alternate. The balance results must agree within ±0.5 mg and the relative humidity in the weighing environment must be ≤50%.

8.0 Analytical Procedures

8.1 **Documentation:** Analytical documentation shall be consistent with the data entry forms presented in Figures 5-2a through 5-2c.

8.2 **Analysis:** Same as EPA Method 5 Section 11.2 with following additions:

8.2.1 **Container No. 1:** The sample (filter) must be desiccated and weighed to a constant final weight, even if it is oven dried.

8.2.2 **Container No. 4:** Transfer the contents of Container No. 4 to a separator funnel (Teflon[1] stoppered). Rinse the container with distilled water and add to the separatory funnel. Add 50 ml of methylene chloride or hexane. Stopper the separatory funnel and vigorously shake for 1 minute. Take care to momentarily release the funnel pressure several times during the shaking process. Allow the sample to separate into two distinct layers and transfer the methylene chloride (lower layer) into a tared beaker or evaporating dish made of glass, Teflon[1], or other inert material. Repeat the extraction process twice more.

NOTE: Always leave a small amount of methylene chloride in the separatory funnel to ensure that water does not get into the extracted sample. If water is present in the extracted sample, it will be difficult to completely evaporate the sample to dryness for gravimetric analysis.

8.2.2.*i* Transfer the remaining water in the separator funnel to a tared beaker or evaporating dish and evaporate at 105ºC. Desiccate for 24 hours and weigh to a constant weight.

8.2.2.*ii* Evaporate the combined impinger water extracts from Section 8.2.2 at laboratory temperature (≤ 70ºF) and pressure, desiccate for 24 hours and weigh to a constant weight.

8.2.3 **Container No. 5:** Transfer the contents of container No. 5 to a tared beaker or evaporating dish, evaporate at laboratory temperature and pressure, desiccate for 24 hours, and weigh to a constant weight.

[1] Mention of trade names or specific products does not constitute endorsement by DEQ.

8.2.4 **Solvent Blanks:** Evaporate a portion of the solvents in a manner similar to the sample evaporation to determine the solvent blanks.

9.0 Calculations

9.1 **Nomenclature:** Same as EPA Method 5 Section 12.1 with following additions:

C_m = Methylene chloride (or hexane) blank residue concentration, mg/g.

C_w = Distilled water blank residue concentration, mg/g.

m_m = Mass of residue of methylene chloride (or hexane) after evaporation, mg.

m_w = Mass of residue of distilled water after evaporation, mg.

V_{mb} = Volume of methylene chloride (or hexane)blank, ml.

V_{mc} = Volume of methylene chloride (or hexane) used for extracting the impinger water, ml.

V_{wb} = Volume of distilled water blank, ml.

V_{ws} = Volume of distilled water for charging the impingers and for recovery, ml.

W_m = Weight of residue in methylene chloride (or hexane), mg.

W_w = Weight of residue of distilled water, mg.

ρ_m = Density of methylene chloride (or hexane), g/ml (see label on bottle).

ρ_w = Density of distilled water, g/ml (1.0 g/ml).

9.2 **Dry Gas Volume**: Same as EPA Method 5 Section 12.3.

9.3 **Volume of Water Vapor Condensed:** Same as EPA Method 5 Section 12.4.

9.4 **Moisture Content:** Same as EPA Method 5 Section 12.5.

9.5 **Acetone Blank Concentration:** Same as EPA Method 5 Section 12.6.

9.6 **Acetone Blank Deduction:** Same as EPA Method 5 Section 12.7 with the following addition: The acetone reagent blank weight correction will not exceed 0.001%, or 0.01 mg/ml. An acetone blank deduction value (Wa) of 0.0 mg shall be used when the acetone blank concentration (Ca) is less than or equal to zero.

9.7 **Water Blank Concentration:**

$$C_w = \frac{m_w}{V_{wb} \times \rho_w} \qquad \textit{(Eq. 5.9-1)}$$

9.8 **Water Blank Deduction:**

$$W_w = C_w \times V_{ws} \times \rho_w \qquad \textit{(Eq. 5.9-2)}$$

NOTE: The distilled water reagent blank weight correction will not exceed 0.001%, or 0.01 mg/ml. A water blank deduction value (W_w) of 0.0 mg shall be used when the water blank concentration (C_w) is less than or equal to zero.

9.9 **Methylene Chloride (or Hexane) Blank Concentration:**

$$C_m = \frac{m_m}{V_{mb} \times \rho_m} \qquad \textit{(Eq. 5.9-3)}$$

9.10 **Methylene Chloride (or Hexane) Blank Deduction:**

$$W_m = C_m \times V_{mc} \times \rho_m \qquad \textit{(Eq. 5.9-4)}$$

NOTE: The methylene chloride reagent blank weight correction will not exceed 0.001%, or 0.01 mg/ml. A methylene chloride (or hexane) blank deduction value (W_m) of 0.0 mg shall be used when the methylene chloride blank concentration (C_m) is less than or equal to zero.

9.11 **Total Particulate Weight:**

Determine the total particulate matter catch from the sum of the weights obtained from Containers 1, 2, 4, 5 (including the organic solvent extract of the water from Container No. 4), less the acetone, methylene chloride (or hexane), and distilled water blanks (see Figures 5-2a, 5-2b, and 5-2c).

9.12 **Particulate Concentration:** Same as EPA Method 5 Section 12.9.

9.13 **Isokinetic Variation:** Same as EPA Method 5 Section 12.11.

9.14 **Stack Gas Velocity and Volumetric Flow Rate:** Same as EPA Method 5 Section 12.12.

10.0 Alternative Procedures, Bibliography, Sampling Train Schematic, Example Data Sheets, Etc.:

Same as EPA Method 5 Sections 16, 17 and Figures 5-1 through 5-12 excluding Figure 5-6 (use ODEQ Method 5 Figures 5-2a through 5-2b in place of EPA Method 5 Figure 5-6).

Figure 5-1: Particulate Sampling Train

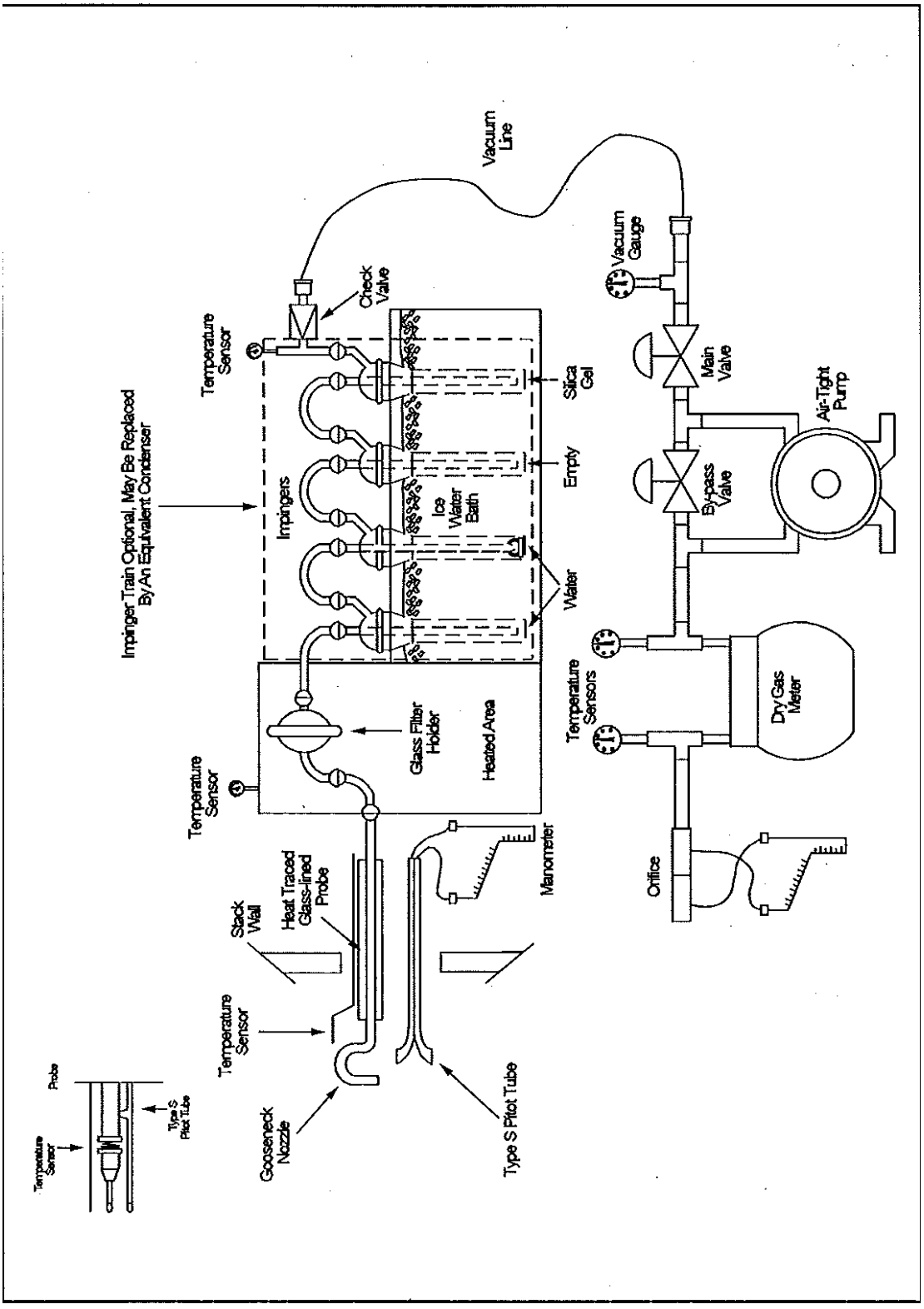


Figure 5-2a
METHOD 5 DATA ANALYSIS FORM

Plant_____ **Run Number**_____

Sample Location_____ **Test Date**_____

Sample Recovered by_____

Reagent	Date/Time	Weight (g)	Audit* (g)	Lab Temp. ºF	Lab RH %	Analyst
FRONT HALF:						
Filter Filter ID:_____ Tare Wt.:_____ Date/time into desiccator:_____						
Acetone Beaker ID:_____ Tare Wt.:_____ Solv. Vol.:_____ Solv. ID:_____ Date/time into desiccator:_____						
BACK HALF:						
Acetone Beaker ID:_____ Tare Wt.:_____ Solv. Vol.:_____ Solv. ID:_____ Date/time into desiccator:_____						
Water Beaker ID:_____ Tare Wt.:_____ Water Vol.:_____ Water ID:_____ Date/time into desiccator:_____						
MeCl or Hexane Beaker ID:_____ Tare Wt.:_____ Solv. Vol.:_____ Solv. ID:_____ Date/time into desiccator:_____						

*filter 0.5000 g $\pm$ 0.5 mg tolerance – NIST traceable Class S weight
beaker 100.0000 g $\pm$ 0.5 mg tolerance – NIST traceable Class S weight

Figure 5-2b
METHOD 5 BLANK ANALYSIS DATA FORM

Sample Prepared _____ **Date**_____

Reagent	Date/Time	Weight (g)	Audit* (g)	Lab Temp. °F	Lab RH %	Analyst
Filter Filter ID:_____ Tare Wt.:_____ Date/time into desiccator:_____						
Acetone Beaker ID:_____ Tare Wt.:_____ Solv. Vol.:_____ Solv. ID:_____ Date/time into desiccator:_____						
Water Beaker ID:_____ Tare Wt.:_____ Water Vol.:_____ Water ID:_____ Date/time into desiccator:_____						
MeCl or Hexane Beaker ID:_____ Tare Wt.:_____ Solv. Vol.:_____ Solv. Wt:_____ Date/time into desiccator:_____						

*filter 0.5000 g ± 0.5 mg tolerance – NIST traceable Class S weight
beaker 100.0000 g ± 0.5 mg tolerance – NIST traceable Class S weight

Figure 5-2c
METHOD 5 TARE WEIGHT RECORD

Indicate: filters or evaporation containers

Media ID	Date_____ Time_____ Temp_____ °F RH_____ % Audit____ gm By_____	Date_____ Time_____ Temp_____ °F RH_____ % Audit____ gm By_____	Date_____ Time_____ Temp_____ °F RH_____ % Audit____ gm By_____	Date_____ Time_____ Temp_____ °F RH_____ % Audit____ gm By_____	Date_____ Time_____ Temp_____ °F RH_____ % Audit_____ gm By_____
	Weight (g)	Weight (g)	Weight (g)	Weight (g)	Weight (g)

C-5.10

SUB-APPENDIX C-7

OREGON DEQ
SOURCE SAMPLING
METHOD 7

Oregon Method 7

State of Oregon
Department of Environmental Quality
Source Sampling Method 7

Sampling Condensable Particulate Emissions from Stationary Sources

1.0 **Principle and Applicability**

1.1 **Principle:** Particulate matter including condensable gases is withdrawn isokinetically from a flowing gas stream. The particulate matter is determined gravimetrically after extraction with an organic solvent and evaporation.

1.2 **Applicability:** This method is applicable to stationary sources whose primary emissions are condensable gases. It should be considered a modification of Source Sampling Method 5, and applied only when directed to do so by DEQ.

2.0 **Acceptability.** Results of this method will be accepted as demonstration of compliance (or non-compliance) provided that the methods included or referenced in this procedure are strictly adhered to and a report is prepared according to Section 2.11 of DEQ's Source Sampling Manual, Volume I. Deviations from the procedures described herein will be permitted only if permission from DEQ is obtained in writing in advance of the tests.

3.0 **Equipment and Supplies:** Same as Oregon Source Sampling Method 5 Sections 3.1 through 3.5 with the following addendum:

3.1 **Sampling train (Figure 7-1)**: Same as Oregon Source Sampling Method 5 Section 3.1 with the following exceptions:

3.1.1 The heated filter and/or cyclone are optional, but should be used if a significant quantity of filterable particulate matter is present.

3.1.2 An unheated glass fiber filter is placed at the inlet to the silica gel impinger (generally Impinger 4).

4.0 **Reagents and Standards:** Same as Oregon Source Sampling Method 5 Section 4.1 through 4.3.

5.0 **Sample Collection, Preservation, Storage, and Transport:** Same as Oregon Source Sampling Method 5 Sections 5.1 through 5.8 with the following addenda:

5.1 **Preparation of Sampling Train:** Same as Oregon Source Sampling Method 5 Section 5.3 with the following addition:

5.1.1 Insert numbered and pre-weighed filters into each of the front (heated if used) and back (non-heated) filter holders.

5.2 **Sample Recovery:** Same as Oregon Source Sampling Method 5 Section 5.7 with the following addition:

5.2.1 Container 6: Transfer the back filter to container No. 6.

6.0 **Quality Control:** Same as Oregon Source Sampling Method 5 Sections 6.1 and 6.2.

7.0 **Calibration and Standardization:** Same as Oregon Source Sampling Method 5 Sections 7.1 through 7.8.

8.0 **Analytical Procedure**s: Same as Oregon Source Sampling Method 5 Sections 8.1 through 8.2 with the following addendums:

8.1 Documentation: Analytical documentation shall be consistent with the data entry forms presented in Figure 7-2 of Oregon Source Sampling Method 7, and Figures 5-2b through 5-2c of Oregon Source Sampling Method 5

8.2 Analysis: Same as Oregon Source Sampling Method 5 Section 8.2 with the following addition:

8.2.1 **Container No. 6:** Desiccate the back filter in Container No. 6 for 24 hours at 70°F or less. Weigh the filter to a constant weight.

Note: In some cases, desiccation may cause slow vaporization of the condensable material. Therefore, if the weights continue to decrease over time and the sample is obviously dry, use the average of the first three weights to determine the particulate matter catch.

9.0 **Calculations:** Same as Oregon Source Sampling Method 5 Sections 9.1 through 9.14 with the following addendum:

9.1 Total Particulate Weight: Determine the total particulate matter catch from the sum of the weights obtained from Containers 1 (if front filter is used), 2, 4, 5, & 6 (including the organic solvent extract of the water from Container No. 4), less the acetone , methylene chloride (or hexane), and distilled water blanks (see Figure 7-2).

10.0 **Alternative Procedures, Bibliography, Sampling Train Schematic, Example Data Sheets, Etc.:** Same as Oregon Source Sampling Method 5 Section 10.0 with the following addenda:

10.1 An unheated glass fiber filter is placed at the inlet to the silica gel impinger (generally Impinger 4).

10.2 Use ODEQ Method 7 Figure 7-2 in place of ODEQ Method 5 Figure 5-2a.

FIGURE 7-1. OREGON METHOD 7 SAMPLING APPARATUS

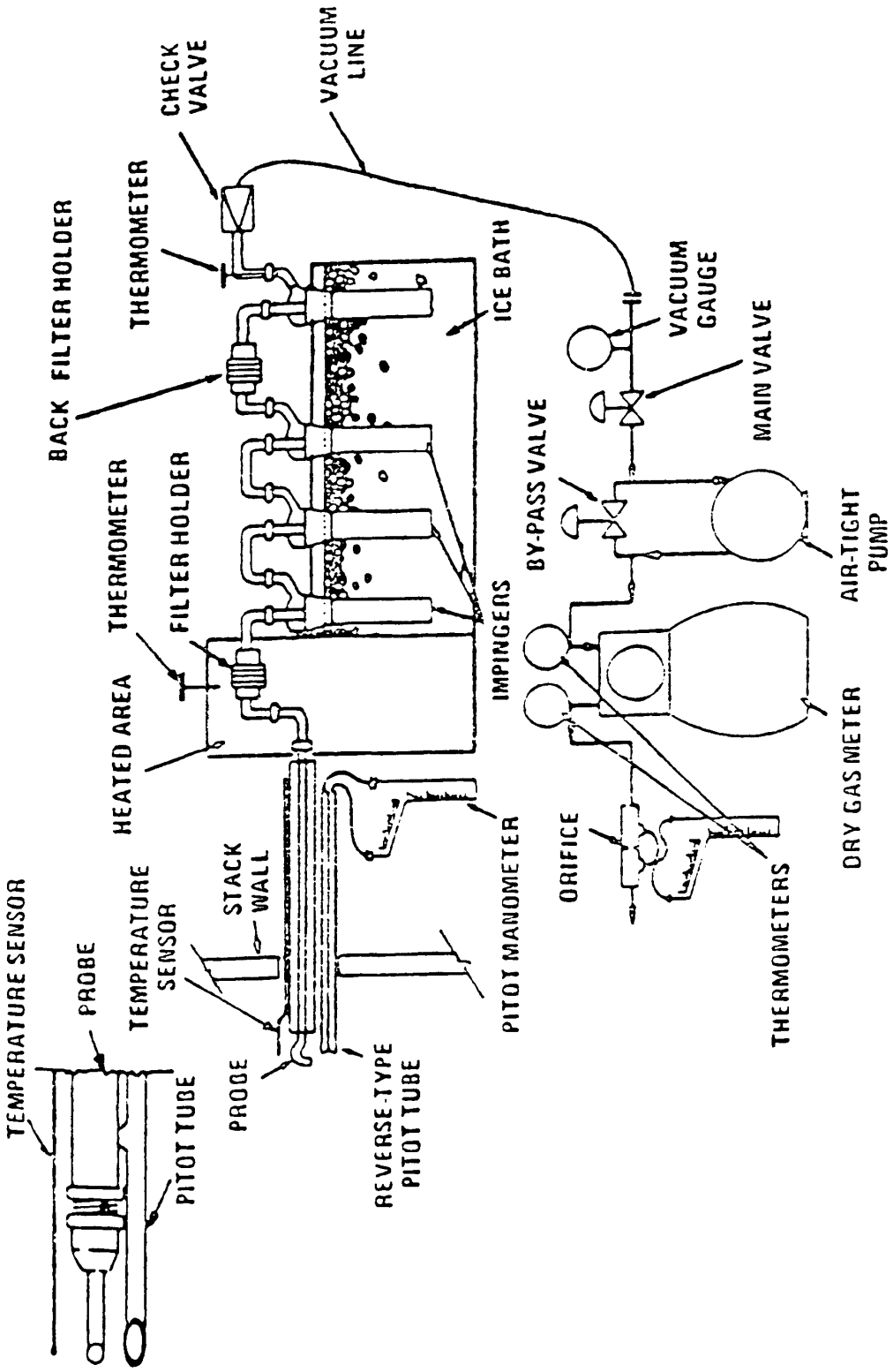


Figure 7-2
OREGON METHOD 7 DATA ANALYSIS FORM

Facility_____ **Run Number**_____
Sample Location_____ **Test Date**_____
Sample Recovered by_____

Reagent	Date/Time	Weight (g)	Audit* (g)	Lab Temp. °F	Lab RH %	Analyst
FRONT HALF:						
Front Filter Filter ID:_____ Tare Wt.:_____ Date/time into desiccator:_____						
Acetone Beaker ID:_____ Tare Wt.:_____ Solv. Vol.:_____ Solv. ID:_____ Date/time into desiccator:_____						
BACK HALF:						
Back Filter Filter ID:_____ Tare Wt.:_____ Date/time into desiccator:_____						
Acetone Beaker ID:_____ Tare Wt.:_____ Solv. Vol.:_____ Solv. ID:_____ Date/time into desiccator:_____						
Water Beaker ID:_____ Tare Wt.:_____ Water Vol.:_____ Water ID:_____ Date/time into desiccator:_____						
MeCl or Hexane Beaker ID:_____ Tare Wt.:_____ Solv. Vol.:_____ Solv. ID:_____ Date/time into desiccator:_____						

*filter 0.5000 g $\pm$ 0.5 mg tolerance – NIST traceable Class S weight
beaker 100.0000 g $\pm$ 0.5 mg tolerance – NIST traceable Class S weight

SUB-APPENDIX C-8

OREGON DEQ
SOURCE SAMPLING
METHOD 8

Oregon Method 8

State of Oregon
Department of Environmental Quality
Source Sampling Method 8

Sampling Filterable Particulate Emissions from Stationary Sources (High Volume Method)

1. **Principle and Applicability**

1.1 **Principle:** Particulate matter is withdrawn isokinetically from a flowing gas stream and deposited on a glass fiber filter. The particulate matter is determined gravimetrically after removal of uncombined water.

1.2 **Applicability:** This method is applicable to stationary sources whose exhaust points do not meet minimum EPA Method 1 flow disturbance requirements and whose primary emissions are solid (filterable) particulate. Its primary application is intended to be for wood product handling cyclones and baghouse exhaust systems. Caution must be taken when applying this method to sources with elevated exhaust temperatures and/or moistures as they may diminish the integrity of the sampling filter and damage the sampling apparatus.

2.0 **Acceptability:** Results from this method will be accepted as a demonstration of compliance (or non-compliance) provided that the methods included or referenced in this procedure are strictly adhered to and a report containing at least the minimum amount of information regarding the source is included as described in Section 2.11 of Oregon DEQ's Source Sampling Manual, Volume I. Deviations from the procedures described herein will be permitted only if permission from DEQ is obtained in writing in advance of the tests.

3.0 **Sampling Apparatus (Figure 8-1)**

3.1 **Nozzle** - smooth metal construction with sharp leading edge. The nozzle shall be connected to the probe by means of a joint designed to minimize particulate matter deposition.

3.2 **Probe** - smooth metal construction. The probe shall be attached to the nozzle and filter holder with air-tight joints designed to minimize particulate matter deposition. The probe should be as short as possible.

3.3 **Filter Holder** - air-tight with support screen for the filter.

3.4 **Metering system** - a calibrated orifice followed by a thermometer or thermocouple and flow control device. The metering system shall be connected to the filter holder by means of an air-tight joint.

3.5 **Pitot Tube** – Standard pitot same as EPA Method 2, Sec. 6.7.1, or S-type same as EPA Method 2, Sec. 6.1, or equivalent.

3.6 **Blower** - high capacity (typically 60 cfm free air). The blower may be connected to the metering system by a flexible hose if desired.

3.7 **Probe-Nozzle Brush** - flexible, nylon bristle brush at least as long as the probe and nozzle.

3.8 **Differential Pressure Gauges** - liquid manometer, Magnehelic[2], or equivalent.

3.9 **Barometer** - mercury, aneroid, or other type capable of measuring atmospheric pressure to within 0.1"Hg. If the barometric pressure is obtained from a nearby weather bureau station, the true station pressure (not corrected for elevation) must be obtained and an adjustment for elevation differences between the station and sampling site must be applied.

3.10 **Temperature Gauges** - Same as EPA Method 2 Section 6.3.

3.11 **Timer** - integrating type, accurate and readable to the nearest 6 seconds (tenth of a minute).

3.12 **Wash Bottles**: Same as EPA Method 5 Section 6.2.2 .

3.13 **Filter Storage Container** - clean manila envelopes and tagboards, or suitable equivalent.

3.14 **Sample Storage Containers** - glass with leak-tight cap that is resistant to attack by the solvent used, and allows complete recovery of particulate matter. Polyethylene bottles are also acceptable.

4.0 **Reagents and Standards**

4.1 **Filters** - glass fiber filters, free of pinhole leaks or other imperfections and exhibiting at least 99.95% efficiency on 0.3 micron DOP smoke particles. Desiccate individually numbered filters for 24-hours and weigh to the nearest 0.5 mg before use.

4.2 **Rinse Solvent** - acetone, reagent-grade, $\leq$ 0.001% (0.008 mg/ml) residue. For aluminum probes and nozzles, methanol may be substituted for acetone. The same purity is required.

[2] Mention of trade names or specific products does not constitute endorsement by DEQ.

5.0 Sample Train Preparation

5.1 All parts of the sampling train shall be cleaned and properly calibrated as directed in Section 10.

5.2 Place a filter in the filter holder with the coarse side facing the flow, being careful not to damage it. Be certain that the filter is positioned so that no air can be drawn around the filter.

5.3 Assemble the sample train with the appropriate nozzle and length of probe. Perform a leak check by plugging the nozzle, turning on the blower, and observing the deflection of the flow orifice pressure gauge. The acceptable leakage rate shall not exceed 5% of the expected sample flow rate.

6.0 Sample Collection, Preservation, Storage, and Transport

6.1 Use a pitot tube to roughly map the velocity distribution across the face of the exhaust opening or duct. Areas of zero or negative flow should also be indicated if present. At each point at which the velocity is measured, measure the flow in the direction giving maximum deflection of the pitot pressure gauge. Record the data on a form similar to Figure 8-6.

6.2 Select six or more points of outgoing (positive) flow from the points measured in Section 6.1 to sample. The points shall be representative of the flow pattern, and shall include the point of maximum velocity. If six points of positive flow cannot be obtained, use the maximum number possible. Do not choose any points closer than 2 inches to the exhaust duct wall.

Alternatively, sample point locations may be determined utilizing criteria specified within EPA Method 1 if the minimum distances from upstream and downstream flow disturbances are met (Figure 1-1 of EPA Method 1).

6.3 Measure the exhaust temperature.

6.4 Determine the nozzle size required for isokinetic sampling. An estimate of the orifice temperature is required. For low temperature exhausts, the orifice temperature is usually very close to the exhaust temperature. For higher temperature exhausts, a trial run may be necessary to determine the expected orifice temperature.

6.5 Calculate the required orifice pressure drop for each chosen sampling point to obtain an isokinetic sample rate. With the probe out of the exhaust stream, turn on the blower and adjust the sample flow rate to that calculated for the first sampling point in Section 6.2. Locate the probe nozzle at the first sampling point, and immediately start the timer. Move the probe around until the velocity pressure matches that for which the sampling flow rate was pre-set. The probe nozzle must be pointing directly into the flow.

6.6 Continually monitor the velocity during the sampling period and move the probe around as required to keep it in an area where the velocity matches the original velocity used to calculate the pre-set sampling rate. Record the sampling time, the orifice temperature, and orifice pressure drop on a data sheet similar to Figure 8-7. Record data every 5 minutes or once per sampling point, whichever is more frequent. Sample for a length of time so that the total sampling time for all points is at least 15 minutes and a minimum of 100 mg of particulate matter is collected.

6.7 Repeat steps 6.5 and 6.6 for each sampling point. The blower need not be turned off between points if readjustments to the new sampling rate can be made rapidly (less than 15 seconds).

6.8 Care should be taken so that the nozzle does not touch the walls of the exhaust stack because particulate matter may be dislodged and enter the sample train. If there is reason to believe this has happened, discontinue the sample, clean the train, and restart the test.

6.9 If excessive loading of the filter should occur such that isokinetic conditions cannot be maintained, replace the filter and continue the test.

6.10 At the conclusion of the sampling period, remove the probe from the exhaust and turn off the blower (do not reverse this order because the filter may be broken and sample lost). Plug the nozzle to prevent sample loss, and transport to the sample recovery area.

6.11 Conduct a post-test leak check (as per Section 5.3).

6.12 Measure the moisture content, molecular weight, and the pressure (absolute) of the exhaust gas. In most cases, the moisture may be measured by the wet bulb/dry bulb technique as described in Oregon Source Sampling Method 4. The molecular weight shall be measured by EPA Method 3 or 3a. If the exhaust gas being sampled is ambient air, the dry molecular weight can be assumed to equal 29 lbs/lb mol (29 g/g mol). If feasible, these supplemental measurements should be conducted during each PM sample run. Otherwise, these supplemental measurements should be conducted immediately prior to and immediately following each PM sample run. The process operating parameters realized during these supplemental measurements must be consistent with the parameters encountered during the PM sampling collection.

7.0 **Sample Recovery**

7.1 Remove the nozzle plug, turn on the blower, insert the probe brush into the nozzle, and brush the particulate from the nozzle and probe onto the filter. Do not insert the brush so far in that it will come into contact with the filter. Turn off the blower and recover the PM adhered to the brush. This brushing process must be performed after every PM sample run.

7.2 Open the filter holder and carefully remove the filter. Inspect the filter for holes or tears. A leak around the filter is likely if particulate deposits are found at the edge of the filter. If any of these problems are found, the observations should be recorded on the field data sheet and the sample should be voided (repeat the run). Fold the filter once lengthwise with the dirty side in, and place in a folded manila tagboard (or equivalent), folded edge down. Fasten the outside edge of the tagboard (or equivalent) with a paper clip, and place in the manila envelope (or equivalent). Be aware that some filter material will likely remain on the gasket and filter support. If possible, these filter remains should be removed with a spatula and placed within the folded filter.

7.3 Rinse the inside front of the filter holder, probe, and nozzle with a measured amount of acetone or methanol while brushing. Repeat the rinsing/brushing until all particulate and filter remains is removed as evidenced by a lack of visible residue on the inside surfaces after evaporation of the acetone or methanol. Be sure to also recover the PM matter adhered to the recovery brushes. Retain the acetone or methanol rinse and a blank sample of the acetone or methanol in labeled containers for laboratory analysis. This rinsing process must be performed after every PM sample run.

8.0 **Analytical Procedures**

8.1 Desiccate the filter for 24-hours at room temperature (70ºF or less), and weigh to a constant weight to the nearest 0.5mg.

NOTE: Make certain that any particulate that may have dislodged from the filter into the tagboard or envelope (or their equivalent) is returned to the filter before weighing. Alternatively, the filter and corresponding filter receptacle (envelope) may be tared simultaneously and analyzed collectively. In this case, the filter receptacle must be opened prior to being placed in the desiccator to instigate sample drying.

Since the relatively large filter and particulate catch may be hygroscopic, weigh immediately upon removal from the desiccator.

8.2 Filter blanks shall be run in the field before and after the complete source testing activity. A minimum of 2 filter blanks shall be collected for each source test. This is accomplished by inserting a pre-weighed filter into the filter holder, performing a leak check, removing the filter, and treating it as a sample filter in accordance with Section 7.2.

8.3 Quantitatively transfer the solvent rinse and blank solvent to tared beakers or evaporating dishes, evaporate at room temperature (70ºF or less) and pressure, desiccate, and weigh to a constant weight to the nearest 0.5 mg.

8.4 Record the data on forms similar to Figures 8-2, 8-3, 8-4, and 8-5.

9.0 **Exhaust Gas Flow Rate Measurement**

9.1 If the PM sampling location does not satisfy the flow disturbance requirements of EPA Method 1, then an alternate sampling location shall be selected for a velocity traverse. The velocity traverse location shall meet EPA Method 1 requirements and should accurately represent the flow rate to the atmosphere at the particulate sampling point (i.e., no air flows should be added to or removed from the system between the velocity and the particulate sampling points).

9.2 The dry molecular weight of the gas stream shall be determined as per EPA Method 3 or 3a. If the exhaust gas being sampled is ambient air, the dry molecular weight can be assumed to equal 29 lbs/lb mol (29 g/g mol).

9.3 In most cases, the moisture may be measured by the wet bulb/dry bulb technique as described in Oregon Source Sampling Method 4. If Oregon Source Sampling Method 4 is not applicable, then exhaust moisture must be measured as per EPA Method 4.

9.4 The flow rate shall be measured as per EPA Method 2 at the location specified by Section 9.1 of this DEQ method.

9.5 If possible, the flow rate (including velocity, molecular weight, & moisture) should be measured during each PM sample run. Alternatively, these supplemental measurements should be conducted immediately prior to and immediately following each PM sample run. The process operating parameters realized during these supplemental measurements must be consistent with the parameters encountered during the PM sampling collection.

10.0 **Calibration**

10.1 The orifice flow meter shall be calibrated at least once within twelve months of the sampling date using a primary standard or a device which has been calibrated against a primary standard. The calibration data and calibration curves for the orifice and intermediate standard shall be included in the source test report, along with documentation of the primary standard.

10.2 All S-type pitot tubes, differential pressure gauges, and thermometers or thermocouples, shall be calibrated at least once within six months of the sampling date. The calibration data and/or calibration curves shall be included in the source test report.

10.3 The calibration records shall include the date, place, and method of calibration.

10.4 Differential pressure gauges (if not liquid manometers) shall be calibrated against a liquid manometer.

10.5 The following calibration and standardization procedures must be performed on the analytical balance:

10.5.1 The balance must be audited utilizing 0.500 g, 1.0000 g, 10.0000 g, 50.0000 g, and 100.0000 g Class-S standard weights. Alternatively, five (5) Class-S standard weights may be substituted that accurately represent the anticipated measurement range. The balance results must agree within $\pm$1 mg of the Class-S weights. At a minimum, the balance calibration must be performed subsequent to disturbing the analytical balance and annually thereafter.

10.5.2 Prior to weighing filters before and after sampling, adjust the analytical balance to zero and check the accuracy with a 5 g Class-S weight. A Class-S standard weight within 1 g of the filter weight may be used as an alternate. The balance results must agree within $\pm$0.5 mg and the temperature in the weighing environment must be $\leq$70^{o}F.

10.5.3 Prior to weighing beakers before and after sampling, adjust the analytical balance to zero and check the accuracy with a 100 g Class-S standard weight. A Class-S standard weight within 1 g of the beaker weight may be used as an alternate. The balance results must agree within $\pm$0.5 mg and the temperature in the weighing environment must be $\leq$ 70^{o}F.

11.0 **Calculations**

11.1 Total particulate emissions from the system shall be calculated by multiplying the measured particulate concentration by the flow rate through the exhaust system. An index to the parameters utilized in these calculations are as follows:

Bws = Moisture content of sample stream as per EPA 4 or ODEQ 4, vol./vol.

Cg = Calculated PM concentration, gr/dscf.

Cp = Pitot tube coefficient for Method 8 apparatus, typically 0.99

Dn = Sample nozzle diameter, inches.

$\sqrt{dp}$ = Average square root of velocity pressures measured at sample points, ("H_2O)$^{1/2}$.

E= PM emission rate, lb/hr

I = Isokinetic sampling rate percentage, %

Mc = Molecular weight of gas stream used to calibrate orifice, typically 29.0 #/#mol.

m_n = Mass of PM recovered from sampling apparatus, mg

Ms = Molecular weight of sample gas stream on a wet basis, #/# mol.

Pb_s = Barometric pressure during the course of sampling, "Hg.

Ps = Absolute exhaust pressure at sampling location, "Hg.

Qs_{std} = Standard exhaust gas flow rate, dscfm

SRstd=Standard sample rate (wet) as indicated by calibration curve, scfm

SRstd' = Corrected standard sample rate (wet) for temp., pressure, & molecular weight, scfm.

$SRstd'_i$ = Corrected standard sample rate (wet) at sample point "*i*", scfm.

To_s = Orifice temperature measured at sample point, ^{o}R.

Ts=Average exhaust temperature at sampling location, ^{o}R

Vstd' = Standard sample volume (dry) of entire test replicate, dscf.

Ø = Sampling time of entire test replicate, min.

$Ø_i$ = Sampling time at sample point "i", min.

11.2 Particulate Concentration: The following calculations shall be conducted for each test run:

11.2.1 Total Sample Weight: Calculate the total sample weight from laboratory results by adding the net weight gain of the filter sample(s), adjusted for a blank value, to the net weight of particulate matter collected in the acetone (or methanol) rinse, corrected for an acetone (or methanol) blank. Record the results on a laboratory form similar to Figure 8-5.

11.2.2 Sampling Rate: Sample flow rates for each point shall be determined from the orifice calibration curve. Typically, the orifice calibration curve is a plot of orifice pressure drop versus sample flow rates at standard temperature and pressure. Some calibration curves account for varying orifice temperatures, but rarely do they adjust for orifice pressure and gaseous molecular weight.

Consequently, the calibration curve must be corrected to accurately reflect the relationship between the orifice differential pressure and the standard sampling flow rate. The correction to the standard sampling flow rate for a constant orifice differential is specified by Equation 8.11-1.

$$SRstd' = 4.2 \times SRstd \times \sqrt{\frac{Pb_s}{To_s}} \times \sqrt{\frac{Mc}{Ms}} \qquad \textit{(Eq. 8.11-1)}$$

Note: Equation 8.11-1 only applies to the calibration curve that represents an orifice temperature of 68° F and an orifice pressure of 29.92"Hg. Set Mc equal to Ms (Mc:Ms ratio of 1) if sample gas is mainly comprised of air with Bws less than 0.05 vol./vol.

11.2.3 Total Sample Gas Volume: Calculate the sample gas volume by multiplying each sample point duration in minutes, times the average sample rate (wet standard cubic feet per minute – wscfm) as determined using the orifice calibration curve and the corrected sample rate from Equation 8.11-1. Add the volume of all sample points and adjust for exhaust gas moisture to get the total dry standard sample gas volume for the entire test run as shown by Equation 8.11-2.

$$Vstd' = \left[\sum_{i=1}^{n} SRstd'_i \times \phi_i \right] \times \left[1 - Bws \right] \qquad \textit{(Eq. 8.11-2)}$$

11.2.4 Calculate the particulate concentration in gr/dscf by the following equation:

$$Cg = 0.0154 \times \frac{m_n}{Vstd'} \qquad \textit{(Eq. 8.11-3)}$$

11.3 Total Exhaust Gas Flow Rate: Use EPA Method 2 calculations to determine the total exhaust gas flow rate using the data obtained from Section 9 of this DEQ method. For some cyclones, the total flow may be adjusted to account for air purposely vented out the bottom of the cyclone.

11.4 Total Emissions: Calculate the total particulate emission rate (lb/hr) by the following equation:

$$E = 0.00857 \times Cg \times Qs_{std} \qquad \textit{(Eq. 8.11-4)}$$

11.5 Percent Isokinetic Sampling Rate: Calculate the isokinetic sampling rate, defined as the ratio of the average velocity of the sample gas entering the sample nozzle to the average sample point velocity. In order to achieve acceptable results, the value of this parameter must be between 80% and 120%. Test results falling outside this range shall be discarded, and the test repeated.

$$I = 0.2017 \times \frac{Vstd'}{\phi \times (1 - Bws) \times Dn^2 \times Cp \times \sqrt{dp}} \times \sqrt{\frac{(Ts + 460) \times Ms}{Ps}} \qquad \textit{(Eq. 8.11-5)}$$

12.0 Test Reports

The test report shall include as a minimum the information requested in Section 2.11 of this manual.

Figure 8-1

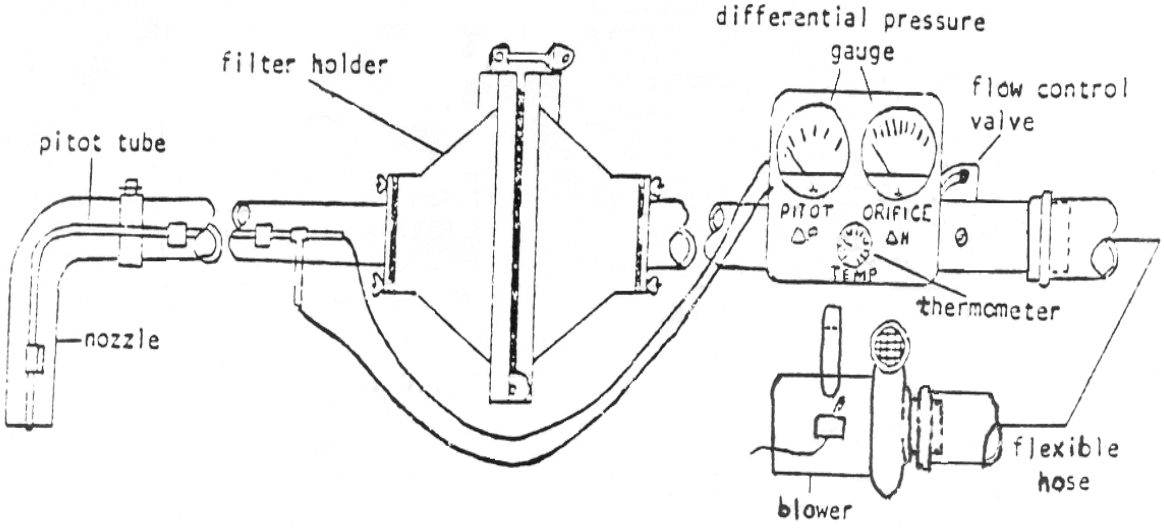

differential pressure
gauge
filter holder
flow control
valve
pitot tube
PITOT
ORIFICE
ΔH
θ
TEMP
thermometer
nozzle
flexible
hose
blower

Figure 8-2
METHOD 8 DATA ANALYSIS FORM

Facility_____ **Run Number**_____
Sample Location_____ **Test Date**_____
Sample Recovered by_____

Reagent	Date/Time	Weight (g)	Audit* (g)	Lab Temp. °F	Lab RH %	Analyst
Filter Filter ID:_____ Tare Wt.:_____ Date/time into desiccator: _____						
Acetone Beaker ID:_____ Tare Wt.:_____ Solv. Vol.:_____ Solv. ID:_____ Date/time into desiccator: _____						

*filter 5.0000 g ± 0.5 mg tolerance – NIST traceable Class S weight
beaker 100.0000 g ± 0.5 mg tolerance – NIST traceable Class S weight

Figure 8-3
METHOD 8 BLANK ANALYSIS DATA FORM

Samples Prepared by_____ Date_____

Reagent	Date/Time	Weight (g)	Audit* (g)	Lab Temp. °F	Lab RH %	Analyst
Pre Test Blank Filter Filter ID:_____ Tare Wt.:_____						
Post Test Blank Filter Filter ID:_____ Tare Wt.:_____						
Blank Acetone Beaker ID:_____ Tare Wt.:_____ Solv. Vol.:_____ Solv. ID:_____						

*filter 5.0000 g ± 0.5 mg tolerance – NIST traceable Class S weight
beaker 100.0000 g ± 0.5 mg tolerance – NIST traceable Class S weight

Figure 8-4
METHOD 8 TARE WEIGHT RECORD

Indicate: filters or evaporation containers (beakers)

Media ID	Date_____ Time_____ Temp_____ °F RH_____ % Audit____ gm By_____	Date_____ Time_____ Temp_____ °F RH_____ % Audit____ gm By_____	Date_____ Time_____ Temp_____ °F RH_____ % Audit____ gm By_____	Date_____ Time_____ Temp_____ °F RH_____ % Audit____ gm By_____	Date_____ Time_____ Temp_____ °F RH_____ % Audit_____ gm By_____
	Weight (g)	Weight (g)	Weight (g)	Weight (g)	Weight (g)

Figure 8-5

METHOD 8 ANALYSIS SUMMARY

Facility_____ **Run Number**_____
Sample Location_____ **Test Date**_____
Sample Recovered by_____

ANALYSIS	RUN _____	RUN _____	RUN _____	RUN _____	RUN _____
SAMPLE FILTER					
Filter ID					
Gross Weight, mg					
Tare Weight, mg					
Net Weight, mg					
PRE TEST BLANK FILTER					
Filter ID					
Gross Weight, mg					
Tare Weight, mg					
Net Weight, mg					
POST TEST BLANK FILTER					
Filter ID					
Gross Weight, mg					
Tare Weight, mg					
Net Weight, mg					
ACETONE RINSE					
Acetone ID					
Acetone Volume, mls					
Gross Weight, mg					
Tare Weight, mg					
Net Weight, mg					
ACETONE BLANK					
Acetone ID					
Acetone Blk Vol., mls					
Gross Weight, mg					
Tare Weight, mg					
Net Weight, mg					
Net Weight, mg/ml					
TOTAL PM RECOVERY*					
PM Recovered, mg					

*Total PM = (Filter) – (Average (pre-test blank & post-test blank)) + (Acetone Rinse) – (Acetone Blank Corrected for Rinse Volume). Note: The blank corrections for the filter and/or rinse samples are '0', if the blank filter or rinse samples yield negative weight gains.

Oregon Source Sampling Method 8
High Volume Sampling Data
Form 1 of 2

Figure 8-6
VELOCITY PRE-SURVEY

Plant Name & Location_____
Date_____ **Time**_____ **By (name)**_____
Source Location or ID_____

☐Low Pressure System ☐High Pressure System

Type of Exhaust: ☐Straight Vertical ☐China Hat

☐Goose-Neck ☐Other (specify)_____

Temperature: Dry Bulb _____ºF Wet Bulb _____ºF

Velocity Survey: Record velocity head at enough points to roughly map the velocity distribution across the exhaust cross-section. Select six points for sample collection and show in diagram.

Point	X inches	Y inches	Δ P " H_2O	Check if selected ( )
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
Average				

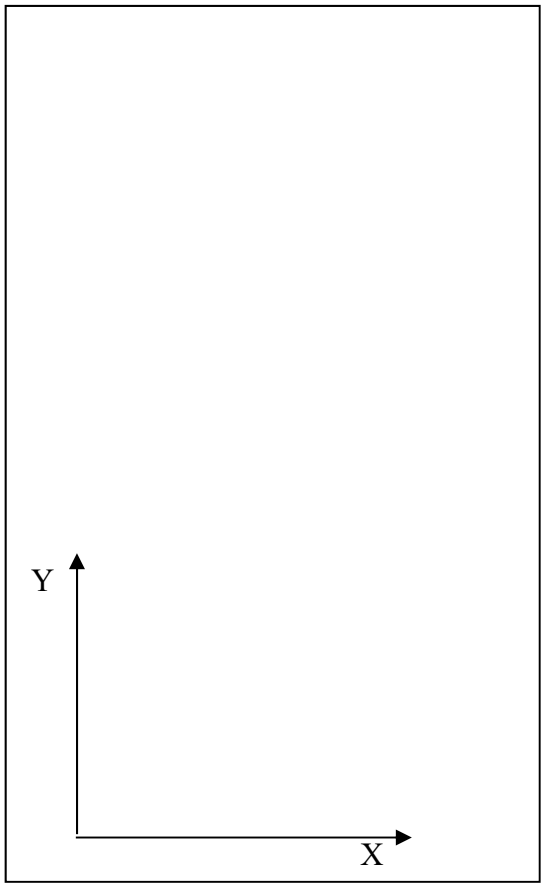


Figure 8-7

Sampling Data and Field Analysis

Plant Name/Location _____ Source Identification _____Run #_____

Date_____ Time_____ By (name)_____Process Operation During Test: _____

Temperature: Dry bulb_____ Wet bulb_____ %Moisture_____ Ambient_____

Gas composition: $\%O_2$ _____ $\%CO_2$ _____ Pitot factor (C_p)_____

Static Press (P_g)_____"H_2O

Nozzle Dia. _____ Nozzle area (A_n)_____ Barometric Pressure(P_b) _____in. H_g

Pt.	Location		Velocity Pressure		Orifice ΔH		Orifice Temperature °F	Sample Time minutes	Sample Rate Indicated by Calibration Curve scfm	Sample Rate Corrected for Sampling Conditions scfm	Sample Volume dscf
	X	Y	ΔP	√ΔP	Pre-set " H_2O	Actual "H_2O					
1											
2											
3											
4											
5											
6											
Avg. or Total			--		--	--			--		

Sample Filter ID:	
Acetone ID:	
Acetone Volume, mls.	
Pre Test Blank Filter ID:	
Post Test Blank Filter , ID:	

APPENDIX D

GENERAL CALIBRATION REQUIREMENTS

FOR OREGON SOURCE SAMPLING METHODS

Table D-1: CALIBRATION REQUIREMENTS FOR OREGON DEQ SOURCE SAMPLING METHODS

Measurement Equipment	Reference	Calibration Points	Frequency	Acceptance Criteria	Applicable ODEQ Method			
					M4	M5	M7	M8
TEMPERATURE MEASURING DEVICES								
Stack/Exhaust	ASTM mercury thermometer, NIST traceable, or thermocouple/potentiometer	32°F & 212°F or Sec. 10.3 of EPA M2	every 6 months or EPA M2	±1.5% absolute	X	X	X	X
Oven/Filter	ASTM mercury thermometer, or NIST traceable	32°F & 212°F	every 6 months	±1.5% absolute		X	X	
Impinger Exit	ASTM mercury thermometer, or NIST traceable	32°F & 212°F	every 6 months	±1.5% absolute		X	X	
Dry Gas Meter	ASTM mercury thermometer, or NIST traceable	32°F & 212°F	every 6 months	±1.5% absolute		X	X	
Orifice Meter	ASTM mercury thermometer, or NIST traceable	32°F & 212°F	every 6 months	±1.5% absolute				X
Note: The entire measurement system including readout shall be calibrated. All thermocouples should be checked before each source test. This could be accomplished by noting on the field data sheets that all of the thermocouples and/or thermometers register the same temperature at ambient conditions.								
SAMPLE NOZZLE								
Sample Nozzle (initial & thereafter)	micrometer	3 diameters	12 months & after repair	high minus low ≤0.004"		X	X	X
Sample Nozzle (pre-test)	visual inspection	tapered edge of opening	prior to each field use	no nicks, dents, or corrosion		X	X	X
PITOT TUBES								
S-type pitot tube (preferred procedure)	standard pitot tube (Cp=0.99)	800; 1,500; 3,000; & 4,500 fpm	every 6 months	mean deviation ≤0.01 A & B deviation ≤0.01		X	X	X
S-type pitot tube (D_t, P_A, P_B, x, Z, & W in limits)	specifications illustrated in Method 2, Figures, 2-2, 2-3, 2-4, 2-7, & 2-8	face alignments & dynamic interferences	pre & post each field use	EPA Method 2		X	X	X
Standard pitot tube	specifications of EPA Method 2, Section 6.7 and Figure 2-5	static pressure holes location & size	prior to initial use	≥ 6 D to tip, ≥8 D to bend, 0.1D hole diam.		X	X	X

Note: Where inconsistencies exist, quality assurance requirements specified by method supersede those presented within Tables D-1 & D-2.

Table D-2: CALIBRATION REQUIREMENTS FOR OREGON DEQ SOURCE SAMPLING METHODS

Measurement Equipment	Reference	Calibration Points	Frequency	Acceptance Criteria	Applicable ODEQ Method			
					M4	M5	M7	M8
SAMPLE VOLUME METERING EQUIPMENT								
Dry Gas Meter (pre test)	standard meter	3 orifice pressures (1.0", 2.0", & 3.0"H_2O)	every 6 months	Y $\pm$ 0.02 from average $\Delta H@$ $\pm$0.2 from average		X	X	
Dry Gas Meter (post test)	standard meter	3 replicates at avg. ΔH and max. vacuum during test	following each source test	Y_{post} $\pm$5% of Y_{pre}		X	X	
Standard Gas Meter (dry gas meter)	spyrometer or wet test meter	5 orifice pressures over range	annual	$Y_{max} - Y_{min} \leq 0.030$ $0.95 \leq Y \leq 1.05$		X	X	
Standard Gas Meter (wet test meter)	spyrometer	3 flow rates (0.25, 0.5, & 0.75 cfm)	annual	deviation $\leq$ 1%		X	X	
High-Volume Orifice (pre test)	standard orifice or meter (or approved equivalent)	7 settings over full range of orifice	every 12 months	demonstrate linearity on a logarithmic plot				X
Critical Orifices (as a calibration standard)	standard meter	duplicate runs for each orifice	every 6 months	K' $\pm$ 0.5% from average		X	X	
MISCELLANEOUS EQUIPMENT								
Magnehelic[3]	liquid manometer	3 points over range	after each field use	$\pm$5%		X	X	X
Barometer (aneroid type)	mercury barometer	one point	annual	$\pm$ 0.1"Hg	X	X	X	X

Note: Where inconsistencies exist, quality assurance requirements specified by method supersede those presented within Table D-1 & D-2.

[3] Mention of trade names or specific products does not constitute endorsement by DEQ.

Air Quality Program

Source Sampling Manual

Volume II

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Department of
Environmental
Quality

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Air Quality Division

811 SW 6th Avenue
Portland, OR 97204
Phone: (503) 229-5696
(800) 452-4011
Fax: (503) 229-6762
Contact: Jill Inahara

www.oregon.gov/DEQ

DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

This report prepared by:

Oregon Department of Environmental Quality
811 SW 6th Avenue
Portland, OR 97204
1-800-452-4011
www.oregon.gov/DEQ

Contact:
Mark Bailey, 541-633-2006
Jill Inahara, 503-229-5001

Alternative formats (Braille, large type) of this document can be made available.
Contact DEQ's Office of Communications & Outreach, Portland, at
503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696.

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DEQ METHOD 30

Test Procedures for Determining the Efficiency of
Gasoline Vapor Recovery Systems at Service Stations

STATE OF OREGON
DEPARTMENT OF ENVIRONMETNAL QUALITY

DEQ Air Quality Program
Portland, Oregon
December 1, 1980

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Method 30

Test Procedures for Determining the Efficiency of Gasoline vapor recovery systems at Service Stations and Similar Facilities with Small Storage Tanks

1.0 Introduction

The following test procedures are for determining the efficiency of vapor recovery systems for controlling gasoline vapors emitted during the filling of small storage tanks.

The test procedure for determining the efficiency of systems for controlling gasoline vapors displaced during filling of storage tanks requires determination of the weight of gasoline vapors vented through the storage tank vent and the volume of gasoline dispersed. The percentage effectiveness of control is then calculated from these values.

During the performance test, maintenance, adjustment, replacement of components or other such alteration of the control system is not allowed unless such action is specifically called for in the system's maintenance manual. Any such allowable alteration shall be recorded and included in the test report. During the testing, the control system will be sealed in such a manner that unauthorized maintenance may be detected. Maintenance is to be performed only after notification of the person in charge of the testing, except in case of emergency. Unauthorized maintenance may be reason for immediate failure of the test.

For systems which are identical in design and include the same components as systems tested and found to comply with the test procedures, but differ, primarily in size, the owner or vendor may demonstrate compliance capability and obtain approval by submitting engineering and/or test data demonstrating the relationship between capacity and throughput of each component whose performance is a function of throughput. Examples of such components include: blowers, catalyst, carbon or other absorbent, compressors, heat exchangers, combustors, piping, etc.

For the purpose of determining compliance with applicable Administrative Rules, equipment on systems with 90 percent or greater control efficiency shall be considered to be vapor tight.

2.0 Acceptance of Test Results

Results of this method will be accepted as a demonstration of compliance status of the equipment tested, provided that the methods included or referenced in this procedure are strictly adhered to. A statement containing at least the minimum amount of information regarding the test procedures applied should be included with the results.

Deviations from the procedure described herein will be permitted only if permission from DEQ is obtained in writing in advance of the test.

3.0 Small Storage Tank Filling (Phase I Systems):

3.1 Principle and Applicability:

3.1.1 Principle: During a fuel delivery, the volume of gasoline delivered from the tank to the storage tank is recorded and the concentration of gasoline vapor returning to the tank truck is measured. The weight of gasoline vapor discharged from the vent of the storage tank and, if applicable, from the vent of the vacuum assisted secondary processing unit during the same period is determined. The efficiency of control is calculated from these determinations.

3.1.2. Applicability: The method is applicable to all control systems which have a vapor line connecting the storage tank to the tank truck.

The storage tank is filled by submerged fill.

3.2. Test Equipment

3.2.1. For each vent, including restricted vents and vents of any processing units, a positive displacement meter, with a capacity of 3,000 standard cubic feet per hour (SCFH), a pressure drop of no more than 0.05 inches of water at an air flow of 30 SCFH, and equipped with an automatic data gathering system that can differentiate direction of flow and record volume vented in such a manner that this date can be correlated with simultaneously recorded hydrocarbon concentration data. A manifold for meter outlet with taps for a hydrocarbon (HC) analyzer, a thermocouple, and a pressure sensor is to be used with the positive displacement meter.

3.2.2. Coupling for the vent vapor line to connect the gas meter. Coupling to be sized so as to create no significant additional pressure drop in the system.

3.2.3. Coupling for the vent of the vacuum assisted secondary processing unit to connect the gas meter. Coupling to be sized as to create no significant additional pressure drop on the system.

3.2.4. Coupling for tank truck vapor line with thermocouple, manometer and HC analyzer taps. Coupling to be the same diameter as the vapor return line.

3.2.5. Coupling for tank truck fuel drop line with thermocouple tap. Coupling to be the same diameter as the fuel line.

3.2.6. Two (2) hydrocarbon analyzers (Flame Ionization Detector, FID, or DEQ approved equivalent) with recorders and with a capacity of measuring total gasoline vapor concentration of 100 percent as propane. Both analyzers to be of same make and model.

3.2.7. Three (3) flexible thermocouples or thermistors (0-150°F) with a recorder system.

3.2.8. Explosimeter

3.2.9. Barometer

3.2.10. Three (3) manometers or other pressure sensing devices capable of measuring zero to ten inches of water.

3.2.11. Thermometer

3.3 Testing Procedure:

3.3.1. The test during filling operating will be conducted under, as closely as feasible, normal conditions for the station. Normal conditions will include delivery time and station operating conditions.

3.3.2. Connect manifold to outlet of positive displacement meter and restriction to system vent of underground tank using the coupler, or if the vent has a restriction, remove the restriction and connect the coupler, manifold and outlet. If appropriate, connect another manifold and meter to the vent of the vacuum assisted secondary processing unit. If the system uses an incinerator to control emissions, use test procedures set forth in Section 4.0.

3.3.3. Connect the HC analyzer with recorder, thermocouple and manometer to the vent manifold. Calibrate the equipment in accordance with Section 6.0.

3.3.4. Connect the couplers to the tank truck fuel and vapor return lines.

3.3.5. Connect an HC analyzer with a recorder, a manometer and a thermocoupler to the taps on the coupler on the vapor return line.

3.3.6. Connect tank fuel and vapor return lines to appropriate underground tank lines in accordance with written procedure for the system.

3.3.7. Check the tank truck and all vapor line connections for a tight seal before and during the test with the explosimeter.

3.3.8. Record the initial reading of gas meter(s).

3.3.9. Start filling of the storage tank in accordance with manufacturers' established normal procedure.

3.3.10. Hydrocarbon concentrations, temperature and pressure measurements should be recorded using stripchart recorders within the first 15 seconds of the unloading period. The gas meter reading is to be taken at 120 second intervals.

3.3.11. Record at the start and the end of the test, barometric pressure and ambient temperature.

3.3.12. At the end of the drop, disconnect the tank truck from the storage tank in accordance with manufacturers' instructions (normal procedures). Leave the underground vent instrumentation in place.

3.3.13. Continue recording hydrocarbon concentrations, temperature, pressure and gas meter readings at the storage tank vent and/or the exhaust of any processing unit at 20 minute intervals. Do this for one hour for balance systems and until the system returns to normal conditions as specified by the manufacturer for secondary systems.

3.3.14. Disconnect instrumentation from the vent(s).

3.3.15. Record volume of gasoline that is delivered.

3.3.16. Record final reading of gas meter.

3.4. Calculations:

3.4.1. Volume of gas discharged through "i_{th}" vent (V_{vi}). This includes underground tank vent and any other control system vent.

$$V_{vsi} = \frac{V_{vi} \times 528 \times P_b}{T_{vi} \times 29.92} \quad (ft^3)$$

Where:

V_{vsi} = Volume of gas discharged through "i_{th}" vent, corrected to 68°F and 29.92 in. Hg; (Ft^3).

P_b = Barometric Pressure, (in. Hg).

V_{vi}= Volume of gas recorded by meter on "i_{th}" vent, corrected for amount of vapor removed for the hydrocarbon analysis, (ft^3).

T_{vi} = Average temperature in "i_{th}" vent line, ($^{\circ}R$).

"i_{th}" = The vent under consideration.

3.4.2. Volume of gas returned to the tank truck, (V_t) corrected to 68°F and 29.92 in. Hg.

$$V_t = \frac{0.1337 \times G_t \times [528(P_b + \Delta H)]}{T_t \times 29.92} \quad (ft^3)$$

Where:

G_t = Volume of gasoline delivered, (gal)

ΔH = Final gauge pressure of truck tank, (in Hg)

T_t = Average temperature of gas returned to tank truck, (°R)

P_b = Barometric pressure, (in. Hg)

T_t = Average temperature of gas returned to tank truck, (°R)

P_b = Barometric pressure, (in. Hg)

0.1337 = Conversion factor gallons to ft^3

3.4.3. Control Efficiency (E%):

$$E\% = \frac{V_t \times C_t \times 100}{(V_t \times C_t) + \sum(C_{vi} \times V_{vsi})}$$

Where:

E% = the efficiency of control in percent.

V_t = From 3.4.2 above

Ct = The average fractional volume concentration of gasoline vapor in the return line to the truck as determined by the hydrocarbon analyzer, (decimal fraction).

Cvi = The average fractional volume concentration of gasoline vapor in the "ith" vent as determined by the hydrocarbon analyzer, (decimal fraction).

V_{vsi} = From 3.4.1. above.

4.0 Test Procedure for Determining the Control Efficiency of Gasoline Vapor Incinerators

4.1. Principle and Applicability:

4.1.1. Principle: Hydrocarbon and carbon dioxide concentrations in the exhaust gases, and gas volume and HC concentrations in the inlet vapor, and ambient carbon dioxide concentrations are measured. These values are used to calculate the incinerator HC control efficiency and mass emission rate based on a carbon balance.

4.1.2. Applicability: This method is applicable as a performance test method for gasoline vapor control incinerators.

4.2. Test Scope and Conditions:

4.2.1. Station Status: The procedure is designed to measure incinerator control efficiency under conditions that may be considered normal for the station under test. All dispensing pumps interconnected with or sharing the control system under test shall remain open as is normal. Vehicles shall be fueled as is normal for the test period.

4.2.2. Fuel Reid Vapor Pressure (RVP): The RVP of the fuel dispensed during the test shall be within the range normal for the geographic location and time of the year.

4.3. Test Equipment:

4.3.1. HC Analyzers: HC analyzers using flame ionization detectors calibrated with known concentrations of propane in air are used to measure HC concentrations at both the incinerator inlet and exhaust. A suitable continuous recorder is required to record real-time output from the HC analyzers.

4.3.2 Sample System: The sample probe is to be of a material unaffected by combustion gases (S.S. 307, 316, 3365, etc.). The sample pump should be oil-less and leak-tight. Sample lines are to be inert, teflon is recommended. A thermocouple (0-2000^{o}F) shall be used to monitor temperature of exhaust gases at the inlet to sampling system.

4.3.3 Carbon Dioxide Analyzer: A non-dispersive infrared analyzer calibrated with known quantities of CO_2 concentrations in the exhaust gas.

4.3.4 Other equipment is specified in Section 3.2.

4.4 Test Procedure:

4.4.1 The sampling point should be located in the exhaust stack down-stream of the burner far enough to permit complete mixing of the combustion gases. For most sources, this point is at least eight stack diameters downstream of any interference and two diameters upstream of the stack exit. There are many cases where these conditions cannot be met. The sample point should be no less than one stack diameter from the stack exit and one stack diameter above the high point of the flame and be a point of maximum velocity head as determined by the number of equal areas of a cross-section of the stack. The inlet sampling location is in the system inlet line routing vapors to the burner. A HC sample tap, a pressure sensor tap, and a thermocouple connection to monitor gas temperature must be installed on the inlet side of the volume meter.

4.4.2 Span and calibrate all monitors. Connect sampling probes, pumps and recorders to the monitors and mount sampling probes in the stack and at the inlet.

4.4.3 Mark strip charts at the start of the test period and proceed with HC, CO_2, and volume measurements for at least three burning cycles of the system. The total sampling time should be at least three hours. Sampling for HCs and CO_2 must occur simultaneously. At the end of each cycle, disconnect CO_2 instrument and obtain an ambient air sample. This step requires that the CO_2 instrument be calibrated for the lower concentrations expected at ambient levels.

4.4.4 The quantity of gasoline dispensed during each test shall be recorded.

4.5 Calculations:

CO_{2e} = Carbon dioxide concentration in the exhaust gas (ppmv).

CO_{2a} = Average carbon dioxide concentration in the ambient air (ppmv).

HC_i = Hydrocarbon concentration in the inlet gas to the burner (ppmv as propane).

HC_e = Hydrocarbon concentration in the exhaust (ppmv as propane).

L_d = Gasoline liquid volume dispensed during test period (gallons).

P_i = Static pressure at inlet meter (in Hg).

T_i = Temperature of gas at inlet meter (^oR).

V_i = Inlet gas volume ($ft.^3$).

F = Dilution Factor.

51.8×10^{-6} = Multiplication factor to convert parts per million by volume as propane to grams per cubic foot at 68°F. (52.7×10^{-6} at 68°F)

4.5.1 Calculate the standard total gas volume (V_s) at the burner inlet for each test. (Standard temperature 68°F, standard pressure 29.92 in Hg)

$$V_s = V_i \times \frac{(P_i + P_b)}{(T_i)} \times \frac{528}{29.92} \text{ (SCF)} \quad (1)$$

4.5.2 Calculate an average vapor volume to liquid volume (v/1) at the inlet for each test.

$$(v/1)_i = \frac{V_s}{L_d}, \text{ (SCF/gal)} \quad (2)$$

4.5.3 Calculate the mass emission rate $(m/l)_i$ at the inlet for each test.

$$(m/l)_i = 51.8 \times 10^{-6} \times HC_i \times (v/l)_i, \text{ (g/gal)} \quad (3)$$

4.5.4 A carbon dilution factor (F) can be calculated for the incinerator using the inlet and outlet HC concentrations and the ambient CO_2 concentration. The important criterion for this is that all the significant carbon sources be measured. The values used in the calculation should represent average values obtained from strip chart readings using integration techniques. Some systems have more than one burning mode of operation. For these, it is desirable to have high and low emission levels calculated. This requires that corresponding dilution factors, (v/l) values and $(m/l)_i$ values be calculated for each period in question.

$$F = \frac{HC_i}{HC_e + \frac{(CO_{2e} - CO_{2a})}{3}} \quad (4)$$

4.5.5 The mass emission rate at the exhaust, $(m/l)_e$, is calculated using the inlet $(m/l)_i$ from equation (3) and the carbon dilution factor from equation (4). The exhaust HC concentration will vary with time and operation of the system. It is likely that, in addition to an overall average mass emission rate using an average HCi, several peak values of $(m/l)_e$ will be required as discussed above. If some correlations between HC_i and HC_e occur over the burning cycle of the system, this calculation should be used to show the change in mass emission rate.

$$(m/l)_e = F \times \frac{HC_e}{HC_i} \times (m/l)_i \text{ g/gal} \qquad (5)$$

4.5.6 Mass control efficiency (E%) can be calculated for an average value over each interval. It represents the reduction of hydrocarbon mass achieved by the incinerator system and this efficiency can vary depending on the loading cycle or the inlet loading.

$$E\% = 100\,[1 - (F \times HC_e)/(HC_i)] \qquad (6)$$

5.0 Acceptance of Systems:

When a system is accepted, it will have certain physical features, such as piping sizes and configurations, which may have to be modified to accommodate the requirements of each installation. Because the pressure drops and other characteristics of the system are influenced by these features and these in turn influence effectiveness, it may be necessary to condition acceptance upon certain criteria which account for physical parameters such as pressure drops and flow rates. When systems are tested for acceptance, these parameters must be ascertained. Some of the conditions that may be imposed upon an acceptance are:

5.1 Allowable pressure drop in the lines leading from the dispensing nozzle to the underground tank.

5.2 The method of calculating the pressure drop.

5.3 The model of dispensing nozzle which may be used.

5.4 The manner in which vapor return lines may be manifolded.

5.5 The type of restriction to be placed on the vent of the underground tank.

5.6 The number of dispensing nozzles which may be serviced by a secondary system.

5.7 Allowable delivery rates.

5.8 Use of the system on full-service stations only.

6.0 Calibration of Equipment:

6.1 Standard methods of equipment shall be used to calibrate the flow meters. The calibration curves to be traceable to National Institute of Standards & Technology (NIST) standards.

6.2 Calibrate temperature recording instruments immediately prior to test period and immediately following test period using ice water (32°F) and a known temperature source about 100°F.

6.3 Calibrate pressure sensing and recording instructions (transducers) prior to the Phase I test with a static pressure calibrator for a range of -3 to +3 inches water or appropriate range of operation. Zero the transducers after each individual test.

6.4 Flame ionization detectors or equivalent total hydrocarbon analyzers are acceptable for measurement of exhaust hydrocarbon concentrations. Calibrations should be performed following the manufacturer's instructions for warm-up time and adjustments. Calibration gases should be propane in hydrocarbon-free air prepared with measured quantities of 100 percent propane. A calibration curve shall be produced using a minimum of five (5) prepared calibration gases in the range of concentrations expected during testing. The calibration of the instrument need not be performed on site, but shall be performed prior to and immediately following the test program. During the test program, the HC analyzer shall be spanned on site with zero gas (3 ppmv C) and with 30 percent and 70 percent concentrations of propane in hydrocarbon-free air at a level near the highest concentration expected. The spanning procedure shall be performed at least twice each test day.

The HC calibration cylinders must be checked against a reference cylinder maintained in the laboratory before each field test. This information must be entered into a log identifying each cylinder by serial number. The reference cylinder must be checked against a primary standard every six months and the results recorded. The reference cylinder is to be discarded when the assayed value changes more than one percent. and when the cylinder pressure drops to 10 percent of the original pressure.

6.5 Non-dispersive infrared analyzers are acceptable for measurement of exhaust CO_2 concentrations. Calibrations should be performed following the manufacturer's instructions. Calibration gases should be known concentrations of CO_2 in the air. A calibration shall be prepared using a minimum of five prepared calibration gases in the range of concentration expected. The calibration of the instrument need not be performed on site but shall be performed immediately prior to and immediately following the test program. During the testing, the analyzer shall be spanned with a known concentration of CO_2 in the air at a level near the highest concentration expected. The spanning procedure shall occur at least twice per test day.

6.6 The barometer shall be calibrated against an NIST traceable standard at least once every 6 months.

6.7 A record of all calibrations must be maintained and submitted with the test report.

7.0 Alternate Equipment

Alternate equipment and techniques may be used if prior written approval is obtained from DEQ.

8.0 Recordkeeping:

A record of the results for tests which are performed for compliance determination shall be maintained at the facility site according to OAR 340-232-0080 and 340-232-0100.

FIGURE A – DISPLACEMENT SYSTEM

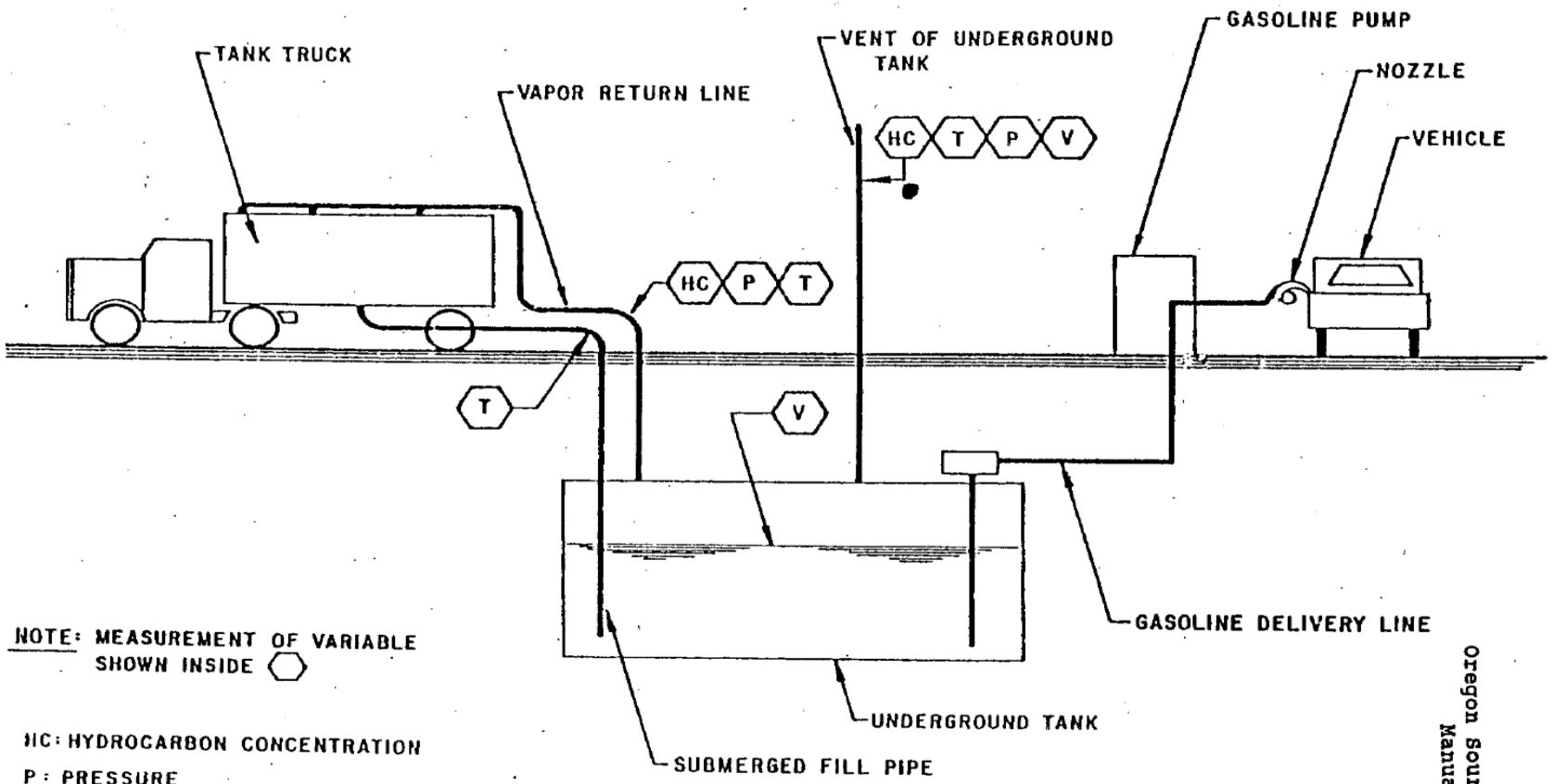
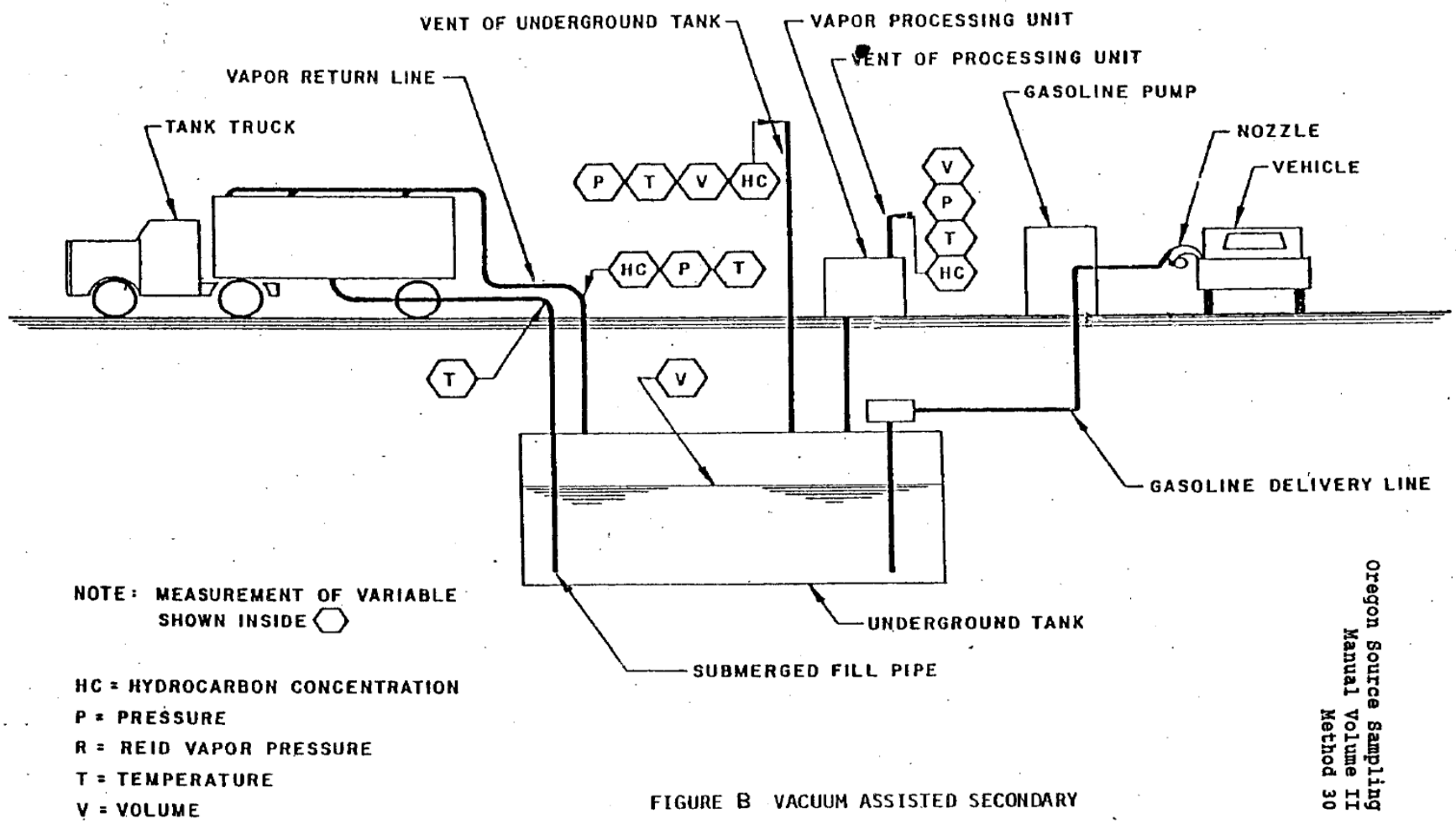


FIGURE A DISPLACEMENT SYSTEM

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FIGURE B – VACUUM ASSISTED SECONDARY



DEQ METHOD 31

Test Procedures for Determining the Efficiency of
Vapor Control Systems at Gasoline Bulk Plants

STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ Air Quality Program
Portland, Oregon
December 1, 1980

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Method 31

Test Procedures for Determining the Efficiency of Vapor Control Systems at Gasoline Bulk Plants

1.0 Introduction:

1.1 Principle:

Hydrocarbon mass emissions are determined directly using flowmeters and hydrocarbon analyzers.

The mass of hydrocarbon vapor to be controlled or recovered is determined from the volume of gasoline dispensed (either to the bulk storage tank or delivery tank) by pressure, temperature, and concentration measurements of the vapor.

The efficiency of the gasoline vapor control system is determined from the mass of the hydrocarbons emitted and the mass of hydrocarbons controlled.

For purposes of determining compliance with applicable Administrative Rules, equipment on systems with 90 percent or greater control efficiency shall be considered to be vapor tight.

1.2 Applicability:

These procedures are applicable for testing gasoline vapor recovery systems installed at bulk plants for controlling gasoline vapors emitted during the load of bulk storage tanks and for loading of delivery tanks from bulk tanks. Filling of storage tanks will be by submerged fill.

2.0 Acceptance Of Test Results:

2.1 Results of this method will be accepted as a demonstration of compliance of the equipment tested, provided that the methods included or referenced in this procedure are strictly adhered to. A statement containing at least the minimum amount of information regarding the test procedures applied should be included with the results.

Deviations from the procedure described herein will be permitted only if permission from DEQ is obtained in writing in advance of the test.

3.0 Definitions:

3.1 Bulk Gasoline Plant:

"Bulk Gasoline Plant" means a gasoline storage and distribution facility which receives gasoline from bulk terminals by railroad car or trailer transport, stores it in tanks, and subsequently dispenses it via account trucks to local farms, businesses, and gasoline dispensing facilities.

3.2 Delivery Vessel:

"Delivery Vessel" means any tank truck or trailer used for the transport of gasoline from sources of supply to stationary storage tanks.

3.3 Vapor Balance System:

"Vapor Balance System" means a combination of pipes and/or hoses which create a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.

3.4 Secondary Processing Unit:

"Secondary Processing Unit" means a gasoline vapor control system which utilizes some process as a means of elimination or recovering gasoline vapors which otherwise would be vented to the atmosphere during the transfer of gasoline to or from a bulk plant.

4.0 Test Of Vapor Recovery System For Delivery Of Gasoline To The Bulk Plants:

4.1 Application:

The following test procedures are for determining the efficiency of vapor recovery systems controlling gasoline vapors emitted during the loading of bulk plant storage tanks.

4.2 Principle and Test Conditions:

4.2.1 Principle: During a fuel delivery to the bulk plant, direct measurements of hydrocarbon concentrations and volume of hydrocarbon vapors vented (including emissions from any vapor processing unit) are made. All possible points of emission are checked for vapor leads. The volume of gasoline delivery from the delivery tank to the bulk plant is recorded and the concentration of the hydrocarbon vapors returned to the delivery tank is measured. The efficiency of control is calculated from these determinations.

4.2.2 Test Conditions: The number of transport deliveries to be tested shall be established by DEQ based on an engineering evaluation of the system. As close as possible, the system shall be tested under normal operating conditions. (Dispensing rates shall be at the maximum rate possible consistent with safe and normal operating practices. The processing unit, if any, shall be operated in accordance with the manufacturer's established parameters. Simultaneous use of more than one dispenser during loading of bulk storage tanks shall occur to the extent that such would normally occur.)

4.3 Equipment Required for Bulk Plant Testing:

4.3.1 Two (2) positive displacement dry gas meters each with a capacity of 3,000 standard cubic feet per hour (SCFH) a readability of one cubic foot and a maximum pressure drop of not more than 0.50 inches of water at a flowrate of 30 SCFH.

4.3.2 Two (2) hydrocarbon (HC) analyzers with recorders and with the capability of measuring total gasoline vapor concentration of 100 percent as propane. Both analyzers to be of same make and model, either Flame Ionization Detector or a DEQ approved equivalent.

4.3.3 Three (3) flexible thermocouples or thermistors (0-150^{o}F) with a temperature recorder system having a readability of 1^{o}.

4.3.4 Barometer (Aneroid or Mercury), $\pm$ 0.1 in. Hg. readability.

4.3.5 Two (2) manometers or other pressure sensing devices capable of measuring zero to ten inches of water with a readability of 0.1 inches of water.

4.3.6 Coupling for the vent vapor line to accommodate the gas meter, with thermocouple and pressure taps. Coupling to be sized for a minimum pressure drop.

4.3.7 Coupling for the vent of the secondary processing unit, if used, to accommodate the flow measuring device with the thermocouple, pressure and hydrocarbon analyzer taps. Coupling to be sized for a minimum pressure drop.

4.3.8 Coupling for delivery tank vapor return line with thermocouple, pressure and hydrocarbon analyzer taps. Coupling to be the same diameter as the vapor return line.

4.3.9 Two (2) adjustable pressure/vacuum (PV) relief valves capable of replacing the PV relief valve on the storage tank vent.

4.3.10 Coupling for attaching the PV value to the dry gas meter. (Appendix Figure A)

4.3.11 Explosimeter.

4.4 Bulk Plant Storage Tank Loading Test Procedure (Figure A):

4.4.1 Connect appropriate coupler to vent of bulk plant, or if the vent has a PV valve, remove the PV valve and then connect the coupler to the vent. If a Secondary Processing Unit is used, also connect a coupler to the vent of the secondary processing unit.

4.4.2 Connect the appropriate gas meter, HC analyzer with recorder, thermocouple and manometer to the vent coupler and connect the PV valve to the gas meter.

4.4.3 Connect appropriate coupler to the delivery tank vapor return lines.

4.4.4 Connect the HC analyzer with a recorder, a manometer and a thermocouple to the taps on the vapor return line.

4.4.5 Connect delivery tank fuel and vapor return lines to appropriate bulk tank lines in accordance with the owner's or operator's established procedures for the system.

4.4.6 Check the delivery tank and all connections for a tight seal with explosimeter before and during the test.

4.4.7 Record the initial reading of the gas meter(s).

4.4.8 Start loading of the bulk tank in accordance with owner's or operator's established normal procedure.

4.4.9 Hydrocarbon concentrations, temperature and pressure measurements should be recorded starting after the first 15 seconds of the loading periods followed by 60 second intervals. The gas meter readings must be taken at least every 120 seconds.

4.4.10 Record barometric pressure and ambient temperature during the test.

4.4.11 At the end of the bulk tank delivery, disconnect the delivery tank from the bulk tank in accordance with owner's or operator's instructions (normal procedure). Leave the bulk tank vent instrumentation in place.

4.4.12 Continue recording hydrocarbon concentrations, temperature, pressure, and gas meter readings at the bulk tank vent at 20 minute intervals for one hour after the last bulk transfer is made.

4.4.13 Disconnect instrumentation from the vent.

4.4.14 Record volume of gasoline that is delivered.

4.4.15 Record final reading of gas meter(s).

4.5 Calculations:

4.5.1 Volume of gas discharged through "i th" vent. This includes bulk tank vent and any control system vent.

$$V_{vsi} = \frac{V_{vi} \times 528 \times P_b}{T_{vi} \times 29.92}$$

Where:

V_{vsi} = Volume of gas discharged through "i th" vent corrected to 68°F and 29.92 in. Hg, \ (ft^3).

P_b = Barometric pressure, (in. Hg).

V_{vi} = Volume of gas recorded by meter on "ith" vent corrected for amount of vapor removed for the hydrocarbon analysis, (ft^3).

T_{vi} = Average temperature in "i th" vent line, (°R).

4.5.2 Volume of gasoline vapor returned to the tank truck.

$$V_t = \underline{0.1337G_t \times 528(P_b + P)}$$

$$T_t \times 29.92$$

Where:

P_b = Barometric pressure, (in. Hg).

V_t = Volume of gasoline vapor, corrected to 68°F and 29.92 in. Hg., (ft^3)

G_t = Volume of gasoline delivered, (gal.).

P = Final Gauge pressure of tank truck, (in. Hg).

T_t = Average temperature of vapor returned to tank truck (°R).

0.1337 = Conversion factor, (gallons to ft^3). 1 US gal. = 0.1337 ft^3.

4.5.3 Efficiency of Vapor Control System

$$E = \frac{V_t \times C_t - (C_{vi} \times V_{vsi}) \ 100}{(V_t \times C_t)}$$

Where:

E = the efficiency of control in percent.

C_t = The average fractional volumetric concentration of gasoline vapors in the return line to the truck as determined by the hydrocarbon analyzer, (decimal fraction).

C_{vi} = The average fractional volumetric concentration of gasoline vapors in the "i_{th}" vent as determined by the hydrocarbon analyzer, (decimal fraction).

5.0 Testing Of Vapor Recovery System For Filling of A Delivery Tank At A Bulk Plant:

5.1 Application:

The following test procedures shall be used for determining the efficiency of vapor recovery systems controlling gasoline vapors emitted during the filling of delivery tanks at a bulk plant.

5.2 Principle and Test Conditions:

5.2.1 Principle: During loading of a delivery tank at the bulk plant, direct measurements of hydrocarbon concentrations and volume of hydrocarbons vented (including emissions from any vapor processing unit) are made. All possible points of emission are checked for vapor leaks. The volume of gasoline dispensed to the delivery tank is recorded and the concentration of the hydrocarbon vapors returned to the bulk storage tank is measured. The efficiency of control is calculated from these determinations.

5.2.2 Test Conditions: The number of delivery tank loadings to be testing shall be established by DEQ based on an engineering evaluation. The system shall be tested under normal operating conditions as close as possible. (Dispensing rates shall be at the maximum rate possible consistent with safe and normal operating practices, and simultaneous use of more than one dispenser during loading of delivery tanks shall occur to the extent that such use would represent normal operation of the system).

5.3 Equipment Required for Delivery Tank Testing at the Bulk Plant:

5.3.1 Same as that required in Section 4.3.

5.4 Delivery Tank Loading Test Procedures:

5.4.1 Connect coupler to vent of bulk tank, or if the vent has a PV valve, remove the PV valve and then connect the coupler to the vent. If a secondary processing unit is used, also connect a coupler to the vent of the secondary processing unit.

5.4.2 Connect the appropriate gas meter, HC analyzer with recorder, thermocouple and manometer to the vent coupler and connect the PV valve to the gas meter.

5.4.3 Connect a coupler to the bulk storage tank vapor return lines.

5.4.4 Connect a HC analyzer with a recorder, a manometer and a thermocouple to the taps on the coupler on the vapor return line.

5.4.5 Connect bulk storage tank fill and vapor return lines to the delivery tank in accordance with owner's or operator's established procedures for the system.

5.4.6 Check the delivery tank and all connections for a tight seal with the explosimeter before and during the test.

5.4.7 Record the initial reading of the gas meter(s).

5.4.8 Start fueling of the delivery tank in accordance with manufacturer's established normal procedure.

5.4.9 Hydrocarbon concentrations, temperature and pressure measurements are to be recorded starting after the first 15 seconds of the unloading period followed by 60 second intervals. The gas meter readings may be taken at 120 second intervals.

5.4.10 Record the barometric pressure and ambient temperature before and after the test.

5.4.11 At the end of the delivery tank loading disconnect the delivery tank from the bulk tank in accordance with owner's or operator's instructions (normal procedure). Leave the bulk tank vent instrumentation in place.

5.4.12 Continue recording hydrocarbon concentrations, temperatures, pressure and gas meter readings at the bulk tank vent at 20 minute intervals for one hour, or until the system returns to normal conditions as specified by the manufacturer.

5.4.13 Disconnect instrumentation from the vent.

5.4.14 Record volume of gasoline that is delivered.

5.4.15 Record final reading of gas meter.

5.4.16 Repeat procedure as necessary for additional delivery tank loading.

5.5 Calculations:

5.5.1 Volume of gas discharged through "i th" vent. This includes bulk tank vent and any control system vent.

$$V_{vsi} = \frac{V_{vi} \times 528 \times P_b}{T_{vi} \times 29.92}$$

Where:

V_{vsi} = Volume of gas discharged through "i_{th}" vent corrected to 68° F and 29.92 in. Hg, (ft^3).

P_b = Barometric pressure, (in. Hg).

V_{vi} = Volume of gas recorded by meter on "i_{th}" vent (ft^3, corrected for amount of vapor removed for the hydrocarbon analysis).

T_{vi} = Average temperature in "i_{th}" vent line, (°R).

"i_{th}"= The vent under consideration.

5.5.2 Volume of gas returned to the bulk storage tank.

$$V_t = \frac{0.1337G_t \times 528(P_b + P)}{T_t \times 29.92}$$

Where:

P_b = Barometric pressure, (in. Hg).

V_t = Volume of gas returned to the bulk storage tank corrected to 68°F and 29.92 in. Hg, (ft^3).

G_t = Volume of gasoline delivered, (gallons).

P = Final gauge pressure of bulk storage tank, (in. Hg).

T_t = Average temperature of vapor returned to bulk storage tank, (°R).

0.1337 = Conversion factor, (gallons to Ft^3). 1 US gal. = 0.1337 ft^3.

5.5.3 Efficiency of Vapor Control System

$$E_j = \frac{V_t \times C_t - \Sigma(C_{vi} \times V_{vsi}) \times 100}{(V_t \times C_t)}$$

Where:

E_j = The efficiency of control per individual fueling in percent.

C_t = The average fractional volume concentration of gasoline vapors in the return line to the bulk storage tank as determined by the hydrocarbon analyzer, (decimal fraction).

C_{vi} = The average fractional volume concentration of gasoline vapors in the "i_{th}" vent as determined by the hydrocarbon analyzer, (decimal fraction).

$_j$ = The individual loading considered.

$$E_{ave} = \frac{\sum_{j=1}^{n} E_j}{n}$$

Where:

E_{ave} = The average efficiency of control in percent.

E_j = From 5.5.3 above.

n = Number of Loadings Tested.

6.0 Calibrations

6.1 Flow meters

Standard methods and equipment shall be used to calibrate the flow meters within thirty (30) days prior to any test or test series. The calibration curves are to be traceable to NIST.

6.2 Temperature measuring instruments

Calibrate immediately prior to any test period and immediately following test period using ice water (32°F.) and a known temperature source of about 100°F.

6.3 Pressure measuring instruments

Calibrate pressure transducers within thirty (30) days prior to the test period and immediately after the test period with a static pressure calibrator of known accuracy.

6.4 Total hydrocarbon analyzer

Follow the manufacturer's instruction concerning warm-up time and adjustments. On each test day prior to testing and at the end of the day's testing, zero the analyzer with a zero gas (3 ppm C) and span with 30 percent and 70 percent concentrations of propane.

6.5 A record of all calibrations made is to be maintained.

7.0 Recordkeeping

A copy of the results of these tests which are performed for compliance determination shall be maintained at the facility site according to OAR 340-232-0080 and 340-232-0100.

FIGURE A - BULK TANK TEST APPARATUS

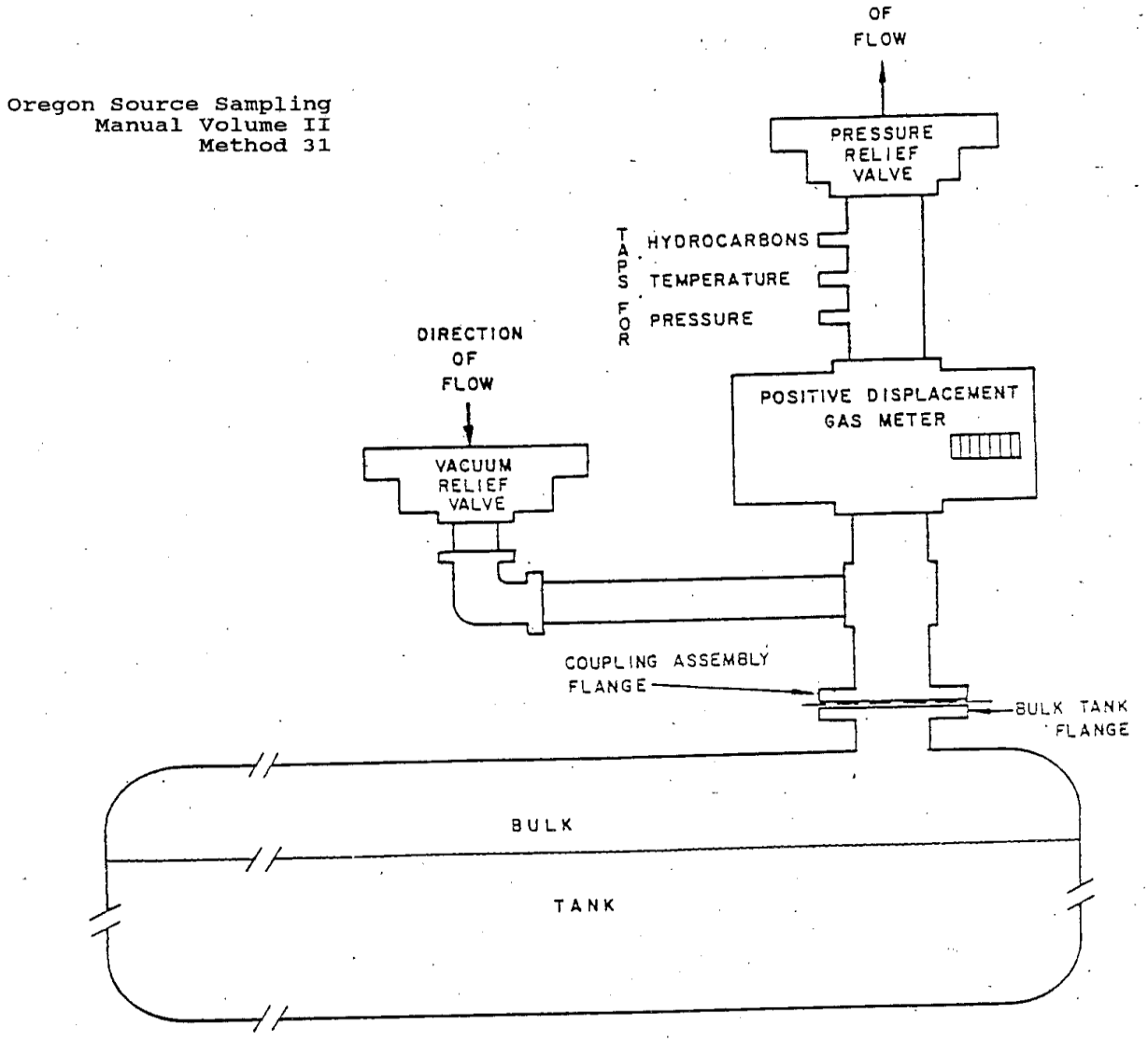


FIGURE A
BULK TANK
TEST APPARATUS

METHOD 31

FIGURE B - GASOLINE TRANSFER FROM DELIVERY TANK TO BULK PLANT

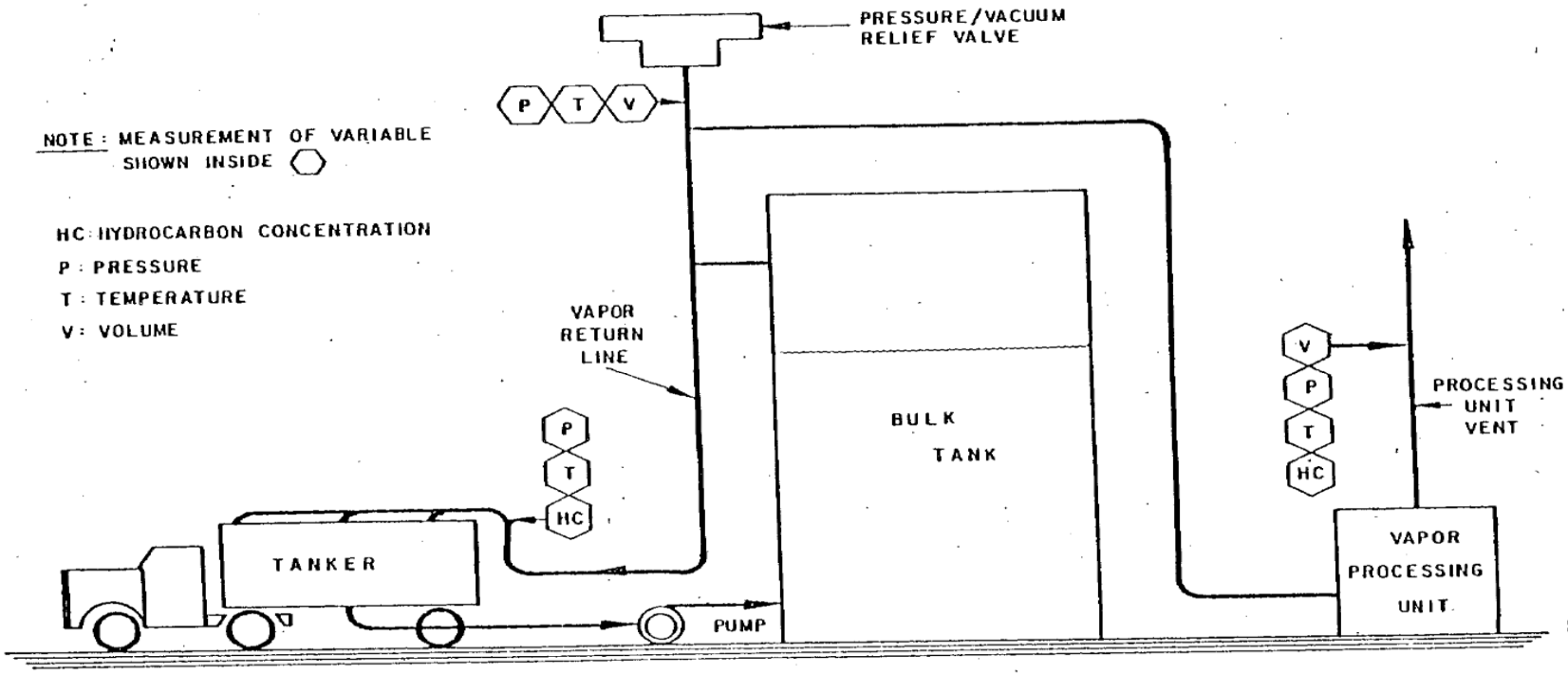


FIGURE B
GASOLINE TRANSFER
FROM DELIVERY TANK TO BULK PLANT

METHOD 31

Manual Volume II
Method 31

FIGURE C - GASOLINE TRANSFER FROM BULK PLANT TO DELIVERY TANK

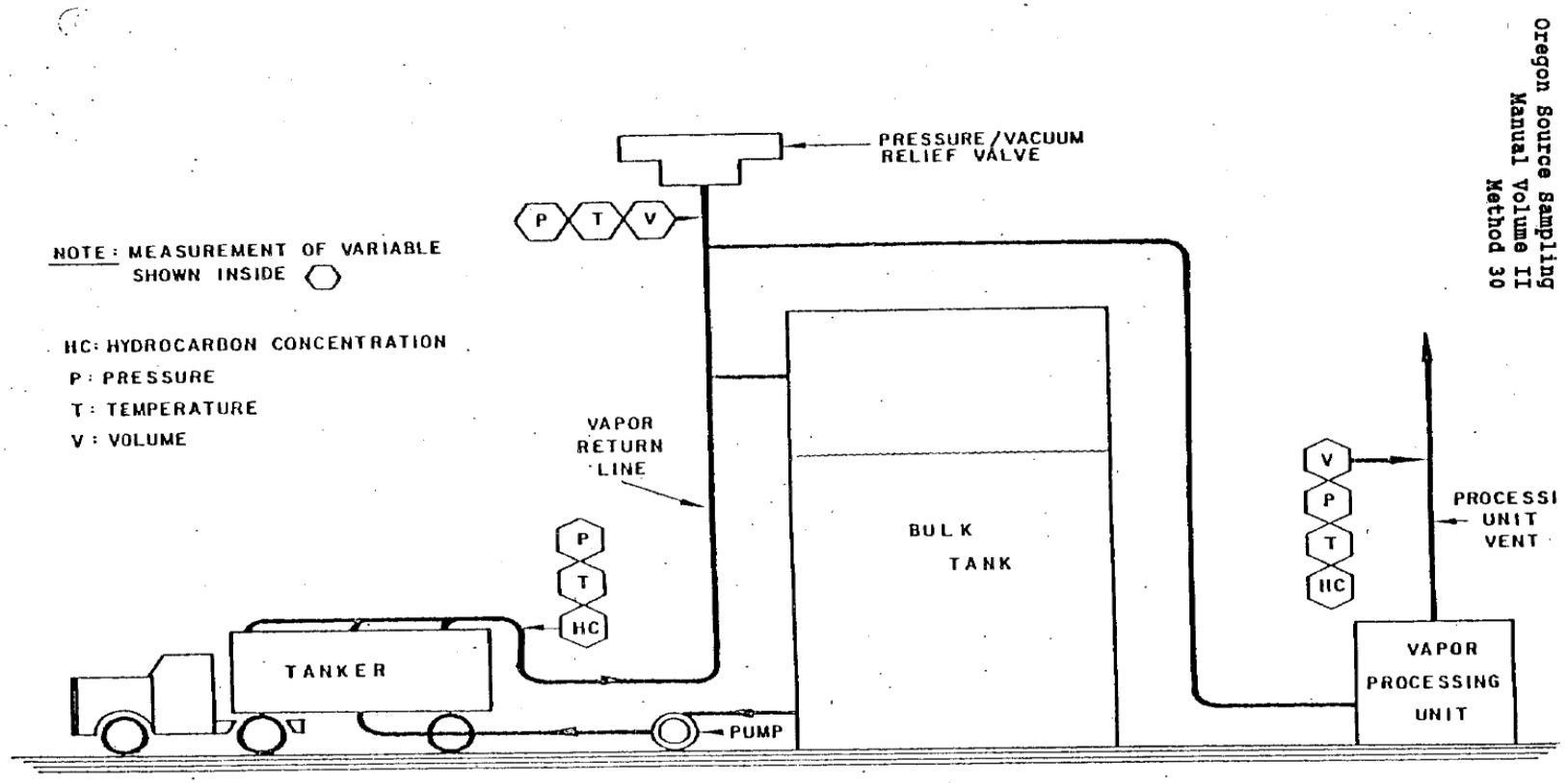


FIGURE-C
GASOLINE TRANSFER
FROM BULK PLANT TO DELIVERY TANK

METHOD 31

FIGURE D – DATA SHEET

Gasoline Vapor Control Equipment Test Method # _____

Date of Test _____
Ambient Temperature _____ °F
Barometric Pressure _____ In.Hg

Plant _____
Address _____
_____
Operator _____

Gasoline Handling Process:
Start Time: Finish Time: Test Time: Test Run # Gals Del.
Test Equipment Location:

#	Time	Meter Reading	Press	Temp	HC	#	Time	Meter Reading	Press	Temp	HC

FIGURE E – CALCULATION SHEET

Vapor Control Equipment Efficiency Determination

Test Method: _____
Date: _____
Test Run # _____

Plant _____
Address _____
_____

Test Equipment Location: _____
_____

Calculations: (Refer to Paragraphs 4.5 or 5.5 in test Procedure.)

Volume of gas discharged through "i th" vent.

$$V_{si} = \frac{V_{vi} \times 520 \times P_b}{T_{vi} \times 29.92}$$

Volume of gasoline vapor returned to bulk tank or tank truck

$$V_t = \frac{0.1337\ G_t \times 520\ (P_b + \Delta P)}{T_t \times 29.92}$$

Efficiency of Vapor Control System

$$E \text{ or } E_j = \frac{\left[V_t \times C_t - \sum (C_{vi} \times V_{vs})\right]}{V_t \times C_t} \times 100$$

E = Bulk Plant Loading Test
E_j = Delivery Tank Loading Test

Average Efficiency of All Loadings Tested

$$E_{ave} \quad \frac{\sum_{j=1}^{n} E_j}{n}$$

METHOD 31

DEQ METHOD 32

Test Procedures for Vapor Control
Effectiveness of Gasoline Delivery Tanks

STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ Air Quality Program
Portland, Oregon
December 1, 1980

Revisions:
May 15, 1981
January 23, 1992

Method 32

Test Procedures for Vapor Control Effectiveness of Gasoline Delivery Tanks

1.0 Introduction:

1.1 Principles:

Pressure and vacuum are applied to the compartments of gasoline truck tanks and the change in pressure/vacuum is recorded after a specified period of time.

1.2 Applicability:

This method is applicable to determining the leak tightness of gasoline truck tanks in use and equipped with vapor collected equipment.

2.0 Acceptance Of Test Results

2.1 Results from this method will be accepted as a demonstration of compliance provided that the methods included or referenced in this procedure are strictly adhered to. A report containing at least the minimum amount of information regarding the test should be included with the results. Deviations from the procedures described herein will be permitted only if permission from DEQ is obtained in writing in advance of the test.

3.0 Definitions

3.1 Delivery Tank:

Any container, including associated pipes and fittings, that is used for the transport of gasoline.

3.2 Compartment

A liquid-tight division in a delivery tank.

3.3 Delivery Tank Vapor Collection System

The entire delivery tank, including domes, dome vents, cargo tank, piping, hose connections, hoses and delivery elbow, and vapor recovery lines.

4.0 Apparatus

4.1 Pressure Source (See Figure B)

Pump or compressed gas cylinder of air or inert gas sufficient to pressurize the delivery tank to 6250 Pascals (25 inches H_2O) above atmospheric pressure.

4.2 Regulator

Low pressure regulator for controlling pressurization tank.

4.3 Vacuum Source

Vacuum pump of sufficient capacity to evacuate a tank to 2500 Pascals (10 inches H_2O) below atmospheric pressure. (The intake manifold of an "idling" gasoline engine is a very good vacuum source).

4.4 Manometer

Liquid manometer, or equivalent, capable of measuring up to 6250 Pascals (25 inches H_2O) gauge pressure with $\pm$ 25 Pascals ($\pm$ 0.1 inches H_2O) readability. Manometer must be positioned vertically.

4.5 Test Cap for Vapor Recovery Hose Fittings

This cap should have a tap for the manometer connection with a fitting with shut-off valve and pressure/vacuum relief valves for connection to the pressure/vacuum supply hose.

4.6 Cap for Liquid Delivery Hose Fitting

4.7 Pressure/Vacuum Supply Hose

4.8 Pressure/Vacuum Relief Valves

The test apparatus shall be equipped with an in-line pressure/vacuum relief valve set to activate at 7000 Pascals (28 inches H_2O) above atmospheric pressure or 3000 Pascals (12 inches H_2O) below atmospheric pressure, with a capacity equal to the pressurizing or evacuating pumps.

5.0 Pretest Condition

5.1 Purging of Vapor

The delivery tank shall be purged of gasoline vapors and tested empty. The tank may be purged by any safe method such as flushing with diesel fuel, heating fuel or jet fuel. (Hauling a load of above fuel before test may be performed.)

5.2 Location

The delivery tank shall be tested where it will be protected from direct sunlight or any other heat source which may affect the pressure/vacuum test results.

6.0 Visual Inspection

6.1 Inspection Procedure

The entire delivery tank including domes, dome vents, cargo tank, piping, hose connections, hoses and delivery elbow shall be inspected for any evidence of wear, damage or

misadjustment that could be a potential lead source. Any part found to be defective shall be adjusted, repaired or replaced, as necessary, before the test.

7.0 Pressure Test Procedure

7.1 Pressure Test

7.1.1 The dome covers are to be opened and closed.

7.1.2 Connect static electrical ground connections to delivery tank. Attach the delivery and vapor hoses, remove the delivery elbows and plug the liquid delivery hose fitting with cap.

7.1.3 Attach the test cap vapor recovery hose of the delivery tank.

7.1.4 Connect the pressure/vacuum supply hose to the pressure/vacuum relief valve and the shut-off valve. Attach the pressure source to the supply hose. Attach a manometer to the pressure tap.

7.1.5 Connect compartments of the tank internally to each other, if possible.

7.1.6 Applying air pressure slowly, pressurize the tank, or alternatively the first compartment, to 4500 Pascals (18 inches of water).

7.1.7 Close the shut-off valve, allow the pressure in the delivery tank to stabilize. Adjust the pressure, if necessary, to maintain 4500 Pascals (18 inches of H_2O). Record the initial time and pressure.

7.1.8 At the end of five minutes, record the final time and pressure and then slowly vent tank to atmospheric pressure.

7.1.9 Repeat for each compartment if they were not interconnected.

7.1.10 If the reading is less than 3750 Pascals (15 inches of water), the tank or compartment fails the test. Delivery tanks which do not pass the pressure test are to be repaired and retested.

8.0 Vacuum Test Procedure

8.1 Connect vacuum source to pressure and vacuum supply hose.

8.2 Slowly evacuate the tank, or alternatively the first compartment to 1500 Pascals (6 inches of H_2O) vacuum.

8.3 Close the shut-off valve, allow the pressure in the delivery tank to stabilize. Adjust the vacuum, if necessary, to maintain 1500 Pascals (6 inches of water). Record initial time and pressure.

8.4 At the end of five minutes, record the final time and pressure and then slowly vent back to atmospheric pressure.

8.5 Repeat for each compartment if they were not interconnected.

8.6 If the reading is less than 750 Pascals (3 inches of water) vacuum, the tank or compartment fails the test. Delivery tanks which do not pass the vacuum test are to be repaired and retested.

9.0 Alternative Test Methods

9.1 Techniques, other than those specified above, may be used for purging, pressurizing, or evacuating the delivery tanks, if prior approval is obtained from DEQ. Such approval will be based upon demonstrated equivalency with the methods above.

10.0 Test Reports

The contents of the following report form example shall be considered the minimum acceptable contents for reporting the results of the tests.

11.0 Recordkeeping

A copy of the results of these tests which are performed for compliance determination shall be maintained at the facility site and by the delivery tank owner according to OAR 340-232-0080 and 340-232-0100.

FIGURE A - DATA SHEET

TANK LEAK CHECK
DATA SHEET

Oregon Source Sampling
Manual Volume II
Method 32

I. GENERAL

1. Truck/Trailer Owner _____

   Address _____

2. Test Site _____ Date _____

3. Owner's Unit No. _____

4. Truck TP* or AP* Oregon License No. _____

5. Tank Trailer HTP* or ATP* Oregon License No. (1981) _____

6. Tank DOT* Certification Plate - Mfg. Serial No. _____

   - Specification - MC _____

II. PRESSURE CHECK (INITIAL)

1. Pressure Readings	Initial (In H_2O)	After 5 min. (In H_2O)	Pressure Change	Tank (Compart.) Volume
(a) Complete Tank	18			
(b) Compartment #1				
(c) " #2				
(d) " #3				
(e) " #4				
(f) " #5				

(g) Pass _____ Fail _____

(h) Reason for failure _____

_____

2. PRESSURE CHECK (after rework - if failure noted above)

(a) Complete Tank				
(b) Compartment #1				
(c) Compartment #2				
(d) Compartment #3				

FIGURE A - DATA SHEET (Con't)

	Initial ($In H_2O$)	After 5 min. ($In H_2O$)	Pressure Change	Tank (Compart.) Volume
(e) Compartment #4	_____	_____	_____	_____
(f) Compartment #5	_____	_____	_____	_____

(g) Pass _____ Fail _____

(h) Reason for failure _____

_____

3. VACUUM CHECK

(a) Complete Tank	_____	_____	_____	_____
(b) Compartment #1	_____	_____	_____	_____
(c) Compartment #2	_____	_____	_____	_____
(d) Compartment #3	_____	_____	_____	_____
(e) Compartment #4	_____	_____	_____	_____
(f) Compartment #5	_____	_____	_____	_____

(g) Pass _____ Fail _____

(h) Reason for Failure _____

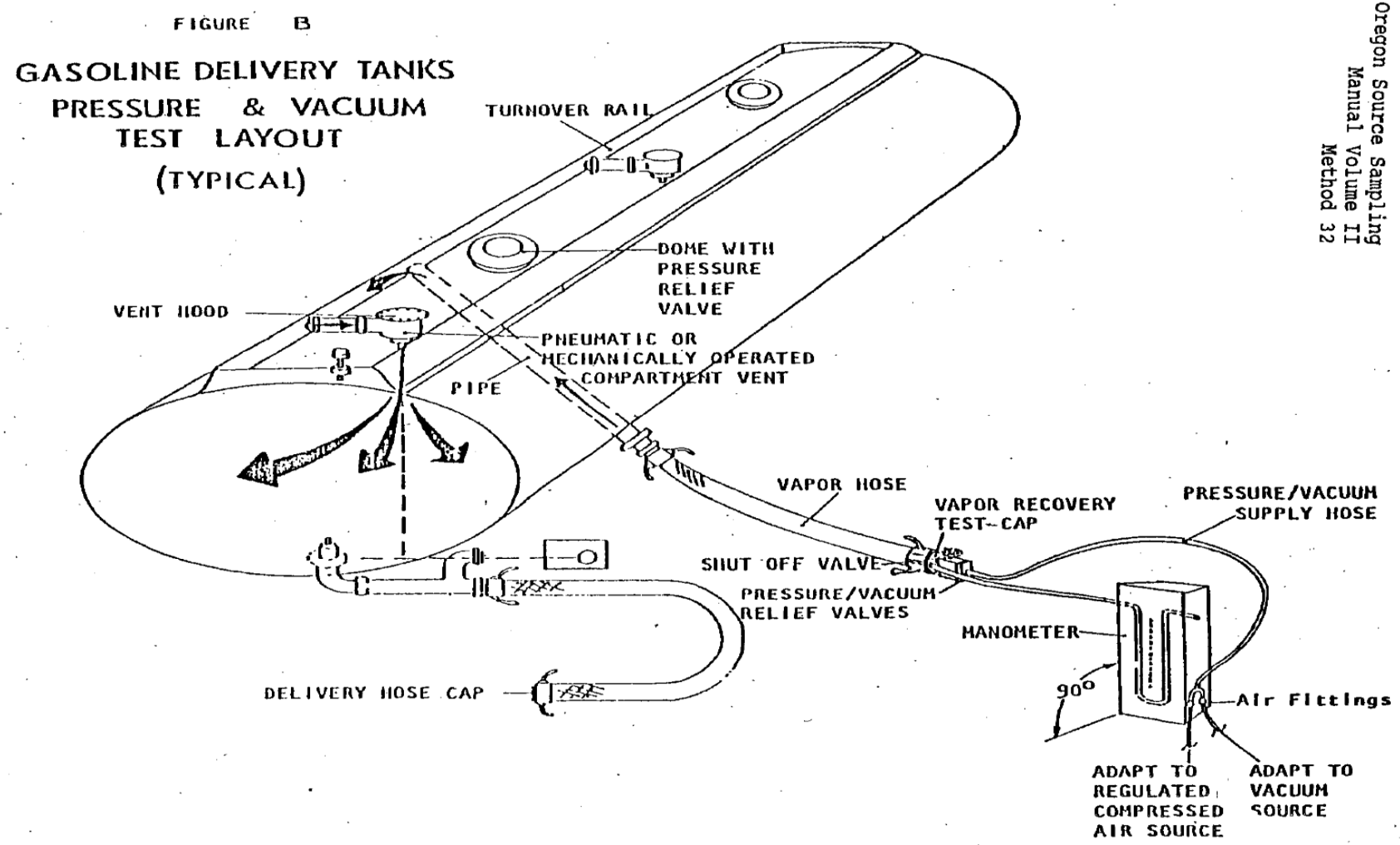
_____

Signature of Person Conducting Test _____

Date _____

*TP - Truck Plate (use Item 4 if truck and tank are on the same chassis)
AP - Apportionment Plate (use Item 4 if truck and tank are on the same chassis)
HTP - Heavy Trailer Plate (use Item 5 for a tank trailer)
ATP - Apportionment Trailer Plate (use Item 5 for a tank trailer)
DOT - Department of Transportation

FIGURE B – GASOLINE TANKS



DEQ METHOD 33

Test Procedures for Gasoline Vapor
Control Systems at Bulk Gasoline Terminals

STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ Air Quality Program
Portland, Oregon
December 1, 1980

Revisions:
January 23, 1992

METHOD 33

1.0 Introduction

1.1 Principle:

Hydrocarbon mass emissions are determined directly, using flowmeters and hydrocarbon analyzers.

The mass of hydrocarbon vapor to be controlled or recovered is determined from the volume of gasoline dispensed (either to the bulk terminal facilities or to delivery tanks), and by temperature, pressure and concentration measurements of the released vapor.

The efficiency of the gasoline vapor control systems is determined from the mass of the hydrocarbons emitted and the mass of the hydrocarbons controlled.

1.2 Applicability:

These test procedures are applicable for gasoline vapor recovery systems installed at bulk gasoline terminals for controlling gasoline vapors emitted during the loading of delivery tanks or from the loading of fixed roof gasoline storage tanks as a result of fixed roof tank breathing. These procedures are also applicable for marketing operations at refineries.

2.0 Acceptance Of Test Results

2.1 Results of these tests will be accepted as a demonstration of compliance determination of the equipment tested provided that the methods included or referred to in this procedure are strictly adhered to. A statement containing at least the minimum amount of information regarding the test procedures applied should be included with the report of the test results.

Deviations from the procedure described herein will be permitted only if permission from DEQ is obtained in writing in advance of the test.

3.0 Definitions

3.1 Bulk Gasoline Terminal

"Bulk gasoline terminal" means a gasoline storage facility which receives gasoline from refineries primarily by pipeline, rail, ship, or barge, and delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by tank truck.

3.2 Delivery Vessel

"Delivery vessel" means any tank truck or trailer unit for the transport of gasoline from sources of supply to stationary storage tanks.

3.3 Vapor Balance System

"Vapor balance system" means a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading tank and receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.

4.0 Test Procedures For Determining the Efficiency of Gasoline Vapor Control Systems at Terminals

4.1 Application

The following test procedures are for determining the efficiency of vapor recovery systems controlling gasoline vapors emitted during the storage of gasoline and the filling of delivery tanks at terminals.

4.2 Principle

During the normal operations at a terminal (loadings of delivery tanks and loadings of the storage tanks), all possible points of emission are checked for vapor leaks. The volume of gasoline delivered from the terminal storage tanks to the delivery tanks is recorded, the volume of gasoline delivered to any fixed roof storage tank(s) is recorded (as required), and the mass of the hydrocarbon vapors emitted from the processing unit measured. The mass emission of hydrocarbons is calculated from these determinations.

4.3 Test Conditions

The processing unit may be tested for a series of 24 consecutive one hour periods and pressures in the vapor holder and any fixed roof gasoline storage tanks may be monitored for 30 consecutive days. DEQ shall determine whether testing for longer or shorter periods may be necessary for properly evaluating any system's compliance with performance3 standards. During the test of the processing unit, the pressure during the filling of a number of delivery tanks will be monitored. As much as possible, the system shall be tested under normal operating conditions. Dispensing rate shall be at the maximum rate possible consistent with safe and normal operating practices. Simultaneous use of more than one dispenser during transfer operations shall occur to the extent that such would normally occur and the processing unit shall be operated in accordance with the manufacturer's established parameters as well as in accordance with the owner's or operator's established operating procedures.

4.4 Calibrations

4.4.1 Flowmeters

Standard methods and equipment shall be used to calibrate the flowmeters every month or every five tests, whichever comes first. The calibration curves are to be traceable to NIST standards.

4.4.2 Temperature measuring instruments

Calibrate prior4 to test period and immediately following test period using ice water (32°F) and a known temperature source of about 100°F.

4.4.3 Pressure measuring instruments

Calibrate pressure transducers every month and immediately after each test with a static pressure calibrator of known accuracy.

4.4.4 Total hydrocarbon analyzer

Follow the manufacturer's instructions concerning warm-up time and adjustments. On each test day prior to testing and at the end of the day's testing, zero the analyzer with a zero gas (<3ppm C) and span with 5, 10, 30, and 70 percent concentrations of propane.

4.4.5 A record of all calibration is to be maintained by the source testing person for at least 1 year.

5.0 Testing Vapor Control Systems (Other Than Incineration Units) When Loading Delivery Tanks

5.1 Equipment Required

5.1.1 Flowmeter with a capacity sufficient to determine the volume of exhaust from the vent of processing unit.

5.1.2 Coupler for attaching the flowmeter to vent of processing unit with thermocouple and HC analyzer taps.

5.1.3 Coupler for delivery tank vapor return line with pressure tap.

5.1.4 One hydrocarbon analyzer (either FID or DEQ approved equivalent) with recorder and with a capability of measuring total gasoline vapor concentration of 30 percent as propane.

5.1.5 One (1) flexible thermocouple or thermistor (0-150°F) with recorder system having a readability of 1°F.

5.1.6 Two (2) pressure sensing devices (transducers or equivalent) capable of measuring zero to ten inches of water with recorder systems having a readability of 0.01 in. H_2O.

5.1.7 Coupler with pressure tap for use between pressure-vacuum (PV) relief valve and fixed roof storage tank vent.

5.1.8 Coupler with pressure tap for use between PV valve and vent on vapor holder tank.

5.1.9 One manometer capable of measuring zero to ten inches of water with a readability of 0.1 in. H_2O.

5.1.10 Explosimeter.

5.1.11 Barometer (Aneroid or Mercury), $\pm$ 0.1 in. Hg. readability.

5.2 Test Procedure

5.2.1 Connect appropriate coupler to vent of processing unit and connect flowmeter.

5.2.2 Connect hydrocarbon analyzer, with recorder, to appropriate tap on coupler on processing unit vent.

5.2.3 Connect thermocouple with recorder to appropriate tap on coupler on processing unit vent.

5.2.4 Connect coupler between PV valve and vent of vapor holder tank and connect pressure sensing device, with recorder, to coupler.

5.2.5 Connect coupler between PV valve and fixed roof bulk storage tank and connect pressure sensing device, with recorder, to coupler.

5.2.6 Connect the appropriate coupler to vapor return line from delivery tank. Connect the manometer to the coupling in vapor return line from delivery tank. Check the delivery tank and all connections for a tight seal, before and during fueling, with the explosimeter. Record the pressure in the vapor return line from the delivery tank at 5 minute intervals during the filling of the delivery tank. Repeat for the required number of delivery tanks.

5.2.7 Record the pressure on the bulk storage at the start and finish of the test period.

5.2.8 Record the pressure on the vapor-holder tank at the start and the finish of the test period.

5.2.9 Record the hydrocarbon concentrations, temperature and exhaust gas flowrate from the processor vent at the start and the finish of the test period.

5.2.10 At the end of the specified times, disconnect all instrumentation and couplings from the vapor recovery systems.

5.2.11 Record the volume of gasoline that is delivered over the time of the test period.

5.3 Calculations

5.3.1 Review pressures recorded during the filling of delivery tanks to determine if any equaled or exceeded one (1) pound per square inch.

5.3.2 Volume of gas discharged through the processing unit vent.

$$V = \frac{V_p \times 528 \times P_b}{T_p \times 29.92}$$

Where:

V = Volume of gas discharged through processor vent, corrected to 68°F and 29.92 in. Hg, (ft^3).

P_b = Barometric pressure, (in. Hg).

V_p = Volume of gas determined by flowmeter on the processing vent, corrected for amount of vapor removed for the hydrocarbon analysis, (ft^3).

T_p = Average temperature in the processing vent line, (°R.)

5.3.3 Weight of hydrocarbons discharged through the processing vent per 1,000 gallons of gasoline loaded into the delivery tanks.

$$W = \frac{C \times V \times M \times 1000}{379 \times G}$$

Where:

W = Weight of hydrocarbons discharged through the processor vent per 1000 gallons of gasoline loaded into delivery tanks, (lbs).

C = Average fractional concentration of hydrocarbons at vent, (decimal fraction)

V = From 5.3.2 above.

M = Molecular weight of hydrocarbon compound used to calibrate hydrocarbon analyzer, (lbs/lb Mole).

G = Total quantity of gasoline loaded into delivery tanks (gals).

Review the pressure recording from the transducers on the storage tanks and vapor holder and determine the number of times and total time (hours), if any, that the pressure exceeded the setting of the PV valve on either the vapor holder or on the fixed roof storage tank.

6.0 Testing Vapor Control Systems (Other Than Incineration Units) When Loading Fixed Roof Storage Tanks

6.1 Equipment Required

Same equipment as in Section 5.1.

6.2 Test Procedures

6.2.1 Connect appropriate coupler to vent of processing unit and connect flowmeter.

6.2.2 Connect hydrocarbon analyzer, with recorder, to appropriate tap on coupler on processing unit vent.

6.2.3 Connect thermocouple with recorder to appropriate tap on coupler on processing unit vent.

6.2.4 Connect coupler between PV valve and vent of vapor holding tank and connect pressure sensing device, with recorder, to coupler.

6.2.5 Connect coupler between PV valve and fixed roof storage tank and connect pressure sensing device, with recorder, to coupler.

6.2.6 Record the pressure on the bulk storage tank and connect pressure sensing device, with recorder, to coupler.

6.2.7 Record the pressure on the vapor-holding tank at the start and finish of the test period.

6.2.8 Record the hydrocarbon concentration, temperature and exhaust gas flowrate from the processor vent at the start and finish of the test.

6.2.9 At the end of the specified times, disconnect all instr4umentation and couplings from the vapor recovery systems.

6.2.10 Record the volume of gasoline that is delivered during the specified testing times.

6.2.11 Pressure monitoring of delivery tanks is to be performed, as appropriate, in accordance with Section 5.2.6.

6.3 Calculations

6.3.1 Volume of gas discharged through the processing unit vent.

$$V = \frac{V_p \times 528 \times P_b}{T_p \times 29.92}$$

Where:

V = Volume of gas discharged through processor vent, corrected to 68°F and 29.92 in. Hg, (ft^3).

P_b = Barometric pressure, (in. Hg).

V_p = Volume of gas determined by flow meter on the processing vent, corrected for amount of vapor removed by hydrocarbon analysis, (ft^3).

T_p = Average temperature in the processing vent line, (°R).

6.3.2 Weight of hydrocarbons discharged through the processing vent per 1000 gallons loaded into the delivery tanks.

$$W = \frac{C \times V \times M \times 1000}{379 \times G}$$

Where:

W = Weight of hydrocarbons discharged through the processor vent per 1000 gallons of gasoline loaded into delivery tanks, (lbs).

C = Average fractional concentration of hydrocarbons at vent, (decimal fraction).

V = From 6.3.1 above.

M = Molecular weight of hydrocarbon compound used to calibrate hydrocarbon analyzer, (lbs/lb Mole); (44 for propane).

G = Total quantity of gasoline loaded into fixed roof storage tank(s), (gals).

Review the pressure recording from the transducers on the storage tanks and vapor holder and determine the number of times and total time (hours), if any, that the pressure exceeded the setting of the PV valve on either the vapor holder or on the fixed roof storage tank.

7.0 Testing Exhaust Emissions From Incineration-Type Processing Unit

7.1 Equipment Required

7.1.1 One (1) positive displacement flowmeter (capacity of 11,000 SCFH) with a coupler with pressure and temperature taps.

7.1.2 One (1) hydrocarbon analyzer (FID or DEQ approved equivalent) capable of measuring hydrocarbons in the range 0 to 10 percent as propane.

7.1.3 One (1) oxygen analyzer (paramagnetic or DEQ approved equivalent) capable of measuring oxygen in the range 0 to 25 percent by volume.

7.1.4 Apparatus for performing the State of Oregon, DEQ source sampling Method #2 (Determination of Stack Velocity and Volumetric Flow Rate).

7.1.5 One (1) sample conditioner capable of adjusting the temperature of the exhaust gas sample to a range acceptable to the hydrocarbon and oxygen analyzers.

7.1.6 One (1) 1/4" ID stainless steel sampling probe (SS316 or equivalent), of appropriate length.

7.1.7 One (1) dry gas meter sufficiently accurate to measure the sample volume within one percent.

7.1.8 One (1) needle valve, or equivalent, to adjust flow rate.

7.1.9 One (1) rotameter, or equivalent, to measure a 0 to 10 SCFH flow range, with a readability of 0.1^{o}.

7.1.10 One (1) pump of a leak-free, vacuum type.

7.1.11 One (1) thermocouple with recorder, 0 - 150^{o}F with a readability of 1^{o}.

7.1.12 One (1) pressure sensor with recorder for a range of -2 to +2 psig.

7.1.13 Calibration of test equipment according to recommended procedure, Section 4.4, page 3.

7.2 Test Procedure

7.2.1 Insert the flowmeter (0-11,000 SCFH) into the pipe supplying the incinerator, connect thermocouple and pressure sensor and record initial volume.

7.2.2 Using the appar4atus and procedure for Method 2, 7.1.4, perform a velocity traverse of the incinerator exhaust vapor.

7.2.3 Insert the sample probe to the location of the average exhaust velocity, leaving the Method 2 apparatus in place. Connect the sample conditioner, hydrocarbon analyzer, oxygen analyzer, sample pump, rotameter, needle valve and dry gas meter to the sample probe.

7.2.4 Start analyzer recorders.

7.2.5 Adjust the sample flow rate proportional to the stack gas velocity and sample until the dry gas meter registers one (1) $ft.^3$. Mark on analyzer recorder strip charts beginning and ending of sample period.

7.2.6 At the end of the test period, record the total volume of vapors going to the incinerator and average temperature and pressure.

7.2.7 Record the average hydrocarbon and oxygen concentration in the incinerator exhaust. Repeat as required.

7.2.8 Record the volume of gasoline delivered during the test period.

7.2.9 Pressure monitoring of delivery tanks and fixed roof storage tanks is to be performed, as appropriate, in accordance with Section 5.2.6 and 6.2.6.

7.3 Calculations

7.3.1

$$V_p = \frac{V \times 528 \times PA}{T \times 29.92}$$

Where:

V_p = Volume of vapor going to the incinerator ($ft.^3$)

V = Volume of gas recorded by meter ($ft.^3$).

PA = Absolute pressure in the pipe going to the incinerator, (in. Hg).

T = Average absolute temperature of the vapor, (°R).

7.3.2

$$EA = \frac{O_{2\%}}{.264N_2\% - O_2\%}$$

Where:

EA = Excess air in the incinerator exhaust gas.

O_2%= Percent by volume oxygen in the incinerator exhaust.

N_2%= Percent by volume nitrogen in the incinerator exhaust.

7.3.3

$$W = \frac{V_p \times C \times M \times (EA) \times 1000}{379 \times G}$$

Where:

W = Weight of hydrocarbons discharged through the incinerator vent per 1000 gallons of gasoline into delivery tanks, or, as appropriate, fixed roof tanks, (lbs).

V_p = From 7.3.1 above.

M = Molecular weight of hydrocarbon compound used to calibrate hydrocarbon analyzer, (lbs/lb Mole).

EA = From 7.3.2 above.

G = Total quantity of gasoline loaded into delivery tanks, or, as appropriate, fixed roof storage tanks, (gals).

C = Average fractional concentration of hydrocarbons at vent, (decimal fraction).

8.0 Alternative Test Methods

Techniques, other than those specified above, may be used for testing vapor recovery systems at terminals if prior written approval is obtained from DEQ Such approval will be based upon demonstrated equivalency with the methods in Section 5 through Section 8.

9.0 Recordkeeping

A record of the results for tests which are performed for compliance determination shall be maintained at the facility site according to OAR 340-232-0080 and 340-232-0100.

Appendix I, Submerged Fill Inspection Guideline, May 1, 1981

Department of Environmental Quality
Air Program
VOC Compliance Determination Guideline
Submerged Fill

Gasoline Dispensing Facilities

OAR 340-244-0240(3) requires submerged filling of gasoline storage tanks at gasoline dispensing facilities (service stations, motor pools, etc.).

“Submerged Fill” is defined in OAR 340-244-0030(29) as “the filling of a gasoline storage tank through a submerged fill pipe whose discharge is no more than the applicable distance specified in OAR 340-244-0240(3) from the bottom of the tank. Bottom filling of gasoline storage tanks is included in this definition.”

The applicable distance in OAR 340-244-0240(3) is no more than 12 inches from the bottom of the storage tank for submerged fill pipes installed on or before November 9, 2006 or no more than 6 inches from the bottom of the storage tank for submerged fill pipes installed after November 9, 2006. Submerged fill pipes not meeting these specifications are allowed if can be demonstrated that the liquid level in the tank is always above the entire opening of the fill pipe. Documentation providing such demonstration must be made available for inspection by DEQ during the course of a site visit.

Bulk Gasoline Plants

OAR 340-232-0080(1)(a) requires submerged filling at bulk gasoline plants in the Portland-Vancouver Air Quality Maintenance Area, Medford-Ashland Air Quality Maintenance Area, and Salem-Keizer Area Transportation Study (SKATS) Area.

“Submerged Fill" is defined in OAR 340-232-0030(70) as "any fill pipe or hose, the discharge opening of which is entirely submerged when the liquid is 6 inches above the bottom of the tank; or when applied to a tank which is loaded from the side, shall mean any fill pipe, the discharge of which is entirely submerged when the liquid level is 28 inches, or twice the diameter of the fill pipe, whichever is greater, above the bottom of the tank."

40 CFR 63.11086(a) requires submerged filling at bulk gasoline plants statewide.

Submerged Fill" is defined in 40 CFR 63.11100 as "the filling of a gasoline cargo tank or a stationary storage tank through a submerged fill pipe whose discharge is no more than the applicable distance specified in 40 CFR 63.11086(a) from the bottom of the tank. Bottom filling of gasoline cargo tanks or storage tanks is included in this definition.

The applicable distance in 40 CFR 63.11086(a) is no more than 12 inches from the bottom of the storage tank for submerged fill pipes installed on or before November 9, 2006 or no more than 6 inches from the bottom of the storage tank for submerged fill pipes installed after November 9, 2006. Submerged fill pipes not meeting these specifications are allowed if can be demonstrated that the liquid level in the tank is always above the entire opening of the fill pipe. Documentation providing such demonstration must be made available for inspection by DEQ during the course of a site visit.

Gasoline Delivery Vessels

OAR 340-232-0085(1)(a) requires submerged filling of delivery vessels receiving gasoline from a bulk gasoline terminal or a bulk gasoline plant, with a daily throughput of 4,000 or more gallons based on a 30-day rolling average, located in the Portland-Vancouver AQMA.

"Submerged Fill" is defined in OAR 340-232-0030(70) as "any fill pipe or hose, the discharge opening of which is entirely submerged when the liquid is 6 inches above the bottom of the tank; or when applied to a tank which is loaded from the side, shall mean any fill pipe, the discharge of which is entirely submerged when the liquid level is 28 inches, or twice the diameter of the fill pipe, whichever is greater, above the bottom of the tank."

Technique to determine compliance

(1) For underground tanks, open the fill pipe and determine that a submerged fill pipe extends down into the tank.

(2) Take a 20 foot measure tape or equivalent stick with an L extension on the bottom (11) and lower it down the fill tube, forcing the tape catch to scrape against the tube side, or catch on the bottom of the fill pipe.

(3) Note when scraping ceases; the bottom of the fill tube has been reached. Read the tape or mark the stick.

(4) Extend the tape on down to the bottom of the tank. Read the tape, or marking stick.

(5) If the difference in tape readings is at or less than the applicable distance the source is in compliance with the submerged fill pipe rule.

(6) Bulk plants or above-ground-tanks which are bottom filled can be considered in compliance, so long as the top of the fill line is less than twice the diameter of fill pipe or less than 18 inches above the tank bottom.

(7) Cylindrical tanks with horizontal fill pipes that do not meet requirements of (6) but have an elbow extending down toward the bottom of the tank must meet the requirements of (6).

(8) Horizontal tanks with side fill which do not meet the requirements of (6) but which have an elbow extending toward the bottom shall meet the requirements of (5).

(9) Remember gasoline is explosive, dangerous, toxic and non-spark measuring devices shall be used. Close all openings which were opened to conduct the test. A clean rag should be available for wiping during the test process to prevent gasoline burns to hands, etc.

(10) Good judgment relative to safety and courtesy is a must at all times.

Continuous Monitoring Manual

State of Oregon
Department of
Environmental
Quality

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Operations Division

811 SW 6th Avenue
Portland, OR 97204
Phone: (503) 229-5696
(800) 452-4011
Fax: (503) 229-6762
Contact: Jill Inahara

www.oregon.gov/DEQ

DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

This report prepared by:

Oregon Department of Environmental Quality
811 SW 6th Avenue
Portland, OR 97204
1-800-452-4011
www.oregon.gov/deq

Contact:
Mark Bailey, 541-633-2006
Jill Inahara, 503-229-5001

Alternative formats (Braille, large type) of this document can be made available.
Contact DEQ's Office of Communications & Outreach, Portland, at
503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696.

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Executive Summary

DEQ's Continuous Monitoring Manual provides specifications and procedures for conducting continuous monitoring at facilities regulated by DEQ's stationary source air quality permit program. The manual includes requirements for preparing monitoring plans that include standard operating and quality assurance procedures to ensure that continuous monitor systems will provide accurate and reliable data. The manual is applicable to continuous emission monitoring systems (CEMS), continuous parameter monitoring systems (CPMS), and continuous opacity monitoring systems (COMS). In addition to DEQ specific requirements, the manual incorporates by reference federal monitoring requirements contained in 40 CFR Parts 60, 63, and 75. The Continuous Monitoring Manual was first written in 1992 and revised in 2015. The Continuous Monitoring Manual is included in Oregon's State Implementation Plan.

1.0 Introduction

This manual provides guidance and direction to owners and operators that are responsible for continuously monitoring air emissions, operating parameters, or opacity from their facilities. For purposes of this manual, continuous monitoring systems (CMS) are divided into three (3) main subgroups:

- Continuous Emission Monitoring Systems (CEMS),
- Continuous Parameter Monitoring Systems (CPMS), and
- Continuous Opacity Monitoring Systems (COMS).

CMS that are required by permit condition, but not subject to federal regulations are subject to the requirements of this manual. This manual also applies to CMS that are required by the following federal standards. The monitoring requirements specified in the federal standards are incorporated by reference as publsihed in the July 2012 Code of Federal Regulations (CFR. If there is an inconsistency between the requirements of this manual and the federal requirements, the federal requirement will take precedence:

- New Source Performance Standards (NSPS), 40 CFR Part 60;
- National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63; and
- Acid Rain Program, 40 CFR Part 75.

When required to perform continuous monitoring by DEQ, CMS operators are required to perform the monitoring in accordance with this manual, at a minimum, to ensure reported data are complete and of high quality. Operators may choose more rigorous specifications or more sophisticated procedures appropriate for their purposes.

2.0 Monitoring Objectives

2.1 Program Objectives

The objectives of a monitoring program will vary depending on the regulation or permit, but may include one or more of the following. The CMS must be designed to meet the appropriate objectives.

- Measure air contaminant concentrations and operating parameters as required by permit or regulation;
- Ensure high quality data is collected to determine continuous compliance with permit or regulation;
- Prevent possible adverse environmental effects;
- Determine emissions improvements and trends in conjunction with process changes; or
- Provide accurate and reliable data as part of an integrated emissions inventory program.

2.2 Data Quality Objectives

Each monitoring program must meet specific data quality objectives. These are data completeness, representativeness, accuracy, precision, and comparability. A brief description of each objective is provided below.

- Completeness is the measure of the number of valid data points collected over the possible number of data points in a period of time.
- Representativeness refers to measurements which accurately depict the condition of interest. One aspect of representativeness involves the method chosen to perform the monitoring; it must be accurate in both a qualitative and quantitative sense.
- Accuracy describes how close the measurement is to the "true value" of the quantity being measured.
- Precision is a measure of variability, or scatter, of the system's response to repeated challenges by the same standard. Precision is a measure of repeatability, how closely multiple measurements agree.
- Comparability is a measure of how data sets are similar or different. It determines how data sets can be used collectively.

3.0 Continuous Monitoring Plans

The source operator must prepare and maintain written standard operating procedures (SOP) and a quality assurance plan (QAP) for each continuous monitoring system used at a source. The SOP and QAP must be submitted to DEQ prior to operation of a CMS. These documents must be reviewed periodically by the CMS operator and revised as necessary based on experience with the CMS. The SOP and QAP msut contain detailed, complete, step-by-step written procedures. Both documents msut be made available to DEQ personnel for inspection upon request.

3. 1 Standard operating procedures

Standard operating procedures (SOP) must be written for each CMS. The contents of the SOP must include, as a minimum, the following information:

a. Source owner or operator name and address.
b. Identification, description, and location of monitors in the CMS.
c. Description and location of the sample interface (i.e. sample probe).
d. Manufacturer and model number of each monitor in the CMS.
e. Equipment involved in sample transport, sample conditioning, analysis, and data recording.
f. Procedures for routine operation checks, including daily zero and span calibration drift (CD) check.
g. Procedures for routine preventive maintenance. Initially, these procedures can be taken from the manufacturer's installation and operation manuals. However, as the CMS operators gain more experience with the CMS, it may

be necessary or desirable to modify these procedures to increase or decrease frequency of maintenance and add or delete some procedures.

h. Routine maintenance spare parts inventory.
i. Procedures for calculating and converting CMS data into the reporting units of the standard.
j. Documentation of the activities described in 3.1 a – i.

3.2 Quality Assurance Plan

Prior to initiating a continuous monitoring program, a written quality assurance plan (QAP) must be prepared. The QAP must include quality control and quality assurance procedures for ensuring that the CMS will provide accurate and reliable data. For these purposes, the terms "Quality Control" (QC) and "Quality Assurance" (QA) are defined as follows:

- "Quality Control" refers to an activity carried out during routine internal operations to ensure that the data produced are within known limits of accuracy and precision. Examples of QC activities include periodic calibrations, routine zero and span checks, routine leak checks, routine check of optical alignment, etc. QC represents the core activity in a Quality Assurance program.
- "Quality Assurance" refers to all of the planned and systematic activities carried out externally and independent of routine operation to document data quality. QA activities include written documentation of operation, calibration, and QC procedures; independent system and performance audits; data validation; evaluation of QC data; etc. QA requires documentation of all aspects of the CMS effort, from the responsibilities of each person involved to how the data are reported.

The contents of the QAP are dependent on the applicable regulation or permit condition. Some systems may be subject to multiple regulations, and therefore multiple plan requirements. The plan should be reviewed annually and updated when there are changes to equipment and procedures. Plan updates should be submitted to DEQ for review. In general, a satisfactory QAP plan includes the following:

a. Data quality objectives.
b. Chain of responsibility for CMS operation, corrective action, and training program.
c. Procedure for measuring the CMS accuracy and precision including the following:
    - CMS calibrations
    - Zero and span drift checks
    - Performance audits
    - System audits
d. Quality control activities
e. Quality control documentation
f. Procedures for data recording, calculations, and reporting
g. Criteria for taking corrective actions

h. Procedures for corrective action

Monitoring plan requirements for various regulations are summarized in the following table.

REGULATIONS	AQ/QC PROGRAM PLAN REQUIREMENTS
NSPS	40 CFR Part 60, section 60.13 and appendix F, section 3
NESHAP	40 CFR Part 63, Subpart A, Section 63.8
Acid Rain Program	40 CFR Part 75, Appendix B, Section 1.

* This table may not include all references to applicable monitoring plan requirements.

4.0 Continuous Emission Monitoring Systems

4.1 CEMS Equipment and Installation Specifications

Equipment specifications, installation, and measurement location are defined according to the applicable performance specification. Refer to the following reference table for equipment specifications, installation, and measurement location requirements.

REGULATIONS	EQUIPMENT SPECIFICATIONS, INSTALLATION & MEASUREMENT LOCATION REQUIREMENTS
NSPS	40 CFR Part 60, section 60.13 and appendix B
NESHAP	40 CFR Part 63, section 63.8
Acid Rain Program	40 CFR Part 75, Subpart A – H and appendices A-J
Oregon DEQ Requirements	Appendix A of this manual

*This table may not include all references to applicable equipment and installation requirements.

4.2 Performance Assessments for CEMS

Performance assessments are utilized to determine quality of monitored data. In general, most regulations divide the assessments into four (4) separate activities:

- Initial performance specifications
- Daily performance assessments
- Quarterly performance assessments, and
- Annual performance assessments.

The requirement of each assessment depends on the applicable performance specifications and the QA/QC requirements. Performance assessments requirements are detailed below.

REGULATIONS	PERFORMANCE ASSESSMENTS
NSPS	40 CFR Part 60, Appendices B & F
NESHAP	40 CFR Part 63, section 63.8
Acid Rain Program	40 CFR Part 75, Subparts A – H and appendices A and B
Oregon DEQ Requirements	Appendix A of this manual

*This table may not include all references to applicable performance assessment requirements.

5.0 Continuous Parameter Monitoring Systems

A continuous parameter monitoring system (CPMS) continuously monitors source or pollution control device operating parameters. These may include, but are not limited to:

- Fuel consumption rates;
- Production rates;
- Oxygen concentration;
- Moisture content;
- Process temperatures;
- Pollution control device parameters (e.g., pressure drop, voltages, water flow and pressure, etc.)

There are three basic types of CPMS:

- CPMS used for the purpose of determining pollutant emissions rates (PEMS);
- CPMS used for the purpose of monitoring pollution control device operations; and,
- CPMS used for the purpose of monitoring source operations.

It is not the intention of this manual to cover each and every possible CPMS. Requirements for CPMS that are used for determining pollutant emissions rates are generally found within applicable federal regulation. CPMS requirements are detailed below.

REGULATIONS	CPMS REQUIREMENTS
NSPS	40 CFR Part 60, applicable subparts and appendices B and F
NESHAP	40 CFR Part 63, Applicable subparts
Acid Rain Program	40 CFR Part 75, Subpart E and appendices D and E
Oregon DEQ Requirements	Appendix B of this manual

*This table may not include all references to applicable CPMS performance requirements.

6.0 Continuous Opacity Monitoring Systems (COMS)

This section addresses specific requirements for the operation of continuous opacity monitoring systems (COMS). These requirements do *not* supersede any requirements specified by rule, regulation, or by permit condition**.**

Existing COMS installed prior to 6/1/91 must be maintained and operated in accordance with permit requirements; and, unless otherwise specified, are not subject to the requirements of this manual. If the COMS system is not subject to federal regulation and is installed, replaced, relocated or substantially refurbished after 6/1/91, then the COMS must satisfy 40 CFR Part 60, Spec. 1 requirements in effect at the time of the change.

All continuous opacity monitoring systems (COMS) must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period (15 seconds for non-NSPS sources if approved by the DEQ).

Federal requirements for COMS can be found within the applicable federal regulations cited below.

REGULATIONS	COMS REQUIREMENTS
NSPS	40 CFR Part 60, sectin 60.13 and appendix B, specification 1
NESHAP	40 CFR Part 63, secton 63.8
Acid Rain Program -Optional Emissions Protocols	40 CFR Part 75, Subpart B

*This table may not include all references to applicable COMS performance requirements.

7.0 Recordkeeping and Reporting

This section addresses specific requirements for recordkeeping and reporting requirements for CMS. If inconsistencies exist, these requirements do not supersede any requirements specified by regulation or permit condition.

The source owner or operator must maintain records of all CMS activities in a file and/or log book. This record must be used by the CMS operator to ensure that the CMS is operating correctly. The record must also be made available to DEQ personnel upon request.

Recordkeeping and reporting requirements for various regulations are cited below.

REGULATIONS	RECORDKEEPING & REPORTING REQUIREMENTS
NSPS	40 CFR Part 60, applicable subparts and appendix F
NESHAP	40 CFR Part 63, applicable subparts
Acid Rain Program	40 CFR Part 75, subparts E, F and G and appendices B, D, and E
Oregon DEQ Requirements	Appendix C of this manual

*This table may not include all references to applicable recordkeeping and reporting requirements.

Appendix A

DEQ Continuous Emission Monitoring Requirements

General continuous emissions monitoring requirements are outlined below. These requirements do not supersede any requirements specified by regulation or permit condition. Refer to Section 4.0 of this monitoring manual.

A.1 CEMS Not Required by Federal Program and Installed after 6/1/91

1. The CEMS must continuously monitor and record the concentration of gaseous pollutant emissions on a wet or dry basis discharged into the atmosphere. The CEMS must consist of subsystems for sample extraction, conditioning, detection, analysis, and data recording/processing.
2. All CEMS must meet the requirements of 40 CFR 60 Appendix B (performance specifications) and Appendix F (QA/QC procedures).
3. All continuous emissions monitoring systems (CEMS) must complete a minimum of one cycle of sampling and analyzing for each successive 15-minute period unless the DEQ has specified a different frequency (i.e. Medford AQMA requires one minute cycle).

A.2 CEMS Not Required by Federal Program and Installed Prior to 6/1/91:

1. The CEMS must continuously monitor and record the concentration of gaseous pollutant emissions discharged to the atmosphere from any stationary source using CEMS approved by DEQ.
2. The span of the CEMS must be set:

    a. At 200% of the permit requirement concentration or the emission standard, whichever is lower. The span may be set at alternative values with DEQ approval.
    b. The CEMS must be capable of recording down-scale drift below zero.

3. The CEMS must be pollutant specific and free from interferences. (e.g.: For TRS CEMS, the measured TRS must exclude SO_2)
4. The CEMS analyzer must be maintained in an environment conducive to analyzer stability.
5. Extractive CEMS operating procedures must include automatic back-flushing of sample line and probe to purge condensed moisture and particulate material.
6. If the emissions must be corrected for diluent oxygen, periodically test and record the concentration of oxygen in the exhaust gases using an oxygen CEMS, Orsat Analyzer, or equivalent.

    a. An Oxygen CEMS, if used, must be calibrated according to written procedures, approved by the Department, at least twice each year using two calibration gases having oxygen concentrations of approximately 5 and 15 percent by volume, accurate to within 0.5% oxygen.

b. Oxygen must be measured at least semi-annually, after any major maintenance/-repair on duct work, and frequently enough to be representative of average oxygen concentration.

7. The zero and span drift of CEMS must be measured and recorded daily when the CEMS is in operation. Span gases used for this procedure need not be NIST traceable. However, the concentration of the gases should be verified by an analyzer calibrated with certifiable calibration gases. It may be necessary to periodically certify the concentration of the zero and span drift check gases.
8. A cylinder gas audit (CGA) of the CEMS must be performed weekly with successive CGAs performed no closer than six days apart. The CGA must include a "zero" gas and a minimum of one upscale gas concentration at approximately 60 percent of analyzer full-scale. The CGA results must satisfy the audit specifications outlined within 40 CFR 60, Appendix F.

    a. If 4 consecutive weekly CGAs result in the CEMS being within the allowable specifications, the frequency of the CGAs may be reduced to once each month with successive CGAs performed no closer than 21 days apart.
    b. If three consecutive monthly CGAs result in the CEMS being within specifications, the frequency of the CGAs may be reduced to once each quarter with successive CGAs performed no closer than two months apart.
    c. If two consecutive quarterly CGAs result in the CEMS being within specifications, the CGA frequency may be reduced to once every six months with successive CGAs no closer than five months apart.
    d. The minimum CGA frequency must be once every six months with successive CGAs no closer than five months apart.
    e. The CGA frequency must revert back to a weekly frequency if a CGA results in the CEMS failing to meet the performance specifications of 40 CFR Part 60, Appendix F.

        i. The concentration of the cylinder audit gases must be traceable to National Institute of Standards and Technology (NIST) standard reference materials (SRM) or EPA certified reference materials (CRM) and reanalyzed every 6-months using EPA Reference Methods (40 CFR 60, Appendix A). Gases may be analyzed at less frequent intervals if the manufacturer guarantees their certified concentration for longer time periods.
        ii. Cylinder gases must be introduced to include as much of the monitoring system as feasible, in no case may gas conditioning subsystems (i.e. SO_2 scrubbers for TRS CEMS) be excluded or by-passed.

9. A Relative Accuracy Audit (RAA) must be performed at least once each year. The RAA may satisfy one of the CGA requirements. RAA must satisfy the audit specifications outlined within 40 CFR 60, Appendix F.
10. If the CEMS system is not subject to federal regulation and is installed, replaced, relocated or substantially refurbished after 6/1/91, then the CEMS is not applicable to the requirements of this section and must comply with section A.1 of this appendix.
11. As an alternative to complying with conditions 1 through 9 of this section, the owner/operator may choose to comply with the requirements of section A.1 of this appendix.
12. Data must be recorded in units of the standard.

APPENDIX B

DEQ CONTINUOUS PARAMETER MONITORING REQUIREMENTS

General continuous parameter monitoring requirements are outlined below. These requirements do not supersede any requirements specified by rule, regulation, or by permit condition. Refer to Section 5.0 of this manual.

B.1 CPMS General Requirements:

1. CPMS must be installed in a location that is representative of the monitored process and free from interferences.
2. CPMS must be installed and maintained in an environment conducive to CPMS stability and data reliability.
3. CPMS must be calibrated and certified by the manufacturer prior to installation. (Applies to CPMS installed after 6/1/91).
4. All CPMS must complete a minimum of one cycle of sampling and analyzing for each successive 15-minute period unless the DEQ has specified a different frequency (i.e. Medford AQMA requires one minute cycle).

B.2 Pollutant Emissions Related CPMS

1. CPMS for the purpose of determining emission rates (i.e. stack gas flow monitoring devices) require the highest level of QA/QC. If CPMS system is installed to satisfy 40CFR Parts 60 and 75, then requirements specified by those regulations must be followed.
   a. CPMS installed after 6/1/91 must meet 40 CFR Part 60 Appendix B performance specification 6. The reference methods for determining relative accuracy (RA) are EPA or DEQ methods 1 through 4.
   b. Performance audits must be conducted quarterly in conjunction with the CEMS audits. It may not be possible to conduct audits on some CPMS. Exemption from this requirement must be approved by DEQ.

2. Stack Gas Flow Monitoring

   CPMS data are necessary for converting emission concentrations to units of the standard. This is accomplished by continuously monitoring stack gas flow rates to calculate the emissions as a rate (pounds per hour) in addition to the CEMS output (percent or parts per million).

   There are several acceptable alternatives for measuring flow rates (ultrasonic sensors, pitot tubes, process rates - steam, air flows, etc.). The CPMS must include the capability to measure and/or assume the following variables for determining the stack gas flow rate.

   - Stack gas temperature,
   - Stack gas pressure (absolute),
   - Stack gas moisture content,
   - Stack gas molecular weight,
   - Stack gas velocity, and
   - Cross-sectional area of the stack at the point of velocity measurements.

Flow rate metering systems generally measure and record the velocity, or velocity pressure (fifth bullet item 5 above). Other parameters are either directly or indirectly measured. In some circumstances parameters can be accurately assumed based on historical data collected from the source.

B.3 Pollution Control Device Related CPMS

1. Pollution control device related CPMS include but are not limited to:
   - Operating pressure and/or temperature,
   - Water flow rate, temperature, and/or pressure
   - Electrical current and voltage, and
   - Cycle time.

2. Calibration checks must be performed in accordance with the manufacturer's procedures at least once per month. Depending on the CPMS, an exemption from this requirement may be obtained from the DEQ upon written request. For example, water flow devices are typically calibrated only once, prior to installation.

B.4 Source Operation Related CPMS

Source related CPMS include but are not limited to:

- Steam flow & pressure meters,
- Fuel flow meters,
- Operating temperatures & pressures,
- Excess air levels,
- Hour meters and cycle time.

At a minimum, source related CPMS must meet the general CPMS requirements listed above. Depending on the CPMS, an exemption from this requirement may be obtained from the DEQ upon written request. Temperature CPMS must be calibrated during each planned maintenance outage or annually, whichever is more frequent.

APPENDIX C

DEQ RECORDKEEPING AND REPORTING REQUIREMENTS

General DEQ CMS recordkeeping and reporting requirements are outlined below. These requirements do not supersede any requirements specified by regulation or permit condition. Refer to Section 7.0 of this monitoring manual.

C.1 Recordkeeping

The source owner or operator must maintain records of all CMS activities in a file and/or log book. This record must be used by the CMS operator to ensure that the CMS is operating correctly. The record must also be made available to DEQ personnel upon request. The record must include as a minimum the following information:

1. Records of routine observation checks.
2. Records of routine maintenance and adjustments.
3. Records of parts that are replaced.
4. Spare parts inventory for the CMS.
5. Records of CMS calibrations.
6. Records of CMS daily calibration drift.
7. Records of CMS audits.
8. Records of corrective action taken to bring an "out-of- control" (40CFR60 App F) CMS into control.
9. Records of date and time when CMS is inoperative or "out-of-control" (40CFR60 App F).

C.2 Reporting Requirements

The source owner or operator may be required, by permit condition, to submit monitoring reports to the DEQ. These reports must include as a minimum the following information:

1. Reporting period (determined by permit condition).
2. CMS type, manufacturer, serial number, and location.
3. Monitoring data must be reduced and reported as follows (unless otherwise specified by permit or rule):
    a. For opacity monitoring systems (COMS):
        i. 6-minute (clock) averages
        ii. Hourly (clock) averages
        iii. Monthly average of the hourly averages.
    b. For emissions monitoring systems (CEMS):
        i. Hourly (clock) averages.
        ii. Monthly average of the hourly averages.
4. Data completeness information. The following completeness requirements are essential for a CMS data average to be accepted (unless otherwise specified by permit or rule):
    - For a 6-minute or 1-hour reporting period, a minimum of 75% of the data must be included in the average.
    - For a 24-hour or monthly reporting period, a minimum of 90% of the data must be included in the average.

    Insufficient data completeness, excluding CMS downtime due to daily zero and span checks and performance audits, will void that data period. All data collected must be

reported. Non-valid data must be highlighted. Data recorded during periods of CMS breakdowns, repairs, audits, calibration checks, and zero and span adjustments must not be included in the data averages.

5. Specific identification and supporting documentation, as required by rule or by permit condition, for each period of excess emissions that occurs.
6. The date and time identifying each period during which the CMS was inoperative (out-of-control as per 40CFR60 App F) except for zero and span checks and the nature of the CMS repairs or adjustments.
7. Reporting requirements for CMS performance assessments conducted during the reporting period are outlined below. Assessment requirements are dependent on applicable performance specifications and QA/QC requirements. Additional reporting requirements may be stipulated by permit or DEQ communication.
    - Results of initial performance assessment, submit to DEQ.
    - Results of daily performance assessments, submit to DEQ upon request.
    - Quarterly performance assessments, submit to DEQ upon request.
    - Semiannual performance assessments, submit to DEQ upon request.
    - Annual performance assessments, submit to DEQ.
    - Performance assessments not specifically listed above, submit to DEQ upon request.

AMEND: 340-200-0040

RULE TITLE: State of Oregon Clean Air Act Implementation Plan

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Updated the date of the last SIP revision.

RULE TEXT:

(1) This implementation plan, consisting of Volumes 2 and 3 of the State of Oregon Air Quality Control Program, contains control strategies, rules and standards prepared by DEQ and is adopted as the State Implementation Plan (SIP) of the State of Oregon under the FCAA, 42 U.S.C.A 7401 to 7671q.

(2) Except as provided in section (3), revisions to the SIP will be made under the EQC's rulemaking procedures in OAR 340 division 11 of this chapter and any other requirements contained in the SIP and will be submitted to the EPA for approval. The SIP was last modified by the EQC on November 15, 2018.

(3) Notwithstanding any other requirement contained in the SIP, DEQ may:

(a) Submit to the EPA any permit condition implementing a rule that is part of the federally-approved SIP as a source-specific SIP revision after DEQ has complied with the public hearings provisions of 40 C.F.R. 51.102; and

(b) Approve the standards submitted by LRAPA if LRAPA adopts verbatim, other than non-substantive differences, any standard that the EQC has adopted, and submit the standards to EPA for approval as a SIP revision.

(4) Revisions to the State of Oregon Clean Air Act Implementation Plan become federally enforceable upon approval by the EPA. If any provision of the federally approved State Implementation Plan conflicts with any provision adopted by the EQC, DEQ must enforce the more stringent provision.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A

STATUTES/OTHER IMPLEMENTED: ORS 468A.035, 468A.135

AMEND: 340-209-0020

RULE TITLE: Applicability

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Add division 245 to the applicability of this division.

RULE TEXT:

This division applies to permit actions requiring public notice as specified in OAR 340, divisions 216, 218 and 245.

NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan that EQC adopted under OAR 340-200-0040 with the exception of all references to toxic air contaminants and OAR chapter 340, division 245.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.310

STATUTES/OTHER IMPLEMENTED: ORS 468.065, 468A.035, 468A.040, 468A.310

AMEND: 340-209-0030

RULE TITLE: Public Notice Categories and Timing

NOTICE FILED DATE: 06/26/2018

RULE SUMMARY: Added division 245 to permit action assignment.

RULE TEXT:

(1) DEQ categorizes permit actions according to potential environmental and public health significance and the degree to which DEQ has discretion for implementing the applicable regulations. Category I is for permit actions with low environmental and public health significance so they have less public notice and opportunity for public participation. Category IV is for permit actions with potentially high environmental and public health significance so they have the greatest level of public notice and opportunity for participation.

(2) Permit actions are assigned to specific categories in OAR 340, divisions 216, 218, and 245. If a permit action is uncategorized, the permit action will be processed under Category III.

(3) The following describes the public notice or participation requirements for each category:

(a) Category I — No prior public notice or opportunity for participation. However, DEQ will maintain a list of all permit actions processed under Category I and make the list available for public review.

(b) Category II — DEQ will provide public notice of the proposed permit action and a minimum of 30 days to submit written comments.

(c) Category III — DEQ will provide public notice of the proposed permit action and a minimum of 35 days to submit written comments. DEQ will provide a minimum of 30 days' notice for a hearing, if one is scheduled. DEQ will schedule a hearing at a reasonable time and place to allow interested persons to submit oral or written comments if:

(A) DEQ determines that a hearing is necessary; or

(B) Within 35 days of the mailing of the public notice, DEQ receives written requests from ten persons, or from an organization representing at least ten persons, for a hearing.

(d) Category IV — Once an application is considered complete under OAR 340-216-0040, DEQ will:

(A)(i) Provide notice of the completed application and requested permit action; and

(ii) Schedule an informational meeting within the community where the facility will be or is located and provide public notice at least 14 days before the meeting. During the meeting, DEQ will describe the requested permit action and accept comments from the public. DEQ will consider any information gathered in this process in its drafting of the proposed permit, but will not maintain an official record of the meeting and will not provide a written response to the comments;

(B) Once a draft permit is completed, provide public notice of the proposed permit and a minimum of 40 days to submit written comments; and

(C) Schedule a public hearing at a reasonable time and place to allow interested persons to submit oral or written comments and provide a minimum of 30 days public notice for the hearing.

(4) Except for actions regarding Oregon Title V Operating Permits, DEQ may move a permit action to a higher category under section (3) based on, but not limited to the following factors:

(a) Anticipated public interest in the facility;

(b) Compliance and enforcement history of the facility or owner;

(c) Potential for significant environmental or public harm due to location or type of facility; or

(d) Federal requirements.

NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan that EQC adopted under OAR 340-200-0040 with the exception of all references to toxic air contaminants and OAR chapter 340, division 245.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.310

STATUTES/OTHER IMPLEMENTED: ORS 468.065, 468A.040, 468A.310, 468A.035

AMEND: 340-209-0040

RULE TITLE: Public Notice Information

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Making the requirements in this rule applicable to division 245.
Adding: "(t) For Toxic Air Contaminant Permit Addenda and ACDP permits that include conditions consistent with OAR chapter 340, division 245, a list of estimated toxic air contaminant emissions and, if applicable, a summary of the results of any risk assessment."

RULE TEXT:
(1) The following information is required in public notices for all proposed ACDP, draft Oregon Title V Operating Permit actions, and Toxic Air Contaminant Permit Addenda(t) issued under division 245, except for General Permit actions:
(a) Name of applicant and location of the facility;
(b) Type of facility, including a description of the facility's processes subject to the permit;
(c) Description of the air contaminant emissions including, the type of regulated pollutants, quantity of emissions, and any decreases or increases since the last permit action for the facility;
(d) Location and description of documents relied upon in preparing the draft permit;
(e) Other permits required by DEQ;
(f) Date of previous permit actions;
(g) Opportunity for public comment and a brief description of the comment procedures, whether in writing or in person, including the procedures for requesting a hearing (unless a hearing has already been scheduled or is not an option for the public notice category);
(h) Compliance, enforcement, and complaint history along with resolution of the same;
(i) A summary of the discretionary decisions made by DEQ in drafting the permit;
(j) Type and duration of the proposed or draft permit action;
(k) Basis of need for the proposed or draft permit action;
(l) Any special conditions imposed in the proposed or draft permit action;
(m) Whether each proposed permitted emission is a criteria pollutant and whether the area in which the source is located is designated as attainment/unclassified, sustainment, nonattainment, reattainment or maintenance for that pollutant;
(n) If the proposed permit action is for a federal major source, whether the proposed permitted emission would have a significant impact on a Class I airshed;
(o) If the proposed permit action is for a major source for which dispersion modeling has been performed, an indication of what impact each proposed permitted emission would have on the ambient air quality standard and PSD increment consumption within an attainment area;
(p) Other available information relevant to the permitting action;
(q) The name and address of DEQ office processing the permit;
(r) The name, address, and telephone number and e-mail address of a person from whom interested persons may obtain additional information, including copies of the permit draft, the application, all relevant supporting materials, including any compliance plan, permit, and monitoring and compliance certification report, except for information that is exempt from disclosure, and all other materials available to DEQ that are relevant to the permit decision;
(s) If applicable, a statement that an enhanced NSR process under OAR 340 division 224, including the external review procedures required under OAR 340-218-0210 and 340-218-0230, is being used to allow for subsequent incorporation of the operating approval into an Oregon Title V Operating Permit as an administrative amendment; and
(t) For Toxic Air Contaminant Permit Addenda and ACDP permits that include conditions consistent with OAR chapter 340, division 245, a list of estimated toxic air contaminant emissions and, if applicable, a summary of the results of any risk assessment.
(2) General Permit Actions. The following information is required for General ACDP and General Oregon Title V

Operating Permit actions:
(a) The name and address of potential or actual facilities assigned to the General Permit;
(b) Type of facility, including a description of the facility's process subject to the permit;
(c) Description of the air contaminant emissions including, the type of regulated pollutants, quantity of emissions, and any decreases or increases since the last permit action for the potential or actual facilities assigned to the permit;
(d) Location and description of documents relied upon in preparing the draft permit;
(e) Other permits required by DEQ;
(f) Date of previous permit actions;
(g) Opportunity for public comment and a brief description of the comment procedures, whether in writing or in person, including the procedures for requesting a hearing (unless a hearing has already been scheduled or is not an option for the Public Notice category);
(h) Compliance, enforcement, and complaint history along with resolution of the same;
(i) A summary of the discretionary decisions made by DEQ in drafting the permit;
(j) Type and duration of the proposed or draft permit action;
(k) Basis of need for the proposed or draft permit action;
(l) Any special conditions imposed in the proposed or draft permit action;
(m) Whether each proposed permitted emission is a criteria pollutant and whether the area in which the sources are located are designated as attainment or non-attainment for that pollutant;
(n) If the proposed permit action is for a federal major source, whether the proposed permitted emission would have a significant impact on a Class I airshed;
(o) Other available information relevant to the permitting action; and
(p) The name and address of DEQ office processing the permit;
(q) The name, address, and telephone number and e-mail address of a person from whom interested persons may obtain additional information, including copies of the permit draft, the application, all relevant supporting materials, including any compliance plan, permit, and monitoring and compliance certification report, except for information that is exempt from disclosure, and all other materials available to DEQ that are relevant to the permit decision.
NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan that EQC adopted under OAR 340-200-0040 with the exception of all references to toxic air contaminants and OAR chapter 340, division 245.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.310

STATUTES/OTHER IMPLEMENTED: ORS 468.065, 468A.040, 468A.310, 468A.035

AMEND: 340-209-0050

RULE TITLE: Public Notice Procedures

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Add “electronic noticing (termed e-notice)”

RULE TEXT:

(1) All notices. DEQ will mail or email a notice of proposed permit actions to the persons identified in OAR 340-209-0060.

(2) NSR, Oregon Title V Operating Permit and General ACDP actions. In addition to section (1), DEQ will provide notice of NSR, Oregon Title V Operating Permit and General ACDP actions as follows:

(a) Advertisement in a newspaper of general circulation in the area where the source or sources are or will be located, electronic noticing (termed e-notice), or a DEQ publication designed to give general public notice; and

(b) Other means, if necessary, to assure adequate notice to the affected public.

NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan that EQC adopted under OAR 340-200-0040.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.310

STATUTES/OTHER IMPLEMENTED: ORS 468.065, 468A.035, 468A.040, 468A.310

AMEND: 340-216-0020

RULE TITLE: Applicability and Jurisdiction

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Correct cross references and add “denied”

RULE TEXT:

(1) This division applies to all sources listed in OAR 340-216-8010. This division also applies to Oregon Title V Operating Permit program sources when an ACDP is required by 340-218-0020 or 340-224-0010. Sources referred to in 340-216-8010 are subject to fees in 340-216-8020.

(2) Sources in any one of the categories in OAR 340-216-8010 must obtain a permit. If a source meets the requirements of more than one of the source categories and the source is not eligible for a Basic ACDP or a General ACDP that has been authorized by DEQ, then the source must obtain a Simple or Standard ACDP. Source categories are not listed in alphabetical order.

(a) The commercial and industrial sources in OAR 340-216-8010 Part A must obtain a Basic ACDP under 340-216-0056 unless the source chooses to obtain a General, Simple or Standard ACDP. For purposes of Part A, production and emission parameters are based on the latest consecutive 12 month period, or future projected operation, whichever is higher. Emission cutoffs are based on actual emissions.

(b) Sources in any one of the categories in OAR 340-216-8010 Part B must obtain one of the following unless otherwise allowed in Part B:

(A) A General ACDP, if one is available for the source classification and the source qualifies for a General ACDP under OAR 340-216-0060;

(B) A Simple ACDP under OAR 340-216-0064; or

(C) A Standard ACDP under OAR 340-216-0066 if the source fits one of the criteria of Part C or does not qualify for a Simple ACDP.

(c) Sources in any one of the categories in OAR 340-216-8010 Part C must obtain a Standard ACDP under the procedures set forth in OAR 340-216-0066.

(3) No person may construct, install, establish, develop or operate any air contaminant source listed in OAR 340-216-8010 without first obtaining an Air Contaminant Discharge Permit (ACDP) from DEQ or LRAPA and keeping a copy onsite at all times, unless otherwise deferred from the requirement to obtain an ACDP in subsection (3)(b) or DEQ has granted an exemption from the requirement to obtain an ACDP under subsection (3)(f). No person may continue to operate an air contaminant source if the ACDP expires, or is terminated, denied, or revoked; except as provided in 340-216-0082.

(a) For portable sources, a single permit may be issued for operating at any area of the state if the permit includes the requirements from both DEQ and LRAPA. DEQ or LRAPA, depending where the portable source's corporate offices are located, will be responsible for issuing the permit. If the corporate office of a portable source is located outside of the state, DEQ will be responsible for issuing the permit.

(b) An air contaminant source required to obtain an ACDP or ACDP Attachment under a NESHAP under OAR division 244 or NSPS under OAR division 238 is not required to submit an application for an ACDP or ACDP Attachment until four months after the effective date of the EQC’s adoption of the NESHAP or NSPS, and is not required to obtain an ACDP or ACDP Attachment until six months after the EQC’s adoption of the NESHAP or NSPS. In addition, DEQ may defer the requirement to submit an application for, or to obtain an ACDP or ACDP Attachment, or both, for up to an additional twelve months.

(c) Deferrals of Oregon permitting requirements do not relieve an air contaminant source from the responsibility of complying with federal NESHAP or NSPS requirements.

(d) OAR 340-216-0060(1)(b)(A), 340-216-0062(2)(b)(A), 340-216-0064(4)(a), and 340-216-0066(3)(a), do not relieve a permittee from the responsibility of complying with federal NESHAP or NSPS requirements that apply to the source even if DEQ has not incorporated such requirements into the permit.

(e) DEQ may exempt a source from the requirement to obtain an ACDP if it determines that the source is subject to only procedural requirements, such as notification that the source is affected by an NSPS or NESHAP.
(4) No person may construct, install, establish, or develop any source that will be subject to the Oregon Title V Operating Permit program without first obtaining an ACDP from DEQ or LRAPA.
(5) No person may modify any source that has been issued an ACDP without first complying with the requirements of OAR 340-210-0205 through 340-210-0250.
(6) No person may modify any source required to have an ACDP such that the source becomes subject to the Oregon Title V Operating Permit program without complying with the requirements of OAR 340-210-0205 through 340-210-0250.
(7) No person may increase emissions above the PSEL by more than the de minimis emission levels specified in OAR 340-200-0020 without first applying for and obtaining a modified ACDP.
(8) Subject to the requirements in this division and OAR 340-200-0010(3), LRAPA is designated by the EQC to implement the rules in this division within its area of jurisdiction.
NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the EQC under OAR 340-200-0040 with the exception of all references to toxic air contaminants and OAR chapter 340, division 245.
NOTE: Tables referenced are in OAR 340-216-8010 and 340-216-8020.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040, 468A.155, 468A.310

STATUTES/OTHER IMPLEMENTED: ORS 468A.025, 468A.040, 468A.135 - 468A.155, 468A.310

AMEND: 340-216-0030

RULE TITLE: Definitions

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Add division 245 as another division that has definitions that would apply to this division.

RULE TEXT:

The definitions in OAR 340-200-0020, 340-204-0010, 340-245-0020 and this rule apply to this division. If the same term is defined in this rule and 340-200-0020, 340-204-0010 or 340-245-0020, the definition in this rule applies to this division.

(1) “Basic technical modification” includes, but is not limited to changing source test dates if the equipment is not being operated, and similar changes.

(2) “Complex technical modification” includes, but is not limited to incorporating a complex new compliance method into a permit, adding a complex compliance method or monitoring for an emission point or control device not previously addressed in a permit, adding a complex new applicable requirement into a permit due to a change in process or change in rules, and similar changes.

(3) “Moderate technical modification” includes, but is not limited to adding a simple compliance method or monitoring for an emission point or control device not previously addressed in a permit, revising monitoring and reporting requirements other than dates and frequency, adding a new applicable requirement into a permit due to a change in process or change in rules, incorporating NSPS and NESHAP requirements, and similar changes.

(4) “Non-technical modification” means name changes, change of ownership, correction of typographical errors and similar administrative changes.

(5) “Simple technical modification” includes, but is not limited to modifying a compliance method to use different emission factors or process parameters, changing reporting dates or frequency, and similar changes.

NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the EQC under OAR 340-200-0040 with the exception of all references to toxic air contaminants and OAR chapter 340, division 245.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A

STATUTES/OTHER IMPLEMENTED: ORS 468A.025, 468A.040, 468A.310

AMEND: 340-216-0040

RULE TITLE: Application Requirements

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added OAR 340-245-0030 as a requirement when preparing an application.

RULE TEXT:

(1) New Permits.

(a) Except for Short Term Activity ACDPs, any person required to obtain a new ACDP must provide the following general information, as applicable, using forms provided by DEQ in addition to any other information required for a specific permit type:

(A) Identifying information, including the name of the company, the mailing address, the facility address, and the nature of business, Standard Industrial Classification (SIC) code;

(B) The name and phone number of a local person responsible for compliance with the permit;

(C) The name of a person authorized to receive requests for data and information;

(D) A description of the production processes and related flow chart;

(E) A plot plan showing the location and height of air contaminant sources. The plot plan must also indicate the nearest residential or commercial property;

(F) The type and quantity of fuels used;

(G) An estimate of the amount and type of each air contaminant emitted by the source in terms of hourly, daily, or monthly and yearly rates, showing calculation procedures;

(H) Any information on pollution prevention measures and cross-media impacts the applicant wants DEQ to consider in determining applicable control requirements and evaluating compliance methods;

(I) Estimated efficiency of air pollution control devices under present or anticipated operating conditions;

(J) Where the operation or maintenance of air pollution control devices and emission reduction processes can be adjusted or varied from the highest reasonable efficiency and effectiveness, information necessary for DEQ to establish operational and maintenance requirements in OAR 340-226-0120(1) and (2);

(K) A Land Use Compatibility Statement signed by a local, city or county, planner either approving or disapproving construction or modification of the source, if required by the local planning agency;

(L) Any information required by OAR 340 divisions 224, 225, and 245, including but not limited to control technology and analysis, air quality impact analysis; and information related to offsets and net air quality benefit, if applicable; and

(M) Any other information requested by DEQ.

(b) Applications for new permits must be submitted at least 60 days prior to when a permit is needed. When preparing an application, the applicant must also consider the timelines provided in paragraph (2)(b), as well as OAR 340-245-0030, Cleaner Air Oregon submittal and payment deadlines, and OAR 340-224-0030, permit applications subject to NSR, to allow DEQ adequate time to process the application and issue a permit before it is needed.

(2) Renewal Permits. Except for Short Term Activity ACDPs, any person required to renew an existing permit must submit the information identified in section (1) using forms provided by DEQ, unless there are no significant changes to the permit. If there are significant changes, the applicant must provide the information identified in section (1) only for those changes.

(a) Where there are no significant changes to the permit, the applicant may use a streamlined permit renewal application process by providing the following information:

(A) Identifying information, including the name of the company, the mailing address, the facility address, and the nature of business, Standard Industrial Classification (SIC) code, using a form provided by DEQ; and

(B) A marked up copy of the previous permit indicating minor changes along with an explanation for each requested change.

(b) The owner or operator must submit an application for renewal of the existing permit by no later than:

(A) 30 days prior to the expiration date of a Basic ACDP;

(B) 120 days prior to the expiration date of a Simple ACDP; or
(C) 180 days prior to the expiration date of a Standard ACDP.
(c) DEQ must receive an application for reassignment to General ACDPs and attachments within 30 days prior to expiration of the General ACDPs or attachment.
(3) Permit Modifications. For Simple and Standard ACDP modifications, the applicant must provide the information in section (1) relevant to the requested changes to the permit and a list of any new requirements applicable to those changes. When preparing an application, the applicant must also consider the timelines provided in subsection (2)(b), as well as OAR 340-224-0030, permit applications subject to NSR, to allow DEQ adequate time to process the application and issue a permit before it is needed.
(4) Any owner or operator who fails to submit any relevant facts or who has submitted incorrect information in a permit application must, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.
(5) The application must be completed in full and signed by the applicant or the applicant's legally authorized representative.
(6) Two copies of the application are required, unless otherwise requested by DEQ. At least one of the copies must be a paper copy, but the others may be in any other format, including electronic copies, upon approval by DEQ.
(7) A copy of permit applications subject to Major NSR under OAR 340 division 224, including all supplemental and supporting information, must also be submitted directly to the EPA.
(8) The name of the applicant must be the legal name of the facility or the owner's agent or the lessee responsible for the operation and maintenance of the facility. The legal name must be registered with the Secretary of State Corporations Division.
(9) All applications must include the appropriate fees as specified in OAR 340-216-8020.
(10) Applications that are obviously incomplete, unsigned, improperly signed, or lacking the required exhibits or fees will be rejected by DEQ and returned to the applicant for completion.
(11) Within 15 days after receiving the application, DEQ will preliminarily review the application to determine the adequacy of the information submitted:
(a) If DEQ determines that additional information is needed, DEQ will promptly ask the applicant for the needed information. The application will not be considered complete for processing until the requested information is received. The application will be considered withdrawn if the applicant fails to submit the requested information within 90 days of the request;
(b) If, in the opinion of DEQ, additional measures are necessary to gather facts regarding the application, DEQ will notify the applicant that such measures will be instituted along with the timetable and procedures to be followed. The application will not be considered complete for processing until the necessary additional fact-finding measures are completed. When the information in the application is deemed adequate for processing, DEQ will so notify the applicant.
(12) If at any time while processing the application, DEQ determines that additional information is needed, DEQ will promptly ask the applicant for the needed information. The application will not be considered complete for processing until the requested information is received. The application will be considered withdrawn if the applicant fails to submit the requested information within 90 days of the request.
(13) If, upon review of an application, DEQ determines that a permit is not required, DEQ will so notify the applicant in writing. Such notification is a final action by DEQ on the application.
NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the EQC under OAR 340-200-0040 with the exception of all references to toxic air contaminants or OAR chapter 340, division 245.
NOTE: Tables referenced are in OAR 340-216-8010 and 340-216-8020.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.310, 468A.315

STATUTES/OTHER IMPLEMENTED: ORS 468, 468A

ADOPT: 340-216-0069

RULE TITLE: Toxic Air Contaminant Permit Addendums

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: New rule to allow DEQ to implement requirements pertaining to toxic air contaminants under OAR chapter 340, division 245.

RULE TEXT:

(1) Purpose and Intent. DEQ may implement requirements pertaining to toxic air contaminants under OAR chapter 340, division 245 as follows:

(a) For new sources required to obtain a Standard or Simple ACDP, by including conditions in the source's ACDP to ensure compliance with the Cleaner Air Oregon rules, OAR chapter 340, division 245;

(b) For new sources required to obtain a Basic or General ACDP, by including conditions in an addendum to the source's ACDP to ensure compliance with the Cleaner Air Oregon rules, OAR chapter 340, division 245; and

(c) For existing sources, by requiring the owner or operator of the sources to obtain a Toxic Air Contaminant Permit Addendum under OAR chapter 340, division 245 that amends the source's ACDP.

(2) A Toxic Air Contaminant Permit Addendum will be incorporated into a source's ACDP upon renewal or modification that involves a public notice for which DEQ has followed the Category II or Category III public notice procedure in OAR chapter 340, division 209, except for sources that have Basic or General ACDPs.

(3) OAR 340-216-0062 and 340-216-0068 do not apply to Toxic Air Contaminant Permit Addenda.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035

AMEND: 340-216-0090

RULE TITLE: Sources Subject to ACDPs and Fees

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added: (2) An owner or operator of a source that is required to demonstrate compliance with Cleaner Air Oregon rules under OAR 340-245-0005 through 340-245-8050 must pay the fees specified in OAR 340-216-8030.

RULE TEXT:

(1) All air contaminant discharge sources listed in OAR 340-216-8010 must obtain a permit from DEQ and are subject to fees in OAR 340-216-8020.

(2) An owner or operator of a source that is required to demonstrate compliance with Cleaner Air Oregon rules under OAR 340-245-0005 through 340-245-8050 must pay the fees specified in OAR 340-216-8030.

NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the EQC under OAR 340-200-0040 with the exception of all references to toxic air contaminants and OAR chapter 340, division 245.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.040, 468A.310, 468A.315

STATUTES/OTHER IMPLEMENTED: ORS 468.065, 468A.040, 468A.310, 468A.315

AMEND: 340-216-8020

RULE TITLE: Table 2 — Air Contaminant Discharge Permits

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Add Part 3. Cleaner Air Oregon Annual Fees: (Due date 12/1 for 1/1 to 12/31 of the following year)

RULE TEXT:

Sources referred to in Table 1 of OAR 340-216-8010 are subject to air contaminant discharge permit fees in Table 2.

NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan that EQC adopted under OAR 340-200-0040 with the exception of all references to toxic air contaminants and OAR chapter 340, division 245.

NOTE: See history of this table under OAR 340-216-0020.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040, 468A.310

STATUTES/OTHER IMPLEMENTED: ORS 468A

OAR 340-216-8020
Table 2 Air Contaminant Discharge Permits

Part 1. Initial Permitting Application Fees: (in addition to first annual fee)	
a. Short Term Activity ACDP	**$3,600.00**
b. Basic ACDP	$144.00
c. Assignment to General ACDP [1]	$1,440.00
d. Simple ACDP	$7,200.00
e. Construction ACDP	$11,520.00
f. Standard ACDP	$14,400.00
g. Standard ACDP (Major NSR or Type A State NSR)	$50,400.00

1. DEQ may waive the assignment fee for an existing source requesting to be assigned to a General ACDP because the source is subject to a newly adopted area source NESHAP as long as the existing source requests assignment within 90 days of notification by DEQ.

Part 2. Annual Fees: (Due date 12/1[1] for 1/1 to 12/31 of the following year)		
a. Short Term Activity ACDP		$NA
b. Basic ACDP		$432.00
c. General ACDP	(A) Fee Class One	$864.00
	(B) Fee Class Two	$1,555.00
	(C) Fee Class Three	$2,246.00
	(D) Fee Class Four	$432.00
	(E) Fee Class Five	$144.00
	(F) Fee Class Six	$288.00
d. Simple ACDP	(A) Low Fee	$2,304.00
	(B) High Fee	$4,608.00
e. Standard ACDP		$9,216.00

f. Greenhouse Gas Reporting, as required by OAR 340, Division 215		12.5% of the applicable annual fee in Part 2

1. DEQ may extend the payment due date for dry cleaners or gasoline dispensing facilities until March 1st.

Part 3. Cleaner Air Oregon Annual Fees: (Due date 12/1 for 1/1 to 12/31 of the following year)

a. Basic ACDP		$151.00
b. General ACDP	(A) Fee Class One	$302.00
	(B) Fee Class Two	$544.00
	(C) Fee Class Three	$786.00
	(D) Fee Class Four	$151.00
	(E) Fee Class Five	$ 50.00
	(F) Fee Class Six	$100.00
c. Simple ACDP	(A) Low Fee	$806.00
	(B) High Fee	$1,612.00
d. Standard ACDP		$3,225.00

2. DEQ may extend the payment due date for dry cleaners or gasoline dispensing facilities until March 1st.

Part 4. Specific Activity Fees:

a. Non-Technical Permit Modification [1]	$432.00
b. Basic Technical Permit Modification	$432.00
c. Simple Technical Permit Modification	$1,440.00
d. Moderate Technical Permit Modification	$7,200.00
e. Complex Technical Permit Modification	$14,440.00
f. Major NSR or Type A State NSR Permit Modification	$50,400.00
g. Modeling Review (outside Major NSR or Type A State NSR)	$7,200.00
h. Public Hearing at Source's Request	$2,880.00
i. State MACT Determination	$7,200.00

j. Compliance Order Monitoring [2]	$144.00/month
Part 5. Late Fees:	
a. 8-30 days late	5%
b. 31-60 days late	10%
c. 61 or more days late	20%

1. For gasoline dispensing facilities, a portion of these fees will be used to cover the fees required for changes of ownership in OAR 340-150-0052(4).

2. This is a one-time fee payable when a compliance order is established in a permit or a DEQ order containing a compliance schedule becomes a final order of DEQ and is based on the number of months DEQ will have to oversee the order.

NOTE: See history of this table under OAR 340-216-0020.

ADOPT: 340-216-8030

RULE TITLE: Table 3 — Cleaner Air Oregon Specific Activity Fees

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Specific activity fees for division 245.

RULE TEXT:

Sources subject to OAR chapter 340, division 245, Cleaner Air Oregon, are required to pay the specific activity fees in Table 3.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.040, 468A.050, 468A.315

STATUTES/OTHER IMPLEMENTED: ORS 468.020, 468.065, 468A.040, 468A.050, 468A.315

OAR 340-216-8030
Table 3 Cleaner Air Oregon Specific Activity Fees

		Permit Type			
#	ACTIVITY	Title V	Standard ACDP	Simple ACDP	General Basic ACDP
1	Existing Source Call-In Fee	$10,000	$10,000	$1,000	$500
2	New Source Consulting Fee	$12,000	$12,000	$1,900	$1,000
3	Submittal Document Modification Fee	$2,500	$2,500	$500	$250
	Risk Assessment Fees				
4	Level 1 Risk Assessment - de minimis (no permit required)	$1,500	$1,500	$1,000	$800
5	Level 1 Risk Assessment – not de minimis	$2,000	$2,000	$1,500	$1,100
6	Level 2 Risk Assessment - de minimis (no permit required)	$3,100	$3,100	$2,300	$2,000
7	Level 2 Risk Assessment – not de minimis	$3,600	$3,600	$2,800	$2,300
8	Level 3 Risk Assessment - de minimis (no permit required)	$8,800	$8,200	$5,300	$4,500
9	Level 3 Risk Assessment – not de minimis	$19,900	$11,300	$7,700	$6,300
10	Level 4 Risk Assessment - de minimis (no permit required)	$21,400	$18,500	$11,700	NA
11	Level 4 Risk Assessment – not de minimis	$34,600	$25,800	$15,500	NA
	Risk Above Risk Action Levels				
12	Risk Reduction Plan Fee	$6,700	$6,700	$2,600	$2,600
13	Air Monitoring Plan Fee (includes risk assessment)	$25,900	$25,900	NA	NA
14	Postponement of Risk Reduction Fee	$4,400	$4,400	$4,400	$2,000
15	TBACT/TLAER Review (per Toxic Emissions Unit and type of toxic air contaminant)	$3,000	$3,000	$1,500	$1,500
	Other Fees				
16	TEU Risk Assessment – no permit mod	$1,000	$1,000	$500	$500
17	TEU Risk Assessment – permit mod	$4,000	$4,000	$2,000	$1,000

OAR 340-216-8030
Table 3 Cleaner Air Oregon Specific Activity Fees

18	Level 2 Modeling review only for TEU approval	$1,900	$1,300	$800	$700
19	Level 3 Modeling review only for TEU approval	$3,800	$3,800	$3,500	$3,500
20	Community Engagement Meeting Fee – high	$8,000	$8,000	$8,000	$8,000
21	Community Engagement Meeting Fee – medium	$4,000	$4,000	$4,000	$4,000
22	Community Engagement Meeting Fee - low	$1,000	$1,000	$1,000	$1,000
23	Source Test Review Fee (plan and data review) - complex	$6,000	$6,000	$6,000	$6,000
24	Source Test Review Fee (plan and data review) – moderate	$4,200	$4,200	$4,200	$4,200
25	Source Test Review Fee (plan and data review) - simple	$1,400	$1,400	$1,400	$1,400

AMEND: 340-218-0010

RULE TITLE: Policy and Purpose

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added: (4) DEQ may implement requirements pertaining to toxic air contaminants under OAR chapter 340, division 245 for new and existing sources required to obtain an Oregon Title V Operating Permit by incorporating compliance conditions into a new source's Oregon Title V Operating Permit or by amending an existing source's Oregon Title V Operating Permit through a Toxic Air Contaminant Permit Addendum. A Toxic Air Contaminant Permit Addendum must be incorporated into a source's Oregon Title V Operating Permit upon renewal, reopening, or modification that involves a public notice.

RULE TEXT:

These rules establish a program to implement Title V of the FCAA for the State of Oregon as part of the overall industrial source control program:

(1) All sources subject to this division must have an Oregon Title V Operating Permit that assures compliance by the source with all applicable requirements in effect as of the date of permit issuance.

(2) The requirements of the Oregon Title V Operating Permit program, including provisions regarding schedules for submission and approval or disapproval of permit applications, must apply to the permitting of affected sources under the national acid rain program, except as provided herein.

(3) All sources subject to this division are exempt from the following:

(a) Registration as required by ORS 468A.050 and OAR 340-210-0100 through 340-210-0120; and

(b) Air Contaminant Discharge Permits and attachments, OAR 340 division 216, unless required by 340-216-0020(2) or (4), or 340-224-0010(1).

(A) Oregon Title V Operating Permits do not replace requirements in an Air Contaminant Discharge Permit issued to the source even if the ACDP has expired. For a source operating under a Title V Permit, requirements established in an earlier ACDP remain in effect notwithstanding expiration of the ACDP or the Title V permit, unless a provision expires by its terms or unless a provision is modified or terminated following the procedures used to establish the requirement initially.

(B) Source specific requirements, including, but not limited to TACT, RACT, BACT, and LAER requirements, established in an ACDP must be incorporated into the Oregon Title V Operating Permit and any revisions to those requirements must follow the procedures used to establish the requirements initially.

(4) DEQ may implement requirements pertaining to toxic air contaminants under OAR chapter 340, division 245 for new and existing sources required to obtain an Oregon Title V Operating Permit by incorporating compliance conditions into a new source's Oregon Title V Operating Permit or by amending an existing source's Oregon Title V Operating Permit through a Toxic Air Contaminant Permit Addendum. A Toxic Air Contaminant Permit Addendum must be incorporated into a source's Oregon Title V Operating Permit upon renewal, reopening, or modification that involves a public notice.

(5) Subject to the requirements in this division and OAR 340-200-0010(3), LRAPA is designated by the EQC to implement the rules in this division within its area of jurisdiction.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040, 468A.155, 468A.310

STATUTES/OTHER IMPLEMENTED: ORS 468A

AMEND: 340-218-0020

RULE TITLE: Applicability

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added: (5) Sources subject to this division may also be subject to OAR 340-245-0005 through 340-245-8050.

RULE TEXT:

(1) Except as provided in section (4), this division applies to the following sources:

(a) Any major source;

(b) Any source, including an area source, subject to a standard, limitation, or other requirement under section 111 of the FCAA;

(c) Any source, including an area source, subject to a standard or other requirement under section 112 of the FCAA, except that a source is not required to obtain a permit solely because it is subject to regulations or requirements under section 112(r) of the FCAA;

(d) Any affected source under Title IV; and

(e) Any source in a source category designated by the EQC under this rule.

(2) The owner or operator of a source with an Oregon Title V Operating Permit whose potential to emit later falls below the emission level that causes it to be a major source, and which is not otherwise required to have an Oregon Title V Operating Permit, may submit a request for revocation of the Oregon Title V Operating Permit. Granting of the request for revocation does not relieve the source from compliance with all applicable requirements or ACDP requirements.

(3) Synthetic minor sources.

(a) A source which would otherwise be a major source subject to this division may choose to become a synthetic minor source by limiting its emissions below the emission level that causes it to be a major source through limits contained in an ACDP issued by DEQ under 340 division 216.

(b) The reporting and monitoring requirements of the emission limiting conditions contained in the ACDPs of synthetic minor sources issued by DEQ under OAR 340-216 must meet the requirements of OAR 340-212-0010 through 340-212-0150 and division 214.

(c) Synthetic minor sources who request to increase their potential to emit above the major source emission rate thresholds will become subject to this division and must submit a permit application under OAR 340-218-0040 and obtain an Oregon Title V Operating Permit before increasing emissions above the major source emission rate thresholds.

(d) Synthetic minor sources that exceed the limitations on potential to emit are in violation of OAR 340-218-0020(1)(a).

(4) Source category exemptions.

(a) All sources listed in 340-218-0020(1) that are not major sources, affected sources, or solid waste incineration units required to obtain a permit under section 129(e) of the FCAA are not required to obtain a Title V permit, except non-major sources subject to a standard under section 111 or section 112 of the FCAA promulgated after July 21, 1992 are required to obtain a Title V permit unless specifically exempted from the requirement to obtain a Title V permit in section 111 or 112 standards.

(b) The following source categories are exempted from the obligation to obtain an Oregon Title V Operating Permit:

(A) All sources and source categories that would be required to obtain a permit solely because they are subject to 40 C.F.R. part 60, subpart AAA — Standards of Performance for New Residential Wood Heaters; and

(B) All sources and source categories that would be required to obtain a permit solely because they are subject to 40 C.F.R. part 61, subpart M — National Emission Standard for Hazardous Air Pollutants for Asbestos, section 61.145, Standard for Demolition and Renovation.

(c) Any source listed in OAR 340-218-0020(1) exempt from the requirement to obtain a permit under this rule may opt to apply for an Oregon Title V Operating Permit.

(5) Sources subject to this division may also be subject to OAR 340-245-0005 through 340-245-8050.

(6) Emissions units and Oregon Title V Operating Permit program sources.
DEQ will include in the permit all applicable requirements for all relevant emissions units in the Oregon Title V Operating Permit source, including any equipment used to support the major industrial group at the site.
(7) Fugitive emissions. Fugitive emissions from an Oregon Title V Operating Permit program source must be included in the permit application and the permit in the same manner as stack emissions, regardless of whether the source category in question is included in the list of sources contained in the definition of major source.
(8) Insignificant activity emissions. All emissions from insignificant activities, including categorically insignificant activities and aggregate insignificant emissions, must be included in the determination of the applicability of any requirement.
(9) Oregon Title V Operating Permit program sources that are required to obtain an ACDP, OAR 340 division 216, or a Notice of Approval, OAR 340-210-0205 through 340-210-0250, because of a Title I modification, must operate in compliance with the Oregon Title V Operating Permit until the Oregon Title V Operating Permit is revised to incorporate the ACDP or the Notice of Approval for the Title I modification.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040, 468A.310

STATUTES/OTHER IMPLEMENTED: ORS 468A

AMEND: 340-218-0030

RULE TITLE: Definitions

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added the definitions in division 245 to the applicability of this division.

RULE TEXT:
The definitions in OAR 340-200-0020, 340-204-0010, 340-245-0020, and this rule apply to this division. If the same term is defined in this rule and 340-200-0020, 340-204-0010 or 340-245-0020, the definition in this rule applies to this division.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040, 468A.310

STATUTES/OTHER IMPLEMENTED: ORS 468A

AMEND: 340-218-0110

RULE TITLE: Permit Shield

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added: (5) The permit shield does not apply to conditions and requirements included in a Toxic Air Contaminant Permit Addendum or included in an Oregon Title V Operating Permit under OAR 340-245-0005 through 340-245-8050.

RULE TEXT:

(1) Except as provided in this division, DEQ must expressly include in an Oregon Title V Operating Permit a provision stating that compliance with the conditions of the permit will be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:

(a) Such applicable requirements are included and are specifically identified in the permit; or

(b) DEQ, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

(2) An Oregon Title V Operating Permit that does not expressly state that a permit shield exists will be presumed not to provide such a shield.

(3) Changes made to a permit using OAR 340-218-0150(1)(h) and 340-218-0180 will be shielded.

(4) Nothing in this rule or in any Oregon Title V Operating Permit may alter or affect the following:

(a) The provisions of ORS 468.115 (enforcement in cases of emergency) and ORS 468.035;

(b) The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

(c) The applicable requirements of the national acid rain program, consistent with section 408(a) of the FCAA; or

(d) The ability of DEQ to obtain information from a source under ORS 468.095 (investigatory authority, access to records).

(5) The permit shield does not apply to conditions and requirements included in a Toxic Air Contaminant Permit Addendum or included in an Oregon Title V Operating Permit under OAR 340-245-0005 through 340-245-8050.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040, 468A.310

STATUTES/OTHER IMPLEMENTED: ORS 468A

AMEND: 340-220-0010

RULE TITLE: Purpose, Scope And Applicability

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Changed "user fees" to "specific activity fees"

RULE TEXT:

(1) The purpose of this division is to provide owners and operators of Oregon Title V Operating Permit program sources and DEQ with the criteria and procedures to determine emissions and fees based on air emissions and specific activities.

(2) This division applies to Oregon Title V Operating Permit program sources as defined in OAR 340-200-0020.

(3) The owner or operator may elect to pay emission fees for each regulated pollutant on either actual emissions or permitted emissions.

(4) Sources subject to the Oregon Title V Operating Permit program defined in OAR 340-200-0020, are subject to both an annual base fee established under 340-220-0030 and an emission fee calculated pursuant tounder 340-220-0040.

(5) Sources subject to the Oregon Title V Operating Permit program may also be subject to user specific activity fees (OAR 340-220-0050 and 340-216-0090).

(6) DEQ will credit owners and operators of new Oregon Title V Operating Permit program sources for the unused portion of paid Annual Fees. The credit will begin from the date DEQ receives the Title V permit application.

(7) Subject to the requirements in this division and OAR 340-200-0010(3), LRAPA is designated by the EQC to implement the rules in this division within its area of jurisdiction.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.310, 468A.315

STATUTES/OTHER IMPLEMENTED: ORS 468.065, 468A.315

AMEND: 340-220-0020

RULE TITLE: Definitions

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added the definitions in division 245 to apply to this division.

RULE TEXT:

The definitions in OAR 340-200-0020, 340-204-0010, 340-245-0020, and this rule apply to this division. If the same term is defined in this rule and 340-200-0020, 340-204-0010 or 340-245-0020, the definition in this rule applies to this division. Particulates. For purposes of this division, particulates mean PM10; or if a source's permit specifies particulate matter (PM) and not PM10, then PM; or if a source's permit specifies PM2.5 and neither PM10 nor PM, then PM2.5.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.310, 468A.315

STATUTES/OTHER IMPLEMENTED: ORS 468.065, 468A.315

AMEND: 340-220-0050

RULE TITLE: Specific Activity Fees

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added specific activity fees, annual base fee, and annual emission fees for Cleaner Air Oregon program implementation.

RULE TEXT:
(1) DEQ will assess specific activity fees for an Oregon Title V Operating Permit program source for the period of June 15, 2016 to January 19, 2017 as follows:
(a) Existing source permit revisions:
(A) Administrative* — $484;
(B) Simple — $1,938;
(C) Moderate — $14,536;
(D) Complex — $29,072.
(b) Ambient air monitoring review — $3,876.
(2) DEQ will assess specific activity fees for an Oregon Title V Operating Permit program source as of January 20, 2017 as follows:
(a) Existing source permit revisions:
(A) Administrative* — $488;
(B) Simple — $1,953;
(C) Moderate — $14,653;
(D) Complex — $29,306; and
(b) Ambient air monitoring review — $3,907.
NOTE: *Includes revisions specified in OAR 340-218-0150(1)(a) through (g). Other revisions specified in OAR 340-218-0150 are subject to simple, moderate or complex revision fees.
(3) DEQ will assess the following specific activity fee for an Oregon Title V Operating Permit program source for annual greenhouse gas reporting, as required by OAR 340-215-0060(1) — 12 percent of the following, not to exceed $4,500*:
(a) The applicable annual base fee under OAR 340-220-0030 (for the period of November 15 of the current year to November 14 of the following year); and
(b) The applicable annual emission fee under OAR 340-220-0040.
(4) DEQ will assess the following specific activity fees for an Oregon Title V Operating Permit for Cleaner Air Oregon program implementation, as required by OAR 340-245-0400:
(a) The annual base fee of $2,859; and
(b) The annual emission fee of $21.61 per ton of each regulated pollutant for emissions during the previous calendar year, up to and including 7,000 tons of such emissions per year. The emission fee will be applied to emissions based on the elections made under OAR 340-220-0090.

STATUTORY/OTHER AUTHORITY: ORS 468, 468A

STATUTES/OTHER IMPLEMENTED: ORS 468, 468A

ADOPT: 340-244-8990

RULE TITLE: CAGM Rules Savings Provision

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: CAGM Rules Savings Provision

RULE TEXT:

(1) The owner or operator of a source that meets the applicability requirements of either the Revised Colored Art Glass Manufacturing Facility Rules, OAR 340-245-9000 through 340-245-9080 or the Colored Art Glass Manufacturing Facility Rules, OAR 340-244-9000 through 340-244-9090 must comply with OAR 340-245-9000 through 340-245-9080 and is subject to Cleaner Air Oregon rules, OAR 340-245-0005 through 340-245-8050, except as provided in sections (2) or (3).

(2) In the event that Cleaner Air Oregon rules, OAR 340-245-0005 through 340-245-8050 are subject to judicial challenge and a court order or injunction is issued that stays any rule or rules in OAR 340-245-0005 through 340-245-8050, then the owner or operator must comply with the Colored Art Glass Manufacturing Facility Rules, OAR 340-244-9000 through 340-244-9090 for so long as the court order or injunction that stays any rule or rules in OAR 340-245-0005 through 340-245-8050 remains in effect.

(3) In the event that a court issues an order that invalidates or repeals Cleaner Air Oregon rules, OAR 340-245-0005 through 340-245-8050, in whole or in part, then the owner or operator must comply with the Colored Art Glass Manufacturing Facility Rules, OAR 340-244-9000 through 340-244-9090.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040

STATUTES/OTHER IMPLEMENTED: 468A.025, 468A.040

AMEND: 340-244-9000

RULE TITLE: Colored Art Glass Manufacturing Facility Rules: Applicability and Jurisdiction

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added: [NOTE: Application of these rules is subject to OAR 340-244-8990.]

RULE TEXT:

NOTE: Application of these rules is subject to OAR 340-244-8990.

Notwithstanding OAR 340 division 246, OAR 340-244-9000 through 9090 apply to all facilities in the state of Oregon that:

(1) Manufacture glass from raw materials, or a combination of raw materials and cullet, for:

(a) Use in art, architecture, interior design and other similar decorative applications, or

(b) Use by glass manufacturers for use in art, architecture, interior design and other similar decorative applications; and

(2) Manufacture 5 tons per year or more of glass using raw materials that contain glassmaking HAPs.

(3) Subject to the requirements in this division and OAR 340-200-0010(3), LRAPA is designated by the EQC to implement OAR 340-244-9000 through 9090 within its area of jurisdiction.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040

STATUTES/OTHER IMPLEMENTED: ORS 468A.025, 468A.040

ADOPT: 340-245-0005

RULE TITLE: Purpose and Overview

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Purpose and Overview for Cleaner Air Oregon

RULE TEXT:

(1) This statement of purpose and overview is an aid to understanding the rules in OAR 340-245-0010 through 340-245-8050 that follow, and is not for the purpose of regulation or compliance.

(2) Purpose. The purpose of Oregon's risk-based toxic air contaminant permitting program, known as Cleaner Air Oregon, is to:

(a) Prioritize and protect the health and well-being of all Oregonians with a special focus on sensitive populations such as children;

(b) Analyze public health risk due to toxic air contaminant emissions from industrial and commercial sources based on verified science and data;

(c) Consider similar regulations in other states and jurisdictions and use a science-based, consistent and transparent process for communicating and addressing risks from industrial and commercial emissions of toxic air contaminants, provide regulatory predictability to businesses and the communities they are a part of; and

(d) Reduce exposure to industrial and commercial toxic air contaminant emissions while supporting an environment where businesses and communities can thrive.

(3) Overview.

(a) OAR 340-245-0010, Applicability and Jurisdiction, OAR 340-245-0020, Definitions, and OAR 340-245-0022, Abbreviations and Acronyms, describe which sources the risk-based toxic air contaminant permitting program applies to and specifies definitions, abbreviations and acronyms to be used in the program;

(b) OAR 340-245-0030, Submittal and Payment Deadlines, provides the deadlines by which owners or operators must submit risk assessment compliance information when required by DEQ under this division. That rule generally provides owners or operators more time to submit the more complex assessments;

(c) OAR 340-245-0040, Emissions Inventory, authorizes DEQ to require a source to submit an inventory of all of its toxic air contaminant emissions to be used in a risk assessment and to submit periodic emissions inventory updates;

(d) OAR 340-245-0050, Risk Assessment Procedures, includes requirements and procedures for the owners and operators of sources to undertake any of the four levels of risk assessment to demonstrate compliance and determine what requirements apply. The first level of risk assessment is a conservative estimate that is likely to overestimate risk. As the levels progress from Level 1 to Level 4, the assessments become more complex but also provide increasingly more site-specific and refined risk estimates. An owner or operator can choose to start with any level of risk assessment;

(e) OAR 340-245-0060, Toxic Emissions Units, explains how TEUs are analyzed and regulated in the context of assessing and regulating risk from an entire source. This rule includes the criteria for a TEU to be designated exempt or aggregated because it poses very low risk and the requirements for approval of new and modified TEUs;

(f) OAR 340-245-0100, Toxic Air Contaminant Permit Addenda, includes the procedural requirements for obtaining a permit addendum or a new operating permit under these rules. A Toxic Air Contaminant Permit Addendum will amend the source's Air Contaminant Discharge Permit or Title V Operating Permit until the requirements in the addendum can be incorporated into the source's operating permit, but will remain separate for a source that has a General Air Contaminant Discharge Permit;

(g) OAR 340-245-0110, Source Risk Limits, explains how risk limits will be set in Toxic Air Contaminant Permit Addenda or in operating permits with conditions required under this division;

(h) OAR 340-245-0120, Community Engagement, contains requirements for community engagement meetings and other aspects of community engagement;

(i) OAR 340-245-0130, Risk Reduction Plan Requirements, specifies how an owner or operator of an existing source

must develop a plan to reduce risk, if required to do so, because the source risk exceeds the TBACT Level or the Risk Reduction Level. Risk can be reduced using a variety of methods as long as they are enforceable as permit conditions and achieve the required level of risk reduction. Provisions for Voluntary Risk Reduction are included in this rule;
(j) OAR 340-245-0140, Pollution Prevention, explains how the owner or operator of a source must perform a pollution prevention analysis when required under OAR 340-245-0130;
(k) OAR 340-245-0150, Postponement of Risk Reduction, specifies how an owner or operator of a source may request postponement of risk reduction due to financial hardship;
(l) OAR 340-245-0200, Risk Estimates, explains how the owner or operator of a source must perform the calculations required in this division. This rule explains how calculations should be rounded to evaluate compliance with Source Risk Limits;
(m) OAR 340-245-0210, Modeling and Risk Assessment Work Plan Requirements, contains air quality modeling and work plan requirements for owners or operators of sources that are required to assess risk;
(n) OAR 340-245-0220, TBACT and TLAER Procedures, explains how the owner or operator of a source must perform, respectively, a Toxics Best Available Control Technology or Toxics Lowest Achievable Emission Rate analysis;
(o) OAR 340-245-0230, Toxic Air Contaminant Monitoring Requirements, allows an owner or operator of a source to perform air monitoring to determine actual concentrations of toxic air contaminants in the ambient air around a source;
(p) OAR 340-245-0300 and 340-245-0310, Toxicity Reference Values and Process for Updating Lists of Regulated Toxic Air Contaminants and Their Risk-Based Concentrations, describe the list of authoritative sources that publish toxicity information that the EQC considers, upon the recommendation of DEQ, in consultation with OHA, to determine the RBCs and the process of how the RBCs may be updated;
(q) OAR 340-245-0400, Cleaner Air Oregon Fees, specifies the permitting fees that apply to sources subject to the rules in this division; and
(r) OAR 340-245-8000 through 340-245-8050, Tables, include the established Risk Action Levels, lists of the regulated toxic air contaminants, the values used to develop Risk-Based Concentrations and the Level 1 Risk Assessment Tool.
(4) The long-term goal of Cleaner Air Oregon is to achieve a 50% reduction in the number of existing sources posing either an excess cancer risk of more than 25 in a million or a Hazard Index of more than 1 by the year 2034.
(5) This program supplements requirements in OAR chapter 340, division 244, Oregon Federal Hazardous Air Pollutant Program, and division 246, Oregon State Air Toxics Program. This program includes four levels of risk assessment and allows sources to choose any level of assessment to assess risk.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, §§ 3 and 13

STATUTES/OTHER IMPLEMENTED: ORS 468.065, 468A.010, 468A.015, 468A.025, 468A.035, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, §§ 2, 3, 6, and 13

ADOPT: 340-245-0010

RULE TITLE: Applicability and Jurisdiction

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Applicability and Jurisdiction for Cleaner Air Oregon

RULE TEXT:

(1) This division applies in all areas of the state and to all sources, excluding sources located on tribal and federal lands that are not subject to regulation by DEQ.

(2) DEQ may consult with OHA as necessary on the implementation of the rules in this division.

(3) Subject to the requirements in this division and OAR 340-200-0010(3), Lane Regional Air Protection Agency is designated by the EQC to implement the rules in this division within its area of jurisdiction.

(4) This division applies to entire sources as well as to individual TEUs.

(5) The owner or operator of a source subject to this division may also be subject to other air quality rules including but not limited to those listed below, either in relation to its obligations under this division or independent of this division.

(a) OAR chapter 340, division 209, Public Participation;

(b) OAR chapter 340, division 210, Stationary Source Notification Requirements;

(c) OAR chapter 340, division 212, Stationary Source Testing and Monitoring;

(d) OAR chapter 340, division 214, Stationary Source Reporting Requirements;

(e) OAR chapter 340, division 216, Air Contaminant Discharge Permits, including fees;

(f) OAR chapter 340, division 218, Oregon Title V Operating Permits;

(g) OAR chapter 340, division 220, Oregon Title V Operating Permit Fees;

(h) OAR chapter 340, division 224, New Source Review;

(i) OAR chapter 340, division 226, General Emission Standards;

(j) OAR chapter 340, division 244, Oregon Federal Hazardous Air Pollutant Program; and

(k) OAR chapter 340, division 246, Oregon State Air Toxics Program.

(6) Disclaimer. Compliance with this division does not authorize the emission of any toxic air contaminant in violation of any other federal, state, or local law or regulation, or exempt the owner or operator from any other applicable law or regulation.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, §§ 3 and 13

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2, 3, 6, and 13

ADOPT: 340-245-0020

RULE TITLE: Definitions

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Definitions for Division 245: Cleaner Air Oregon

RULE TEXT:

The definitions in OAR 340-200-0020, 340-204-0010 and this rule apply to this division. If the same term is defined in this rule and OAR 340-200-0020 or 340-204-0010, the definition in this rule applies to this division.

(1) “ABEL” means a computer model developed by EPA that evaluates a corporation's or partnership's ability to afford compliance costs, cleanup costs or civil penalties. ABEL is available upon request from DEQ.

(2) “Actual toxic air contaminant emission rate” means:

(a) For an existing source, the toxic air contaminant emissions rate from the source’s actual production; or

(b) For a new or reconstructed source, the toxic air contaminant emissions rate from the reasonably anticipated actual production by the new or reconstructed source.

(3) “Acute” means evaluated over a 24-hour period or day.

(4) “Acute exposure location” means an exposure location outside the boundary of a source being modeled for daily average concentrations of a toxic air contaminant, and that is:

(a) A chronic exposure location; or

(b) A location where people may spend several hours of one day.

(5) “AERMOD” is the EPA approved steady-state air dispersion model, specified in 40 CFR part 51, Appendix W, "Guidelines on Air Quality Models (Revised)," that is the primary model used for the analysis of ambient concentrations for regulatory compliance. AERMOD uses a fully developed set of meteorological and terrain data. AERMOD stands for American Meteorological Society/Environmental Protection Agency Regulatory Model. AERMOD is available upon request from DEQ.

(6) “AERSCREEN” is the EPA approved screening dispersion model, specified in 40 CFR part 51, Appendix W, "Guidelines on Air Quality Models (Revised)," based on AERMOD. The model uses conservative screening meteorology to produce estimates of "worst-case" concentration estimates that are equal to or greater than the estimates produced by AERMOD. AERSCREEN stands for American Meteorological Society/Environmental Protection Agency Regulatory Screening Model. AERSCREEN is available upon request from DEQ.

(7) “Aggregate TEU Level” means the risk action levels, as identified under that name in OAR 340-245-8010 Table 1, that aggregated TEUs may not exceed, based on a calculation of the cumulative risk of all aggregated TEUs.

(8) “Aggregated TEUs” means all of a source’s TEUs that are identified by an owner or operator with total cumulative risk less than the Aggregate TEU Level. A TEU that is identified as one of the aggregated TEUs is referred to in the singular as an aggregated TEU.

(9) “Area of impact” means the geographic area where risk is determined to be above the applicable Risk Action Level, and is determined by AERMOD or other comparable model approved by DEQ.

(10) “Chronic” means evaluated over a one-year period or longer.

(11) “Chronic exposure location” means an exposure location outside the boundary of a source being modeled for annual average concentrations of a toxic air contaminant, and can be either:

(a) A residential exposure location; or

(b) A non-residential exposure location.

(12) “Community Engagement Level” means the risk action levels, as identified under that name in OAR 340-245-8010 Table 1, at which DEQ will conduct community engagement.

(13) “Construction permit” means a Construction Air Contaminant Discharge Permit issued under OAR chapter 340, division 216, or a Standard Air Contaminant Discharge Permit used for approval of Type 3 or 4 changes under OAR chapter 340, division 210.

(14) “De minimis source” means a source whose excess cancer risk, chronic noncancer risk and acute noncancer risk

estimates are each less than or equal to the Source Permit Level in OAR 340-245-8010 Table 1 when calculated based on the source's capacity, as determined under OAR 340-245-0050(7).
(15) "DEQ notice date" means the date that DEQ sends a notice to an owner or operator that a risk assessment is required.
(16) "Environmental Justice" means equal protection from environmental and health hazards, and meaningful public participation in decisions that affect the environment in which people live, work, learn, practice spirituality, and play. Environmental Justice communities include minority and low-income communities, tribal communities, and other communities traditionally underrepresented in the public process.
(17) "Excess cancer risk" means the probability of developing cancer resulting from exposure to toxic air contaminant emissions from a TEU or an entire source under an applicable exposure scenario, over and above the background rate of cancer. Excess cancer risk is expressed in terms of "X" in a million, and means that approximately "X" number of additional cases of cancer would be expected in a population of one million people subject to the applicable exposure scenario.
(18) "Exempt source" means a source at which all TEUs are exempt TEUs or a source that has no TEUs that emit toxic air contaminants, as determined under OAR 340-245-0050(6).
(19) "Exempt TEU" means a TEU that DEQ has determined is exempt under OAR 340-245-0060(3). An exempt TEU is not required to comply with any other requirements of this division, other than those applicable to qualify as an exempt TEU and OAR 340-245-0060(4)(c)(A).
(20) "Existing source" means a source that:
(a) Commenced construction before November 16, 2018; or
(b) Submitted all necessary applications to DEQ under OAR 340 divisions 210 or 216 before November 16, 2018, and all such applications were deemed complete by DEQ.
(21) "Existing TEU" means a TEU that is not a new or modified TEU.
(22) "Exposure location" means a location where people, including sensitive populations, actually live or normally congregate and will be exposed to a toxic air contaminant present in the air, and thus be the location of an air quality modeling receptor at which toxic air contaminant concentrations and risk are evaluated. Exposure locations are associated with exposure scenarios and identified based on allowed land use zoning, except as allowed under OAR 340-245-0210(1)(a)(F) or when DEQ has sufficient information to determine that an area is being used in a manner contrary to its land use zoning.
(23) "Exposure scenario" means a set of assumptions about how a population is exposed to toxic air contaminants. Included in the assumptions are the type of people exposed (e.g., children or adults), and the frequency and duration of exposure associated with the scenario (e.g., residential or occupational use). Exposure scenarios are associated with exposure locations.
(24) "Fixed capital cost" means the capital needed to purchase and construct all the depreciable components of a source.
(25) "Hazard Index number" or "Hazard Index," as defined in Oregon Laws 2018, chapter 102, section 2, means a number equal to the sum of the hazard quotients attributable to toxic air contaminants that have noncancer effects on the same target organs or organ systems.
(26) "Hazard quotient," as defined in Oregon Laws 2018, chapter 102, section 2, means a calculated numerical value that is used to evaluate noncancer health risk from exposure to a single toxic air contaminant. The calculated numerical value is the ratio of the air concentration of a toxic air contaminant to the noncancer Risk-Based Concentration at which no serious adverse human health effects are expected to occur.
(27) "Immediate Curtailment Level" means the risk action levels, as identified under that name in OAR 340-245-8010 Table 1, at which an existing source will not be permitted to postpone risk reduction under OAR 340-245-0160.
(28) "INDIPAY" means a computer model developed by EPA that evaluates an individual's ability to afford compliance costs, cleanup costs or civil penalties. INDIPAY is available upon request from DEQ.
(29) "Inhalation Unit Risk" means the upper-bound lifetime excess cancer risk estimated to result from continuous exposure to a toxic air contaminant at a concentration of 1 μg/m^3 in air. The interpretation of inhalation unit risk would

be as follows: if unit risk = 2 × 10 per μg/m³, then two excess cancer cases (upper bound estimate) are expected to develop per one million people if exposed daily for 70 years to one microgram of the toxic air contaminant per cubic meter of air.
(30) “Multipathway” means consideration of exposure pathways in addition to inhalation of chemicals in air, such as incidental ingestion and dermal contact with toxic air contaminants migrating to soil and water.
(31) “MUNIPAY” means a computer model developed by EPA that evaluates a municipality's or regional utility's ability to afford compliance costs, cleanup costs or civil penalties. MUNIPAY is available upon request from DEQ.
(32) “New or modified TEU” means a TEU at an existing source where one of the following criteria is met:
(a) Approval to construct or operate under OAR 340-210-0205 through 340-210-0250 was not required for the TEU, and construction commenced on or after November 16, 2018;
(b) Approval to construct or operate under OAR 340-210-0205 through 340-210-0250 is or was required for the TEU, and the owner or operator submitted the application on or after November 16, 2018; or
(c) Approval to construct or operate under OAR 340-210-0205 through 340-210-0250 was required for the TEU, but the owner or operator did not obtain the approval as required, and construction commenced on or after the following, as applicable:
(A) For Type 1 changes under OAR 340-210-0225, 10 days before November 16, 2018;
(B) For Type 2 changes under OAR 340-210-0225, 60 days before November 16, 2018;
(C) For Type 3 changes under OAR 340-210-0225, 120 days before November 16, 2018; and
(D) For Type 4 changes under OAR 340-210-0225, 240 days before November 16, 2018;
(d) With respect to a modification to a TEU, approval to construct or operate refers to approval to construct or operate the modification.
(33) “New source” means a source that is not an existing source.
(34) “Noncancer risk” means the chance of noncancer harmful effects to human health resulting from exposure to toxic air contaminant emissions from a TEU or an entire source under an applicable exposure scenario. There are two types of noncancer risk, chronic and acute. Noncancer risk is expressed numerically using the Hazard Index. Below a Hazard Index of 1, adverse noncancer health effects are unlikely, and above a Hazard Index of 1, adverse noncancer health effects become more likely.
(35) “Nonresident” means people who regularly spend time at a location but do not reside there. This includes, but is not limited to, children attending schools and daycare facilities and adults at workplaces.
(36) “Nonresidential exposure location” means an exposure location outside the boundary of a source where people may reasonably be present for a few hours several days per week, possibly over a period of several years, and that is zoned for uses that do not allow residential use. A nonresidential exposure location includes non-residential worker exposure locations and non-residential child exposure locations.
(37) “Notification area” means the area of impact or the area within a distance of 1.5 kilometers of a source, whichever is greater.
(38) “Operating permit” means a General, Basic, Simple or Standard Air Contaminant Discharge Permit under OAR chapter 340, division 216 or an Oregon Title V Operating Permit under OAR chapter 340, division 218.
(39) “Owner or operator” means any person who owns, leases, operates, controls, or supervises a stationary source.
(40) “Permit Denial Level” means the risk action levels, as identified under that name in OAR 340-245-8010 Table 1, at which DEQ will not approve an operating permit for a new source, as provided in OAR 340-245-0100(5).
(41) “Pollution Prevention” means any practice that reduces, eliminates, or prevents pollution at its source, as described in OAR 340-245-0140.
(42) “Reconstructed,” as defined in Oregon Laws 2018, chapter 102, section 2, means an individual project is constructed at an air contamination source that, once constructed, increases the hourly capacity of any changed equipment to emit and where the fixed capital cost of new components exceeds 50 percent of the fixed capital cost that would have been required to construct a comparable new source.
(43) “Residential exposure location” means an exposure location outside the boundary of a source where people may

reasonably be present for most hours of each day over a period of many years, including individual houses and areas that are zoned to allow residential use either exclusively or in conjunction with other uses.
(44) “Risk” means the chance of harmful effects to human health resulting from exposure to a toxic air contaminant emitted from a TEU or an entire source under an applicable exposure scenario. For the purpose of these rules, risk includes three types of risk: excess cancer risk, chronic noncancer risk, and acute noncancer risk.
(45) “Risk Action Level,” as identified under OAR 340-245-8010 Table 1, means the levels of risk posed by a source or a TEU at which particular requirements of these rules will apply, or the owner or operator will be required to take specific action, depending on the risk posed to the area of impact as described in these rules.
(46) “Risk assessment” means a procedure that identifies toxic air contaminant emissions from a source or a TEU and calculates the risk from those emissions. This term specifically refers to the procedures under OAR 340-245-0050(8) through (11) and may include the results of air monitoring as allowed under OAR 340-245-0050(1)(c)(B). The procedures are designated Level 1 through Level 4, respectively, with complexity of a risk assessment increasing as the level numeration increases, (i.e., a Level 1 Risk Assessment is the simplest and a Level 4 Risk Assessment is the most complex).
(47) “Risk limit” means a condition or requirement in a permit or permit addendum that serves to limit the risk from a source or part of a source. Such conditions or requirements may include, but are not restricted to, limits on risk from the source or part of a source, limits on emissions of one or more toxic air contaminants, limits on emissions from one or more TEUs, or limits on source operation. A Source Risk Limit established under OAR 340-245-0110 is a risk limit.
(48) “Risk-Based Concentration” or “RBC” means the concentration of a toxic air contaminant listed in OAR 340-245-8040 Table 4 that, for the designated exposure scenario, results in an excess cancer risk of one in one million, or a noncancer hazard quotient of one for either chronic exposure or acute daily exposure.
(49) “Risk Reduction Level” means the risk action levels, as identified under that name in OAR 340-245-8010 Table 1, at which the owner or operator of an existing source will be required to have an approved Risk Reduction Plan under OAR 340-245-0130.
(50) “Sensitive Population” means people with biological traits that may magnify the harmful effects of toxic air contaminant exposures that include individuals undergoing rapid rates of physiological change, such as children, pregnant women and their fetuses, and individuals with impaired physiological conditions, such as elderly people with existing diseases such as heart disease or asthma. Other sensitive populations include those with lower levels of protective biological mechanisms due to genetic factors and those with increased exposure rates.
(51) “Significant TEU” means a TEU that is not an exempt TEU and is not an aggregated TEU.
(52) “Source Permit Level” means the risk action levels, as identified under that name in OAR 340-245-8010 Table 1, below which a source will be considered a de minimis source.
(53) “Source risk” means the cumulative risk from all toxic air contaminants emitted by all significant TEUs at a source except that the source risk calculation for a de minimis source will include consideration of all of the source’s TEUs, including both significant TEUs and aggregated TEUs.
(54) “TBACT Level” means the risk action levels, as identified under that name in OAR 340-245-8010 Table 1, below which an existing source will be considered to be in compliance with these rules without having to further reduce its risk, and above which will require the owner or operator of the existing source either to demonstrate that its significant TEUs meet TBACT or to further reduce risk from the source, under OAR 340-245-0050(1)(c).
(55) “TLAER Level” means the risk action levels, as identified under that name in OAR 340-245-8010 Table 1, below which a new or reconstructed source will be considered to be in compliance with these rules, and above which will require the owner or operator of the new or reconstructed source to demonstrate that its significant TEUs meet TLAER, under OAR 340-245-0050(2)(b).
(56) “Toxic air contaminant” means an air pollutant that has been determined by the EQC to cause, or reasonably be anticipated to cause, adverse effects to human health and is listed in OAR 340-245-8020 Table 2.
(57) “Toxic Air Contaminant Permit Addendum” means written authorization that incorporates the requirements under this division into a permit by amending an Air Contaminant Discharge Permit or a Title V Operating Permit, or in the

case of a source assigned to a General Air Contaminant Discharge Permit, means written authorization imposing requirements under this division as additional source-specific permit conditions.

(58) “Toxicity Reference Value” or “TRV” means the following:

(a) For carcinogens, the air concentration corresponding to a one in one million excess cancer risk, calculated by dividing one in one million (0.000001) by the inhalation unit risk specific to that toxic air contaminant as established by the authoritative body that establishes the value, and as approved by the EQC; and

(b) For noncarcinogens, the air concentration above which relevant effects might occur to humans following environmental exposure, and below which is reasonably expected that effects will not occur.

(59) “Toxics Best Available Control Technology” or “TBACT” means a toxic air contaminant emission limitation or emission control measure or measures based on the maximum degree of reduction of toxic air contaminants that is feasible, determined using the procedures in OAR 340-245-0220.

(60) “Toxics emissions unit” or “TEU” means an emissions unit or one or more individual emissions producing activities that emit or have the potential to emit any toxic air contaminant, as designated under OAR 340-245-0060.

(61) “Toxics Lowest Achievable Emission Rate” or “TLAER” means that rate of emissions which reflects the most stringent emission limitation which is achieved in practice by a source in the same class or category of sources as the proposed source, determined using the procedures in OAR 340-245-0220.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, §§ 3 and 13

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2, 3, 6, and 13

ADOPT: 340-245-0022

RULE TITLE: Abbreviations and Acronyms

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Abbreviations and Acronyms for Division 245: Cleaner Air Oregon

RULE TEXT:

As used in this division:

(1) “HI” means Hazard Index.

(2) “IUR” means Inhalation Unit Risk.

(3) “m3” means cubic meter.

(4) “NESHAP” means National Emission Standards for Hazardous Air Pollutants, established by the Environmental Protection Agency under section 112 of the Clean Air Act, 42 U.S.C. §7412.

(5) “NSPS” means New Source Performance Standards, established by the Environmental Protection Agency under section 111(b) of the Clean Air Act, 42 U.S.C. §7411(b).

(6) “OHA” means Oregon Health Authority.

(7) “PTE” means Potential to Emit.

(8) “RBC” means Risk-Based Concentration.

(9) “TBACT” means Toxics Best Available Control Technology.

(10) “TEU” means Toxics Emissions Unit.

(11) “TLAER” means Toxics Lowest Achievable Emission Rate.

(12) “TRV” means Toxicity Reference Value.

(13) “µg” means microgram.

(14) “g/m3” means micrograms per cubic meter.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, §§ 3 and 13

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2, 3, 6, and 13

ADOPT: 340-245-0030

RULE TITLE: Submittal and Payment Deadlines

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Submittal and Payment Deadlines for division 245: Cleaner Air Oregon

RULE TEXT:

(1) When required to demonstrate compliance with OAR 340-245-0040, 340-245-0050 or 340-245-0060, the owner or operator of a source must submit to DEQ all information and specific activity fees under OAR 340-216-8030 Table 3 required by, and by the deadlines specified in, subsections (a) through (j), as applicable, except as allowed under section (2). The owner or operator of a new or reconstructed source must also submit the following information but the time deadlines in subsections (a) through (j) do not apply.

(a)(A) An emissions inventory under OAR 340-245-0040 that will be used in the risk assessment must be submitted to DEQ no later than 90 days after the DEQ notice date; and

(B) For an existing source, if the owner or operator is submitting DEQ-approved source test data to supplement the emissions inventory, the updated emissions inventory must be submitted to DEQ no later than 150 days after the DEQ notice date. The owner or operator must also submit a modeling protocol and Level 3 or Level 4 Risk Assessment work plan prior to or concurrent with the submission of source test data, if applicable;

(b) The modeling protocol under OAR 340-245-0210 must be submitted to DEQ no later than 30 days after receiving DEQ approval of the emissions inventory under subsection (a);

(c) The Level 3 or Level 4 Risk Assessment work plan under OAR 340-245-0210 must be submitted to DEQ no later than 60 days after receiving DEQ approval of the updated emissions inventory under subsection (a);

(d) A Level 1 or Level 2 Risk Assessment under OAR 340-245-0050(8) or (9) must be submitted to DEQ no later than 60 days after DEQ approval of the modeling protocol required under subsection (b);

(e) A Level 3 Risk Assessment under OAR 340-245-0050(10) must be submitted to DEQ no later than 120 days after DEQ approval of the Level 3 Risk Assessment work plan required under subsection (c);

(f) A Level 4 Risk Assessment under OAR 340-245-0050(11) must be submitted to DEQ no later than 150 days after DEQ approval of the Level 4 Risk Assessment work plan required under subsection (c);

(g) If risk from the source is greater than the Immediate Curtailment Level, a report describing the immediate action taken by the owner or operator to reduce risk to below the Immediate Curtailment Level must be submitted to DEQ no later than seven days after DEQ approval of a Level 3 Risk Assessment or a Level 4 Risk Assessment under subsection (e) or (f);

(h) A Toxic Air Contaminant Monitoring Plan under OAR 340-245-0230 and an application for a Toxic Air Contaminant Permit Addendum under OAR 340-245-0100 must be submitted to DEQ no later than 30 days after DEQ approval of a Level 3 Risk Assessment or a Level 4 Risk Assessment under subsection (e) or (f);

(i) A Risk Reduction Plan under OAR 340-245-0130 and an application for a Toxic Air Contaminant Permit Addendum under OAR 340-245-0100 must be submitted to DEQ no later than 120 days after DEQ approval of a Level 3 or a Level 4 Risk Assessment under subsection (e) or (f); and

(j) For owners or operators that are not required to submit a Risk Reduction Plan and who do not choose to perform air monitoring, an application for a Toxic Air Contaminant Permit Addendum under OAR 340-245-0100 must be submitted to DEQ within 30 days after DEQ approval of any level of risk assessment, whichever is applicable.

(2) Upon receipt of a submittal described in section (1), DEQ will review the submittal and if DEQ determines that any additional information, corrections, or updates are required in order to approve the submittal, then DEQ will provide the owner or operator with a written request to provide such information by a date certain.

(3) An owner or operator may request an extension of time from a deadline established in section (1) or section (2) by providing DEQ with a written request no fewer than 15 days prior to the submittal deadline. DEQ may grant an extension based on the following criteria:

(a) The owner or operator has demonstrated progress in completing the submittal; and

(b) A delay is necessary, for good cause shown by the owner or operator, related to obtaining more accurate or new data, performing additional analyses, or addressing changes in operations or other key parameters, any of which are likely to have a substantive impact on the outcomes of the submittal.
(4) If DEQ determines it is not able to approve the owner or operator's submittal, or if the owner or operator does not timely provide additional information or corrections requested by DEQ, then in addition to any other remedies available, DEQ may:
(a) With sufficient factual basis, modify the information provided by the owner or operator, approve it as modified, and the owner or operator must pay the document modification fee in OAR 340-216-8030 Table 3; or
(b) Inform the owner or operator of the deficiency, and provide the owner or operator with a revised deadline to submit the needed information.
(5) Recordkeeping. The owner or operator of a source that provides DEQ with any information related to a risk assessment completed under this rule must retain all of its records related to the risk assessment for five years from the date the information is submitted to DEQ.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, §§ 3 and 13

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2, 3, 6, and 13

ADOPT: 340-245-0040

RULE TITLE: Emissions Inventory

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Emissions Inventory rule for Division 245: Cleaner Air Oregon

RULE TEXT:

(1) Individual emissions inventory for risk assessment. For the purpose of assessing risk, DEQ may require the owner or operator of any permitted or unpermitted source to submit an emissions inventory of all toxic air contaminants emitted by the source listed in OAR 340-245-8020 Table 2. The owner or operator must assess risk from the toxic air contaminants in OAR 340-245-8040 Table 4 and must address uncertainty in a Level 3 or Level 4 Risk Assessment for the toxic air contaminants in OAR 340-245-8020 Table 2 that do not have RBCs. The owner or operator must submit the emissions inventory electronically to DEQ no later than 90 days after the DEQ notice date unless DEQ allows additional time under OAR 340-245-0030.

(2) Periodic state-wide emissions inventory.

(a) Once every three years, DEQ may require the owners and operators of all permitted and unpermitted sources to submit an updated toxic air contaminant emissions inventory of all toxic air contaminants emitted by the source listed in OAR 340-245-8020 Table 2. The reporting year will generally correspond with EPA's National Emission Inventory reporting year (2020, 2023, 2026, etc.);

(b) The owner or operator must submit its updated emissions inventory electronically to DEQ no later than 60 days after the date that DEQ sends a written request by electronic mail or regular U.S. mail, to the owner or operator, unless DEQ allows additional time under OAR 340-245-0030; and

(c) DEQ may also require the owner or operator of a source that has previously submitted a toxic air contaminant emissions inventory to submit an updated emissions inventory if DEQ discovers or learns additional information that indicates that the source's emissions have changed since it completed its most recent emissions inventory.

(3) Emissions inventory requirements.

(a) When required to submit an emissions inventory, the owner or operator must submit:

(A) A list of TEUs that emit toxic air contaminants. The owner or operator must include exempt TEUs but does not have to calculate toxic air contaminant emissions from the exempt TEUs. The list of TEUs that emit toxic air contaminants should not be limited to what is listed in a source's operating permit but should include all operations at the source that emit toxic air contaminants;

(B) A list of production, fuel and material usage rates that are used to calculate toxic air contaminant emissions for each TEU for the following:

(i) For any emissions inventory, the actual production or usage in the calendar year preceding the year DEQ's written request is made, or for new or reconstructed sources, the reasonably anticipated actual production or usage;

(ii) For an emissions inventory required under section (1), potential production or usage based on the following:

(I) Annual production and usage that are used to calculate the Source Risk Limit if the owner or operator chooses to be permitted based on a requested PTE or risk limit; or

(II) Potential production or usage based on capacity that is used to prove the source is de minimis if the owner or operator chooses to be permitted as a de minimis source;

(iii) For an emissions inventory required under section (1), potential production or usage for the projected maximum day. The owner or operator must use knowledge of process to calculate the maximum daily production and process rates;

(C) Material balance information using Safety Data Sheets (formerly Material Safety Data Sheets) and Technical Data Sheets, as applicable, for VOC-containing materials used in any process; and

(D) Operating schedule (hours/day, days/year, seasonal variability) for the source, including schedules for each TEU, if different, for the calendar year preceding the year DEQ's written request is made and the year based on a requested PTE or risk limit;

(b) Owners or operators of sources with Title V, Standard and Simple Air Contaminant Discharge Permits, and unpermitted sources when DEQ so requires, must also submit:
(A) A list of all toxic air contaminants emitted by the source; and
(B) The amount of each toxic air contaminant emitted from each TEU, reported as maximum mass emitted per 24 hour period for each toxic air contaminant that has an acute RBC, and as mass emitted per year for each toxic air contaminant that has an annual RBC or has no RBC, with the emission factors used or material balance information, as appropriate, for the following:
(i) For any emissions inventory, actual emissions for the calendar year preceding the year DEQ's written request is made, or for new or reconstructed sources, emissions based on the reasonably anticipated actual production or usage; and
(ii) For an emissions inventory required under section (1), emissions based on the following, and including startup and shutdown emissions for sources required to do so under OAR 340-214-0310:
(I) Requested PTE or risk limit used to calculate the Source Risk Limit if the owner or operator chooses to be permitted based on a requested PTE or risk limit; or
(II) Capacity that is used to prove the source is de minimis if the owner or operator chooses to be permitted as a de minimis source;
(iii) For an emissions inventory required under section (1), maximum daily production. The owner or operator must use knowledge of process to calculate the maximum daily emissions;
(C) The name of each resource used to obtain toxic air contaminant emission factors or methodologies used to calculate emissions (e.g., AP-42 or WebFIRE, California Air Toxic Emission Factors, source test data, continuous monitoring data, etc.).
(4) Review of toxic air contaminant emissions inventory reports. DEQ shall use the procedures in OAR 340-245-0030 to review any emissions inventory in determining its completeness, consider extensions requests, and request additional information, if needed.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0050

RULE TITLE: Risk Assessment Procedures

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Risk Assessment Procedures for Division 245: Cleaner Air Oregon

RULE TEXT:

(1) Existing source.

(a) When notified in writing by DEQ, at DEQ's discretion, the owner or operator of an existing source with an operating permit must either demonstrate that it is an exempt source or:

(A) Assess risk from the source using any of the Level 1 through Level 4 Risk Assessment procedures in sections (8) through (11);

(B) Assess risk from the source using the emissions inventory submitted under OAR 340-245-0040(1); and

(C) Follow the applicable calculation procedures under OAR 340-245-0200.

(b) If the owner or operator of an existing source proposes to modify the source in a way that would require compliance under OAR chapter 340, division 224, "New Source Review," excluding actions described in OAR 340-224-0010(2)(b) and (d)(B) that require compliance only as Type B State New Source Review, then the owner or operator must perform a risk assessment and demonstrate compliance under this division and must include its compliance demonstration under this division with its application submitted under OAR chapter 340, division 224.

(c) The owner or operator must demonstrate compliance with paragraph (A), (B), (C) or (D), and also comply with paragraph (E), if applicable.

(A) The owner or operator must demonstrate that the source is a de minimis source by following the procedure in section (7), or demonstrate that the risk from the source is less than or equal to the TBACT Level. The owner or operator of a source whose risk is less than or equal to the TBACT Level must apply for a Toxic Air Contaminant Permit Addendum under OAR 340-245-0100 with Source Risk Limits or an application that modifies the existing permit in a manner that ensures that the risk from the source will be less than or equal to the TBACT Level.

(B) Toxic air contaminant monitoring.

(i) Before the owner or operator of a source may begin air monitoring, the owner or operator must complete and submit to DEQ a Level 3 or Level 4 Risk Assessment and comply with the applicable requirements of OAR 340-245-0230.

(I) If the Level 3 or Level 4 Risk Assessment calculates risk from the source that exceeds an excess cancer risk of 200 in one million or a Hazard Index of 20, then the owner or operator may not delay submission of an application for a Toxics Air Contaminant Permit Addendum and subsequent implementation of the approved Risk Reduction Plan prepared under OAR 340-245-0130; and

(II) If the Level 3 or Level 4 Risk Assessment calculates risk from the source that does not exceed an excess cancer risk of 200 in one million or a Hazard Index of 20, then DEQ shall issue a Toxics Air Contaminant Permit Addendum addressing only toxic air contaminant monitoring requirements, including a reporting and compliance schedule for implementing the Toxic Air Contaminant Monitoring Plan required under OAR 340-245-0230;

(ii) Upon completion and DEQ approval of toxic air contaminant monitoring in compliance with OAR 340-245-0230, the owner or operator must use the toxic air contaminant monitoring results, in association with other applicable, relevant data to determine compliance requirements under paragraph (c)(A), (C), or (D) and apply for a Toxic Air Contaminant Permit Addendum modification under OAR 340-245-0100;

(C) TBACT compliance. If the risk from the source is greater than the TBACT Level and less than or equal to the Risk Reduction Level, and all significant TEUs meet TBACT under OAR 340-245-0220, then the owner or operator must apply for a Toxic Air Contaminant Permit Addendum under OAR 340-245-0100 that includes Source Risk Limits that ensure the risk from the source will be less than or equal to the Risk Reduction Level; or

(D) Risk Reduction Plan. The owner or operator may demonstrate compliance with this paragraph under either subparagraph (i), (ii), or (iii), whichever is applicable:

(i) If the risk from the source is greater than the TBACT Level and the owner or operator can make physical, operational

or process changes to reduce the risk to less than or equal to the TBACT Level, then the owner or operator must apply for a Toxic Air Contaminant Permit Addendum under OAR 340-245-0100 that includes a Risk Reduction Plan under OAR 340-245-0130 and Source Risk Limits that ensure that the risk from the source will be less than or equal to the TBACT Level;
(ii) If the risk from the source is greater than the TBACT Level and less than or equal to the Risk Reduction Level, but not all significant TEUs meet TBACT under OAR 340-245-0220, then the owner or operator must either reduce risk below the TBACT Level under subparagraph (i) or apply for a Toxic Air Contaminant Permit Addendum under OAR 340-245-0100 that includes a Risk Reduction Plan under OAR 340-245-0130 to meet TBACT on all significant TEUs and Source Risk Limits that ensure that the risk from the source will be less than or equal to the Risk Reduction Level; or
(iii) If the risk from the source is greater than the Risk Reduction Level, then the owner or operator must apply for a Toxic Air Contaminant Permit Addendum under OAR 340-245-0100 that includes a Risk Reduction Plan under OAR 340-245-0130 with additional risk reduction measures and Source Risk Limits that ensure that the risk from the source will be less than or equal to the Risk Reduction Level;
(E) If the risk from the source is greater than the Immediate Curtailment Level, then the owner or operator must take immediate action to reduce risk to below the Immediate Curtailment Level.
(2) New or reconstructed source.
(a)(A) The owner or operator of a proposed new or reconstructed source that is required to obtain a Simple or Standard Air Contaminant Discharge Permit, and that is not an exempt source, must also perform a risk assessment, and if applicable, apply for a Toxic Air Contaminant Permit Addendum concurrently with an application for a permit under OAR chapter 340, division 216, before a permit is issued. If DEQ approves the applications, then DEQ will incorporate the toxic air contaminant permit conditions directly into the new Simple or Standard Air Contaminant Discharge Permit and will not issue a separate Toxic Air Contaminant Permit Addendum.
(B) DEQ may require the owner or operator of a proposed new or reconstructed source that is required to obtain a Basic or a General Air Contaminant Discharge Permit to perform a risk assessment and demonstrate compliance with this division, and if applicable, apply for a Toxic Air Contaminant Permit Addendum concurrently with an application for a permit under OAR chapter 340, division 216.
(i) If DEQ approves the applications for a source that will have a Basic Air Contaminant Discharge Permit, then DEQ will incorporate the toxic air contaminant permit conditions directly into the new operating permit.
(ii) If DEQ approves the applications for a source that will be assigned to a General Air Contaminant Discharge Permit, then DEQ will issue a Toxic Air Contaminant Permit Addendum as a source-specific addendum to the new operating permit that will not be incorporated into the operating permit.
(C) Any owner or operator of a proposed new or reconstructed source that is required to perform a risk assessment must:
(i) Assess risk from the source using any of the Level 1 through Level 4 Risk Assessment procedures in sections (8) through (11);
(ii) Assess risk from the source using the emissions inventory submitted under OAR 340-245-0040(1); and
(iii) Follow the applicable calculation procedures under OAR 340-245-0200.
(b) The owner or operator of a new or reconstructed source must demonstrate compliance with either paragraph (A) or (B).
(A) The owner or operator must demonstrate that the source is a de minimis source by following the procedure in section (7), or demonstrate that the risk from the source is less than or equal to the TLAER Level. The owner or operator of a source whose risk is less than or equal to the TLAER Level must apply for a Toxic Air Contaminant Permit Addendum under OAR 340-245-0100 or an operating permit with Source Risk Limits that ensure that the risk from the source will be less than or equal to the TLAER Level; or
(B) TLAER compliance. If the risk from the new or reconstructed source is greater than the TLAER Level and less than or equal to the Permit Denial Level, and all significant TEUs meet TLAER under OAR 340-245-0220, then the owner or operator must apply for a Toxic Air Contaminant Permit Addendum under OAR 340-245-0100 or an operating permit

that includes Source Risk Limits that ensure the risk from the source will be less than or equal to the Permit Denial Level.
(3) Other sources. When notified in writing by DEQ, the owner or operator of a source that is not subject to sections (1) or (2) must perform a risk assessment using any of the Level 1 through Level 4 Risk Assessment procedures in sections (8) through (11). DEQ may notify such a source after determining through an investigation or file review that the source may emit toxic air contaminants in quantities that may cause the source's risk to exceed the Source Permit Level.
(4) A risk assessment for a source must include all TEUs at the source, as of the date that the owner or operator submits an application under OAR 340-245-0100 for a Toxic Air Contaminant Permit Addendum, except for the following:
(a) Exempt TEUs;
(b) Gas combustion TEUs, as provided under section (5); and
(c) Aggregated TEUs, except when the owner or operator is requesting approval as a de minimis source under section (7).
(5) Gas combustion exemption. This exemption applies to TEUs that solely combust natural gas, propane, liquefied petroleum gas, and, when approved by DEQ in response to a written request by an owner or operator, pretreated landfill gas and pretreated digester gas or biogas. Risk from toxic air contaminants emitted from such combustion must be calculated and reported in the risk assessment, but the risk from such toxic air contaminants may be treated as follows:
(a) At each exposure location, risk must be reported as two values:
(A) The risk from toxic air contaminants emitted from such combustion of natural gas, propane, liquefied petroleum gas, pretreated landfill gas and pretreated digester gas or biogas ; and
(B) The risk from all other toxic air contaminant emissions;
(b) At each exposure location, the risk from toxic air contaminants emitted solely from the combustion of natural gas, propane, liquefied petroleum gas, pretreated landfill gas and pretreated digester gas or biogas may be excluded from the total risk for the purpose of determining compliance with Risk Action Levels and may be omitted from any requirements determined under a Risk Reduction Plan under OAR 340-245-0130 if good air pollution control practices are followed; and
(c) Notwithstanding subsections (a) and (b), an owner or operator must include in its risk assessment any toxic air contaminants that are emitted from materials that are contacted by the flame or combustion gases from the combustion of natural gas, propane, liquefied petroleum gas, pretreated landfill gas or pretreated digester gas or biogas. Materials that may emit toxic air contaminants include but are not limited to VOCs combusted in thermal oxidizers and materials dried in direct-contact dryers.
(6) Exempt Source Determination.
(a) To be approved as an exempt source, no later than 30 days after the date that DEQ sends a notice under subsection (1)(a) or with submittal of an application for a new or reconstructed source under subsection (2)(a), the owner or operator must submit information to DEQ that demonstrates that all TEUs at the source are exempt TEUs; and
(b) Upon receipt of a submittal from an owner or operator under subsection (a), DEQ will:
(A) Review the submissions and, if approved, write a memo to the DEQ file for the source summarizing the assessment that will be:
(i) Incorporated into the review report of a permitted source upon permit issuance or renewal; or
(ii) Maintained in the file and tracked in a DEQ database.
(B) Follow the Category I public notice procedure in OAR chapter 340, division 209, prior to approving or denying the request to be considered an exempt source; and
(C) Keep records of exempt sources in a database for the emissions inventory and future communication if RBCs change or other information about risk is received such that toxic air contaminant emissions must be reevaluated.
(7) De minimis Source Determination.
(a) To be approved as a de minimis source, the owner or operator must assess risk at the capacity of each TEU, including aggregated TEUs, using any of the Level 1 through Level 4 Risk Assessment procedures in sections (8) through (11). The

owner or operator must submit to DEQ the following:
(A) Information that demonstrates that the source does not exceed the Source Permit Level if the owner or operator is not required to operate and maintain control devices to remain a de minimis source;
(B) Information that demonstrates that the existing source does not exceed the Source Permit Level if the owner or operator is required to operate and maintain control devices to remain a de minimis source, and the existing operating permit includes necessary conditions to operate and maintain the control devices; or
(C) An application for a Toxic Air Contaminant Permit Addendum that demonstrates that the source does not exceed the Source Permit Level if the owner or operator is required to operate and maintain control devices to remain a de minimis source, and the source is a new source or the existing operating permit does not include necessary conditions to operate and maintain the control devices;
(b) Upon receipt of a submittal from an owner or operator under subsection (a), DEQ will:
(A) Review the submissions and, if approved, either:
(i) Write a memo to the DEQ file for the source summarizing the assessment that will be:
(I) Incorporated into the review report of a permitted source upon permit issuance or renewal; or
(II) Maintained in the file and tracked in a DEQ database for sources that meet the criteria in paragraph (a)(A) or (B); or
(ii) Issue a Toxic Air Contaminant Permit Addendum or operating permit, for sources that meet the criteria in paragraph (a)(C);
(B) Follow the Category I public notice procedure in OAR chapter 340, division 209, prior to approving or denying the request to be considered a de minimis source; and
(C) Keep records of de minimis sources in a database for the emissions inventory and future communication if RBCs change or other information about risk is received such that toxic air contaminant emissions must be reevaluated.
(8) Level 1 Risk Assessment. To complete a Level 1 Risk Assessment, the owner or operator must comply with OAR 340-245-0210(1) and then assess risk by using the Level 1 Risk Assessment Tool in OAR 340-245-8050 Table 5 to determine toxic air contaminant concentrations at approved exposure locations.
(a) The owner or operator must follow the directions for using the Level 1 Risk Assessment Tool described in OAR 340-245-0200(2);
(b) For sources with multiple stacks, stacks must either be considered individually using OAR 340-245-8050 Tables 5A and 5B with risk calculated as the summation of individual stack risk, or the stacks combined into a single stack in a manner approved by DEQ and risk calculated for that single stack;
(c) A Level 1 Risk Assessment will not be approved if the source is located near elevated terrain that DEQ determines could invalidate the assumptions used to develop the Level 1 Risk Assessment Tool; and
(d) If DEQ concludes that the source complies with this division based on a Level 1 Risk Assessment, then DEQ will follow the Category II public notice procedure in OAR chapter 340, division 209 for issuance of the Toxic Air Contaminant Permit Addendum.
(9) Level 2 Risk Assessment. To complete a Level 2 Risk Assessment, the owner or operator must comply with OAR 340-245-0210(1) and then assess risk by submitting a modeling protocol, conducting modeling, and performing a risk assessment. The owner or operator must use AERSCREEN or comparable screening model approved by DEQ to determine air concentrations at approved exposure locations. If DEQ concludes that the source complies with this division based on a Level 2 Risk Assessment, then DEQ will follow the Category II public notice procedure in OAR chapter 340, division 209 for issuance of the Toxic Air Contaminant Permit Addendum.
(10) Level 3 Risk Assessment. To complete a Level 3 Risk Assessment, the owner or operator must comply with OAR 340-245-0210 and then assess risk by submitting a modeling protocol and a risk assessment work plan, conducting modeling, and performing a risk assessment. The owner or operator must use AERMOD or comparable model approved by DEQ to determine air concentrations at approved exposure locations. If DEQ concludes that the source complies with this division based on a Level 3 Risk Assessment, then DEQ will follow the Category III public notice procedure in OAR chapter 340, division 209 for issuance of the Toxic Air Contaminant Permit Addendum.
(11) Level 4 Risk Assessment. To complete a Level 4 Risk Assessment, the owner or operator must comply with OAR

340-245-0210 and then assess risk by submitting a modeling protocol and a risk assessment work plan, conducting modeling, and performing a risk assessment. The owner or operator must use AERMOD or comparable model approved by DEQ to determine air concentrations at approved exposure locations. The risk assessment must include toxicity and bioaccumulation assessments, and may include proposed modifications to default exposure assumptions as specified in OAR 340-245-0210. If DEQ concludes that the source complies with this division based on a Level 4 Risk Assessment, then DEQ will follow the Category III public notice procedure in OAR chapter 340, division 209 for issuance of the Toxic Air Contaminant Permit Addendum.

(12) DEQ may require the owner or operator of a source to conduct and submit an additional multipathway risk evaluation for any level of risk assessment if DEQ determines that airborne deposition of chemicals could be important for scenarios not included in the default multipathway adjustment factor assumptions used in the original risk assessment for the source.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0060

RULE TITLE: Toxic Emissions Units

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Toxic Emissions Units in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) TEU Designation. An owner or operator must designate TEUs in the same manner as the owner or operator designated emissions units listed in a source's operating or construction permit, if they are designated, unless the owner or operator requests a different designation in writing and DEQ approves that request in writing. The request for a new or a different TEU designation must be compatible with the following:

(a) TEUs may not be designated in such a way as to avoid the requirements of this division;

(b) An individual emissions-producing activity that exhausts through multiple stacks or openings must be designated as an individual TEU;

(c) Where multiple emissions-producing activities exhaust through a common opening, exhaust stack or emissions control device, each emissions producing activity may be considered a single TEU or may be considered separate TEUs; and

(d) The list of TEUs should not be limited to what is listed in a source's operating permit but should include all processes and activities that emit toxic air contaminants.

(2) Aggregated TEUs.

(a) An owner or operator must designate the same TEUs as aggregated TEUs for all of the different types of risk: excess cancer risk, chronic noncancer risk and acute noncancer risk;

(b) After an owner or operator has designated the source's aggregated TEUs in a modeling protocol or risk assessment work plan submitted in writing to DEQ, the owner or operator must request approval to change its designation; and

(c) An owner or operator may request approval to construct a new aggregated TEU or modify an existing aggregated TEU if the total risk from the aggregated TEUs, including the new or modified TEU, remains less than or equal to the Aggregate TEU Level.

(3) Exempt TEUs. A TEU is an exempt TEU if:

(a)(A) The TEU is listed in the definition of Categorically Insignificant Activity in OAR 340-200-0020, excluding subsection (a), of that definition, and except that a maintenance and repair shop that is defined as categorically insignificant under OAR 340-200-0020 will not be considered an exempt TEU if DEQ makes a finding that a particular maintenance and repair shop emits an amount of toxic air contaminants that may create a risk to human health; or

(B) The owner or operator of the TEU has demonstrated to DEQ's satisfaction that the TEU is not likely to emit toxic air contaminants in more than trace amounts. The demonstration may include any information the owner or operator considers relevant, including but not limited to:

(i) The chemical make-up of the materials handled or processed in the TEU; the type of handling or processing in the TEU, including whether or not the handling or processing is likely to alter the chemical make-up of the materials; and the chemical make-up or likely chemical make-up of the materials emitted by the TEU; and

(ii) Any toxic air contaminant present in materials emitted are only trace contaminants that are not intentionally present in the materials handled, processed or produced in the TEU, and are present in such small amounts that they would typically not be listed in a Safety Data Sheet, product data sheet or equivalent document.

(4) New or modified TEU requirements.

(a) The owner or operator of a source that has not been notified in writing by DEQ that they are required to submit a risk assessment and that proposes to construct a new or modified TEU must comply with OAR 340-210-0205 through 340-210-0250 before beginning construction of the new or modified TEU;

(b) The owner or operator of a source that has submitted a Toxic Air Contaminant Permit Addendum application but has not yet been issued a Toxic Air Contaminant Permit Addendum or an operating permit in compliance with this division and that proposes to construct a new or modified TEU must do the following before beginning construction of the new

or modified TEU:
(A) Comply with OAR 340-210-0205 through 340-210-0250; and
(B) Submit an updated Toxic Air Contaminant Permit Addendum application;
(c) The owner or operator of a source that has been issued a Toxic Air Contaminant Permit Addendum or an operating permit in compliance with this division must follow the applicable procedures in paragraphs (c)(A) through (C) and must pay to DEQ all applicable specific activity fees under OAR 340-216-8030 Table 3.
(A) New or modified exempt TEUs. If the proposed new or modified exempt TEU is subject to National Emission Standards for Hazardous Air Pollutants or New Source Performance Standards requirements, then the owner or operator must request approval of a new or modified exempt TEU under this rule and under OAR 340-210-0205 through 340-210-0250;
(B) New or modified aggregated TEUs. The owner or operator must request approval of a new or modified TEU to be an aggregated TEU by demonstrating that the risk from the aggregated TEUs, including the new or modified TEU, will be less than or equal to the Aggregate TEU Level. The owner or operator may use any risk assessment procedure, Level 1 through Level 4, under OAR 340-245-0050(8) through (11) for the TEU. The owner or operator must receive DEQ approval of the modeling protocol and the risk assessment work plan under OAR 340-245-0210 before performing the risk assessment, if applicable.
(i) If the owner or operator can demonstrate compliance using a Level 1 Risk Assessment in OAR 340-245-0050(8), the owner or operator may begin construction or modification of the TEU 10 days after DEQ receives the approval request or on the date that DEQ approves the proposed construction in writing, whichever is sooner, unless DEQ notifies the owner or operator in writing no later than 10 days after DEQ receives the request that the proposed construction or modification is not approvable as an aggregated TEU; or
(ii) If the owner or operator uses a Level 2, Level 3 or Level 4 Risk Assessment under OAR 340-245-0050(9) through 340-245-0050(11) to demonstrate that the new or modified TEU may be approved as an aggregated TEU, then the owner or operator may not begin construction of the new or modified aggregated TEU until DEQ has issued a Toxic Air Contaminant Permit Addendum or operating permit that approves the TEU;
(C) New or modified significant TEUs.
(i) The owner or operator must request approval of a new or modified significant TEU by submitting an application to modify its Toxic Air Contaminant Permit Addendum or operating permit that includes the following:
(I) Information necessary to assess the risk from the new or modified significant TEU using any risk assessment procedure, Level 1 through Level 4, under OAR 340-245-0050(8) through (11). The owner or operator may add the risk from the new or modified TEU to prior results from the latest risk assessment for the source rather than updating the entire risk assessment for the source. The owner or operator must receive DEQ approval of the modeling protocol and the risk assessment work plan under OAR 340-245-0210 before performing the risk assessment, if applicable;
(II) Information necessary to verify that the new or modified significant TEU meets TLAER, if the source risk is greater than the TLAER Level for a new or reconstructed source, or meets TBACT, if the source risk is greater than the TBACT Level for an existing source;
(ii) The owner or operator of a proposed new or modified significant TEU may not begin construction of the new or modified significant TEU until DEQ has issued a Toxic Air Contaminant Permit Addendum or an operating permit that approves the TEU;
(iii) If a source that was previously determined to be an exempt source under OAR 340-245-0050(6) or a de minimis source under OAR 340-245-0050(7) will no longer be an exempt source or a de minimis after the new or modified significant TEU is constructed, the owner or operator must follow the procedures in this section and apply for a Toxic Air Contaminant Permit Addendum under OAR 340-245-0100. Such an owner or operator may not begin construction of the new or modified significant TEU until DEQ has issued a Toxic Air Contaminant Permit Addendum or an operating permit that approves the TEU; and
(iv) In conjunction with seeking authorization for the construction of a new or modified significant TEU, if the owner or operator makes simultaneous changes to existing TEUs other than the new or modified significant TEU for the purpose

of reducing source risk, then the owner or operator may not begin operation of the new or modified significant TEU until DEQ has issued a Toxic Air Contaminant Permit Addendum or operating permit that approves all such changes to the other TEUs;

(d) DEQ will not approve an application for a Toxic Air Contaminant Permit Addendum required under this rule for a new or modified TEU if:

(A) The TEU does not comply with this rule; or

(B) The source does not comply with OAR 340-245-0050, if required.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0100

RULE TITLE: Toxic Air Contaminant Permit Addenda

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Toxic Air Contaminant Permit Addenda in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) Purpose and Intent.

(a) A Toxic Air Contaminant Permit Addendum and conditions included in an operating permit to comply with this division are used to:

(A) Authorize the owner or operator of a source to construct or modify TEUs that discharge toxic air contaminants;

(B) Authorize the owner or operator of a source to discharge toxic air contaminants subject to enforceable permit requirements, limitations, and conditions, including to:

(i) Establish enforceable risk limits for the purpose of limiting the risk from toxic air contaminants from a source;

(ii) Approve, modify and implement a Risk Reduction Plan and require the owner or operator of a source to implement the ongoing requirements; and

(iii) Approve, modify and implement a Voluntary Risk Reduction Plan and require the owner or operator of a source to implement the ongoing requirements;

(C) Approve, modify and implement a Toxic Air Contaminant Monitoring Plan; and

(D) Approve postponement of risk reduction;

(b) A Toxic Air Contaminant Permit Addendum:

(A) For the owner or operator of a source with a General Air Contaminant Discharge Permit, is issued as a source-specific addendum to the operating permit and will not be incorporated into the operating permit;

(B) For the owner or operator of a source with an operating permit other than a General Air Contaminant Discharge Permit:

(i) Is issued to the owner or operator as an addendum to the operating permit and will be incorporated into the operating permit at the time of a permit modification or renewal that subjects all permit conditions to the Category II or Category III public notice procedure in OAR chapter 340, division 209; or

(ii) Will not be issued when the toxic air contaminant permit conditions are incorporated directly into an operating permit after such changes were subject to a public notice period under OAR chapter 340, division 209.

(C) May not be issued to an owner or operator before the source has obtained an operating permit; and

(D) May not be issued in lieu of an otherwise required operating or construction permit.

(2) A Toxic Air Contaminant Permit Addendum amends a source's operating permit, but if the terms of such addendum and the operating permit contain any limit or restriction applicable to the same emissions or processes, then the owner or operator must comply with the more stringent limit or restriction.

(3) Application Requirements. An owner or operator requesting a new or modified Toxic Air Contaminant Permit Addendum must submit an application that includes all of the information specified in subsections (3)(a) through (r) as well as the relevant information required under OAR 340-245-0050. The owner or operator must submit all required information by the submittal deadlines in OAR 340-245-0030, certified by a responsible official that the information submitted is true, accurate, and complete. The owner or operator must submit to DEQ at least two paper copies and one electronic copy of the application.

(a) Identifying information, including the name of the person that owns or operates the source, the owner's or operator's mailing address, the source address, and a description of the nature of business being operated, the name, phone number and email address of the primary contact at the source who is responsible for compliance with the permit, the permit number for an existing source, and the SIC or NAICS code of the source;

(b) The name of a person authorized to receive requests from DEQ for additional data and information;

(c) A description of the source's production processes and a flow chart of each process;

(d) A plot plan showing the location and height of air contaminant emissions locations at the source. The plot plan must

also indicate the nearest residential and commercial properties;
(e) The type and quantity of all fuel used by the source;
(f) For owners or operators of sources with Basic or General Air Contaminant Discharge Permits, an emissions inventory required under OAR 340-245-0040(3)(a);
(g) For owners or operators of sources with Title V, Standard, or Simple Air Contaminant Discharge Permits, an emissions inventory required under OAR 340-245-0040(3)(a) and (b);
(h) Estimated efficiency of air pollution control devices in place at the source under present or anticipated operating conditions;
(i) Where the operation or maintenance of air pollution control devices and emission reduction processes can be adjusted or varied from the highest reasonable efficiency and effectiveness, information necessary for DEQ to establish operational and maintenance requirements under OAR 340-226-0120(1) and (2);
(j) The final DEQ-approved modeling protocol required under OAR 340-245-0210;
(k) The final DEQ-approved Level 3 or Level 4 Risk Assessment work plan required under OAR 340-245-0210, if applicable;
(l) The final DEQ-approved risk assessment required under OAR 340-245-0050;
(m) Information sufficient to demonstrate that a TEU meets TBACT or TLAER under OAR 340-245-0220, if applicable;
(n) For sources whose risk is greater than or equal to the TBACT Level before any additional risk reduction measures are considered, a pollution prevention analysis that meets the requirements of OAR 340-245-0140;
(o) The final DEQ-approved Risk Reduction Plan under OAR 340-245-0130, if applicable;
(p) The final DEQ-approved postponement of risk reduction under OAR 340-245-0150, if applicable;
(q) The final DEQ-approved Toxic Air Contaminant Monitoring Plan under OAR 340-245-0230, if applicable; and
(r) Any other information requested by DEQ.
(4) Application review and processing.
(a) DEQ shall use the procedures in OAR 340-245-0030 to review an application submitted under this rule to determine its completeness, consider extension requests, and request additional information, if needed;
(b) If DEQ determines that a Toxic Air Contaminant Permit Addendum is not required during preliminary review of an application or at any time during application processing, DEQ will notify the applicant in writing;
(c) After DEQ considers an application complete, DEQ may hold a public meeting to inform the community about the application and receive feedback;
(d) When DEQ has determined it is prepared to approve an application for a Toxic Air Contaminant Permit Addendum or operating permit, DEQ will prepare a review report and either draft Toxic Air Contaminant Permit Addendum or a draft operating permit with conditions that comply with this division;
(e) Prior to initiating any public notice procedure required under OAR 340-245-0050, DEQ will provide a copy of the draft Toxic Air Contaminant Permit Addendum or operating permit to the owner or operator and will provide the owner or operator 14 days to review and provide feedback to DEQ. DEQ may grant an extension for review of the draft permit addendum or operating permit for good cause shown by the owner or operator. Following consideration of comments from the owner or operator, DEQ may revise the draft Toxic Air Contaminant Permit Addendum or operating permit before placing it on public notice; and
(f) Public notice requirements for issuance of a Toxic Air Contaminant Permit Addendum or operating permit with conditions required under this division.
(A) The minimum public notice procedures for issuance are described in the applicable sections of OAR 340-245-0050. DEQ may enhance the public notice procedures at its discretion;
(B) When required to provide public notice, DEQ will make available to the public the draft Toxic Air Contaminant Permit Addendum or operating permit and a review report that sets forth the legal and factual basis for the permit conditions, including references to the applicable regulatory provisions, the source's most recent risk assessment results, and the level of risk assessment that the source used to perform the risk assessment; and
(C) Prior to determining whether to issue, revise, or deny a Toxic Air Contaminant Permit Addendum or an operating

permit with conditions required under this division, DEQ must consider public comments it receives under the applicable public notice procedures that are relevant to the draft permit addendum or operating permit and within the scope of DEQ's authority.
(5) DEQ may not issue a Toxic Air Contaminant Permit Addendum or an operating permit for a source if:
(a) The owner or operator of a proposed new or reconstructed source does not comply with OAR 340-245-0050, 340-245-0060 and this rule, as applicable;
(b) DEQ determines that the emissions from a proposed new or reconstructed source would result in risk at any exposure location that will exceed a Permit Denial Level; or
(c) DEQ determines that the emissions from an existing source would result in risk at any exposure location that will exceed the Immediate Curtailment Risk Action Level.
(6) Content of a Toxic Air Contaminant Permit Addendum or Operating Permit Conditions. A Toxic Air Contaminant Permit Addendum or an operating permit with conditions required under this division must:
(a) Identify the name and location of the source and its owner or operator;
(b) Include a list of all TEUs that are subject to a Toxic Air Contaminant Permit Addendum or operating permit conditions required under this division, including all exempt TEUs and aggregated TEUs;
(c) Include permit conditions that contain Source Risk Limits to implement the requirements specified in OAR 340-245-0110;
(d) Establish or revise any operating limits or conditions necessary under this division, including annual or short-term toxic air contaminant emission limits, conditions to limit risk from TEUs or the entire source, and operational limits for toxic air contaminants, including limits or levels that are equipment specific, process specific, TEU-specific, or that apply to the entire source;
(e) Include testing, monitoring, recordkeeping, and reporting requirements sufficient to determine compliance with all limits or requirements in the Toxic Air Contaminant Permit Addendum or the operating permit conditions required under this division, as necessary;
(f) Include a requirement to obtain applicable construction approval under OAR division 210 or 216;
(g) Include complaint line information by providing an email address or phone number for the source's owner or operator, or its representative;
(h) At the discretion and option of the owner or operator, include a description of the owner's or operator's plans to continue its community engagement activities after DEQ has completed its notification requirements;
(i) Include a compliance schedule, as necessary, to ensure compliance or progress toward compliance with the requirements in this division;
(j) Include other limits and requirements, as necessary, to ensure compliance with this division; and
(k) Include a condition that requires the owner or operator to provide an annual report to DEQ.
(7) Reporting Requirements. The owner or operator must submit a report at least annually to DEQ to demonstrate compliance with all conditions required under this division that are included in a Toxic Air Contaminant Addendum or an operating permit. The report must include:
(a) Twice-annual progress reports required under a Risk Reduction Plan;
(b) Periodic TBACT or TLAER update reports;
(c) Whether there has been a change in zoning within 1.5 kilometers of the source and, if so, whether that change increases the source risk;
(d) Documentation showing that, for any area that the source demonstrated in its risk assessment was not used in a manner allowed by the land use zoning applicable to the area, the area continues to not be used in the manner allowed by the land use zoning applicable to the area; and
(e) Any other information required to be reported by a condition in the Toxic Air Contaminant Permit Addendum or an operating permit.
(8) Procedures to Modify Toxic Air Contaminant Permit Conditions. If the Toxic Air Contaminant Permit Addendum has not been incorporated into the operating permit, the following procedures must be followed for modifications to

existing Toxic Air Contaminant Permit Addenda. Otherwise, the owner or operator must apply for an operating permit modification under OAR 340 division 216 or 218 using the procedures in this division for the following modifications:
(a) Modifications initiated by the owner or operator. An owner or operator must submit an application for modification before making any change described in paragraphs (a)(A) through (J) and that would result in a violation of a condition of the Toxic Air Contaminant Permit Addendum or an operating permit condition required under this division;
(A) Construct or modify a TEU that is:
(i) Exempt under OAR 340-245-0060(4)(c)(A);
(ii) De minimis under OAR 340-245-0060(4)(c)(B)(ii); or
(iii) Significant under OAR 340-245-0060(4)(c)(C);
(B) Modify an established Source Risk Limit or any risk limits or conditions necessary under this division;
(C) Request an extension to a compliance date. The owner or operator must submit the application for extension at least 90 days before the compliance date specified in the current Toxic Air Contaminant Permit Addendum or operating permit. Criteria for granting any extension include the following:
(i) The owner or operator has a clear plan towards meeting the Source Risk Limit;
(ii) The owner or operator has made demonstrated progress towards meeting the requirements that are the subject of the extension request; and
(iii) The owner or operator has submitted documentation proving that the delay is due to reasonably unforeseeable events beyond their control;
(D) Modify any physical feature of the source that was used as a modeling parameter in the risk assessment and that affects the results of the risk assessment, such as but not limited to fence lines, building heights, stack heights, or relocation of a TEU or stack by more than 10 meters;
(E) Terminate postponement of risk reductions;
(F) Modify the risk assessment because the zoning in the area has changed in a way that could increase risk;
(G) Modify the risk assessment because land use has changed in a way that could increase risk in areas where land uses have been excluded from the risk assessment under OAR 340-245-0210(1)(a)(F);
(H) Modify air monitoring requirements; and
(I) Revise or update the approved risk assessment. An owner or operator must promptly submit a corrected risk assessment upon becoming aware of the need for corrections or additional information. This requirement is in addition to, and not in lieu of, a DEQ decision to commence an enforcement action against such owner or operator for such violation, as DEQ determines appropriate under the circumstances;
(b) Modifications required by DEQ. When notified in writing by DEQ, the owner or operator must update or correct its previous risk assessment and submit an application for a modification if:
(A) DEQ determines through an investigation or file review that a previous risk assessment contains errors or omissions that, when corrected, could increase the risk;
(B) An RBC in OAR 340-245-8040 Table 4 has been added or lowered that would substantially impact risk, implementation, or effectiveness of the Risk Reduction Plan;
(C) Risk assessment procedures change that would substantially impact risk, implementation, or effectiveness of the Risk Reduction Plan; and
(D) Results of toxic air contaminant monitoring done by the owner or operator show higher risk than any risk determined by the risk assessment;
(c) The owner or operator must submit a complete application for modification, and pay the applicable modification fees in subsection (g). If DEQ has provided notice to the owner or operator under subsection (b), then the owner or operator must submit the necessary information required under section (3) to DEQ 90 days after the date that DEQ sends such written notice;
(d) DEQ shall use the procedures in OAR 340-245-0030 to review a modification application submitted under this rule to determine its completeness, consider extension requests, and request additional information, if needed;
(e) When updating or correcting a risk assessment, the owner or operator must consult with DEQ and must follow the

applicable risk assessment requirements in OAR 340-245-0050;
(f) When DEQ receives an application to modify a Toxic Air Contaminant Permit Addendum or operating permit, DEQ will use the following public notice procedures:
(A) Category III public notice procedures in OAR chapter 340, division 209 if the change will:
(i) Increase source risk;
(ii) Establish a Risk Reduction Plan for termination of postponement of risk reduction;
(iii) Extend any compliance dates in a compliance schedule established in the permit; or
(iv) Significantly change proposed control methods in a Risk Reduction Plan;
(B) Category I public notice procedures in OAR chapter 340, division 209 for non-technical modifications and basic technical modifications that do not increase risk; or
(C) Category II public notice procedures in OAR chapter 340, division 209 for all other types of permit changes not described in paragraphs (A) and (B);
(g) The fee for a modification is:
(A) The Complex Technical Modification fee under OAR 340-216-8020 Table Part 4 for modifications under paragraph (f)(A);
(B) The Basic Technical Modification fee or the Non-Technical Permit Modification fee under OAR 340-216-8020 Table 2 Part 4 for modifications under paragraph (f)(B); or
(C) The Moderate Technical Modification fee under OAR 340-216-8020 Table 2 Part 4 for modifications under paragraph (f)(C).

STATUTORY/OTHER AUTHORITY: 468.065, ORS 468.020, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, §§ 3 and 13

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2, 3, 13 and 14

ADOPT: 340-245-0110

RULE TITLE: Source Risk Limits

NOTICE FILED DATE: 06/26/2018

RULE SUMMARY: Source Risk Limits in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) The purpose of a Source Risk Limit is to limit the chronic and acute risk from a source that emits toxic air contaminants. DEQ will establish Source Risk Limits based on the results of the risk assessment performed under OAR 340-245-0050. DEQ will establish Source Risk Limits separately for each of the following risk categories: chronic excess cancer risk, chronic noncancer risk and acute noncancer risk.

(a) Source Risk Limits that are based on chronic risk apply on a rolling 12 consecutive month basis and limit the source's chronic risk or annual PTE, as applicable;

(b) Source Risk Limits that are based on acute risk apply on a daily basis and limit the source's acute risk or daily PTE, as applicable; and

(c) DEQ may establish multiple chronic or acute noncancer Source Risk Limits for an individual source on a case-by-case basis to account for risk to different target organs or organ systems.

(2) Establishing Source Risk Limits. For new, reconstructed, and existing sources whose risk is greater than the Source Permit Level, DEQ may set Source Risk Limits based on either:

(a) The level modeled in the risk assessment required under OAR 340-245-0050 using the emissions inventory submitted under OAR 340-245-0040(1); or

(b) For existing sources, a level other than the modeled level that reflects a reasonable estimate of risk from the source taking into account projected operations and other factors, including but not limited to:

(A) Applicable State and Federal limitations;

(B) Established PTE;

(C) Past operations; and

(D) Recent trends in emission rates.

(3) An owner or operator may propose the type of risk limit that will be included in the source's Toxic Air Contaminant Permit Addendum or operating permit, such as a limit on emissions or source operation, or a limit on risk.

(a) Source Risk Limits will generally be based on conditions imposed on emissions, operational parameters, production, fuel or raw material usage, as necessary, to maintain risk below the Source Risk Limits; or

(b) Source Risk Limits may be expressed in terms of risk, such as X per million for excess cancer risk or Hazard Index of Y, where X and Y indicate a numerical value.

(4) If a compliance schedule to reduce risk is included in the Toxic Air Contaminant Permit Addendum or operating permit for an existing source, the owner or operator must comply with all the requirements in the compliance schedule and maintain proposed risk below the Immediate Curtailment Level, if applicable.

(5) Determining Compliance with Source Risk Limits.

(a) Frequency. The owner or operator must maintain compliance with the Source Risk Limit on the frequency specified in the Toxic Air Contaminant Permit Addendum or operating permit as follows:

(A) For excess cancer risk, using the annual actual toxic air contaminant emission rates emitted by the source that have cancer RBCs determined on a 12-rolling month basis, compliance must be maintained monthly, unless less frequent compliance requirements are specified in a source's Toxic Air Contaminant Permit Addendum or operating permit;

(B) For chronic noncancer risk, total or separated for each target organ or organ system, using the annual actual toxic air contaminant emission rates emitted by the source that contribute to each chronic noncancer risk determined on a 12-rolling month basis, compliance must be maintained monthly, unless less frequent compliance requirements are specified in a source's Toxic Air Contaminant Permit Addendum or operating permit; and

(C) For acute noncancer risk, total or separated for each target organ or organ system, using the maximum daily actual toxic air contaminant emission rates emitted by the source that contribute to each acute noncancer risk determined for

the preceding day, compliance must be maintained daily, unless less frequent compliance requirements are specified in a source's Toxic Air Contaminant Permit Addendum or operating permit;

(b) Compliance records maintenance method.

(A) If the Source Risk Limit is based on emissions, production, or other limits on source operation, the owner or operator must monitor emissions, production, or other limits on source operation, using one or more of the following methods:

(i) Continuous emissions monitors;

(ii) Material balance calculations;

(iii) Emissions calculations using approved emission factors and process information;

(iv) Production or process parameter monitoring; and

(v) Other methods approved by DEQ;

(B) If the Source Risk Limit is based on risk, the owner or operator must calculate ongoing risk in a manner specified in the source's Toxic Air Contaminant Permit Addendum or operating permit.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0120

RULE TITLE: Community Engagement

NOTICE FILED DATE: 06/26/2018

RULE SUMMARY: Community Engagement in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) The purpose of community engagement is to inform the community and provide a mechanism for input to DEQ's work with sources that are called into the program. The requirements of this rule are intended to ensure that consideration of environmental justice is appropriately emphasized throughout implementation of this division.

(2) Notification. When public notice is required under this division, DEQ will, at a minimum, notify persons with an address in the notification area. DEQ will provide a 30 day notice of any public meeting by sending an email through GovDelivery or mailing written notice via U.S. mail to such persons. DEQ may enhance the public notice procedures at its discretion.

(3) Public meetings.

(a) DEQ may hold one or more public meetings for new, reconstructed, modified and existing sources if the owner or operator requests Source Risk Limits greater than any of the Community Engagement Levels except as allowed by OAR 340-245-0130(6). DEQ, in consultation with persons who live or spend time within the notification area, may determine that another forum for communication, as listed in section (4), in lieu of or in addition to a public meeting, is appropriate;

(b) If DEQ does not hold a public meeting, DEQ will provide written notice via U.S. mail to all persons with an address in the notification area that the owner or operator has requested Source Risk Limits greater than any of the Community Engagement Levels except as allowed by OAR 340-245-0130(6);

(c) DEQ may also hold one or more public meetings for any other reporting, monitoring or permitting action associated with activities under this division;

(d) In planning and holding public meetings, DEQ will consider:

(A) A location that is Americans with Disabilities Act compliant, is convenient for community members to attend and can be accessed by public transportation, if available;

(B) The timing of the meeting, scheduling in a manner that is convenient to the majority of attendees;

(C) Whether translation services and childcare are necessary, and may provide such services if needed; and

(D) Best practices for public and community meetings as identified in resources published by the State of Oregon Environmental Justice Task Force and OHA;

(e) When DEQ determines to hold a public meeting under this division regarding a source, then the owner or operator must pay the applicable community engagement fee specified in OAR 340-216-8030 Table 3, and at least one representative of the owner or operator must appear at the public meeting.

(4) Other forums for communication. Other forums for communication may include any or all of the following:

(a) Notifying the community of information and reports submitted by an applicant required by this division by sending an email through GovDelivery or mailing written notice via U.S. mail;

(b) Posting all information and reports submitted by an applicant on the DEQ website;

(c) Attending community forums or other local meetings when requested by the community. The representative of the owner or operator is not required to attend this type of meeting;

(d) Electronic meeting forums such as webinars or conference calls; and

(e) Other activities as determined necessary by DEQ.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, §§ 3 and 6

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2, 3 and 6

ADOPT: 340-245-0130

RULE TITLE: Risk Reduction Plan Requirements

NOTICE FILED DATE: 06/26/2018

RULE SUMMARY: Risk Reduction Plan Requirements in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) A Risk Reduction Plan for an existing source must do the following within the specified period of time, as applicable:

(a) Reduce risk to less than or equal to the TBACT Level;

(b) Require the owner or operator to meet TBACT on all significant TEUs;

(c) Reduce risk to less than or equal to the Risk Reduction Level; or

(d) Reduce risk to less than or equal to the Community Engagement Level if the owner or operator voluntarily agrees to do so.

(2) Risk Reduction Plan Requirements. The owner or operator that is requesting approval of a Risk Reduction Plan must submit to DEQ the following:

(a) Two air contaminant emissions inventories:

(A) The emissions inventory for the source submitted under OAR 340-245-0040(1) before implementation of the proposed Risk Reduction Plan measures; and

(B) A projected emissions inventory for the source submitted under OAR 340-245-0040(1) and OAR 340-245-0040(3)(b)(B)(ii)(I) after implementation of the proposed Risk Reduction Plan measures;

(b) The results of a risk assessment performed under OAR 340-245-0050(10) or (11) including the risk calculations before and after full implementation of the Risk Reduction Plan using the emissions inventories required in subsection (a);

(c) An analysis of pollution prevention measures under OAR 340-245-0140, and a description of those measures that the owner or operator has undertaken and included as part of its Toxic Air Contaminant Permit Addendum application;

(d) Identification of each TEU for which an action will be taken to reduce risk, how the risk will be reduced, and for TEUs that are required to meet TBACT:

(A) A demonstration that all significant TEUs at the source meet TBACT under OAR 340-245-0220; and

(B) The TBACT analysis under OAR 340-245-0220 that demonstrates that all significant TEUs at the source will meet TBACT when the plan is fully implemented;

(e) A schedule for implementing the proposed Risk Reduction Plan measures within the time frames allowed under section (4), if not sooner. The schedule must specify:

(A) The dates by which the source will implement the proposed Risk Reduction Plan measures;

(B) The dates for submittal of periodic reports showing progress toward completion of the proposed Risk Reduction Plan measures. Progress reports should include achievement of significant milestones, including but not limited to dates of equipment delivery and construction progress; and

(C) The dates for submittal of applications for permits to construct or modify, which must be no later than 90 days after DEQ approval of the Risk Reduction Plan, or other time period approved by DEQ;

(f) The proposed Source Risk Limits.

(3) The owner or operator may request a postponement of risk reduction under OAR 340-245-0150.

(4) Risk Reduction Plan implementation deadlines.

(a) Chronic risk. The owner or operator of a source that has either or both an excess cancer or chronic noncancer source risk that is greater than the TBACT Level must implement the Risk Reduction Plan within two years from the effective date of the Toxic Air Contaminant Permit Addendum or the operating permit with conditions in compliance with this division, or at an earlier time as required by DEQ in such addendum or operating permit;

(A) Except as provided in paragraph (B), the owner or operator may apply for a permit modification as specified under OAR 340-245-0100(8) to request additional time to implement risk reductions measures. If the owner or operator, in such application, shows good cause for the modification based on unreasonable hardship to the source, then DEQ may

allow the owner or operator:
(i) Not more than two additional years beyond the initial two years to implement the required risk reduction measures and achieve required risk reductions if the initial excess cancer or chronic noncancer source risk is greater than the TBACT Level but less than the Risk Reduction Level; or
(ii) Not more than three additional years beyond the initial two years to implement the required risk reduction measures and achieve required risk reductions if the initial excess cancer or chronic noncancer source risk is greater than the Risk Reduction Level;
(B) DEQ may not grant a request under paragraph (A) to an owner or operator that has previously received approval for a postponement of risk reduction under OAR 340-245-0150;
(b) Acute risk. The owner or operator of a source that has acute risk that is greater than the TBACT Level must implement the Risk Reduction Plan on the following timeline:
(A) Within one month from the effective date of the Toxic Air Contaminant Permit Addendum or the operating permit with conditions in compliance with this division; or
(B) If the owner or operator requests additional time in its Toxic Air Contaminant Permit Addendum application and shows good cause based on unreasonable hardship to the source and an evaluation of health factors, including but not limited to severity of acute health effect, degree of scientific certainty, and averaging time of the acute TRV used to develop the RBC, then DEQ may allow the owner or operator up to and not more than 12 months to implement the Risk Reduction Plan.
(5) Reporting Requirements.
(a) The owner or operator of a source that has been issued a Toxic Air Contaminant Permit Addendum or operating permit that includes a Risk Reduction Plan must submit twice-annual progress reports to DEQ describing the source's progress in reducing toxic air contaminant emissions and risk by implementing the Risk Reduction Plan. The progress reports are due to DEQ on or before February 15 and July 31 of each year that the Risk Reduction Plan is in effect, or other dates specified in the Toxic Air Contaminant Permit Addendum or operating permit. The progress reports must include all information required by the Toxic Air Contaminant Permit Addendum or operating permit, including but not limited to:
(A) The increments of progress achieved in implementing the risk reduction measures specified in the Risk Reduction Plan;
(B) A schedule indicating dates for future increments of progress;
(C) A description of any increases or decreases in emissions of toxic air contaminants that have occurred at the source since approval of the Risk Reduction Plan; and
(D) An estimate of when all Risk Reduction Plan elements will be completed;
(b) The owner or operator must submit a Risk Reduction Plan completion report to DEQ no later than 60 days after completing all Risk Reduction Plan requirements. The report must include:
(A) The final increments of progress achieved in fully implementing the risk reduction measures specified in the Risk Reduction Plan and the date the final increments of progress were achieved;
(B) A summary of the actions taken to implement the Risk Reduction Plan;
(C) The results of the demonstration of the effectiveness of the Risk Reduction Plan measures, including verification of the modeling parameters for all of the TEUs for which risk was reduced; and
(D) The remaining source risk after completion of all risk reduction measures.
(6) Voluntary Risk Reductions. DEQ will not conduct community engagement public meetings, as described in OAR 340-245-0120(3), for the owner or operator of an existing source whose risk is less than the TBACT Level and that agrees to voluntarily reduce risk to below the Community Engagement Level.
(a) Voluntary Risk Reduction Plan. An owner or operator must submit for approval a Voluntary Risk Reduction Plan that follows the requirements and procedures in this rule for submittal of a Risk Reduction Plan to reduce risk to below the Community Engagement Level;
(b) The owner or operator must fully implement the Voluntary Risk Reduction Plan within two years from the effective

date of the Toxic Air Contaminant Permit Addendum, or at an earlier time as required by DEQ. If additional time is needed to implement the risk reduction measures, the owner or operator must apply for a permit modification as specified under OAR 340-245-0100(8);
(c) DEQ may allow the owner or operator not more than two additional years beyond the initial two years to implement the required risk reduction measures and achieve the voluntary risk reductions; and
(d) If the owner or operator does not implement the Voluntary Risk Reduction Plan within the approved time, DEQ shall initiate the community engagement requirements under OAR 340-245-0120.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0140

RULE TITLE: Pollution Prevention

NOTICE FILED DATE: 06/26/2018

RULE SUMMARY: Pollution Prevention in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) The owner or operator of a source whose risk is greater than or equal to the TBACT Level, before any additional risk reduction measures are considered, is required to do an analysis of pollution prevention measures as provided in this rule.

(2) The owner or operator must evaluate pollution prevention measures that are likely to reduce or eliminate emissions of toxic air contaminants. If the owner or operator chooses to implement any such measures, the owner or operator must include that information in the Toxic Air Contaminant Permit Addendum application.

(3) An analysis of pollution prevention measures must include the following:

(a) A detailed review of source data, including TEU and process level data related to the toxic air contaminants of concern emitted by the source, including:

(A) A process flow diagram depicting all production steps, showing all chemical and material inputs and all processes through which material passes to form a product, and showing the point at which toxic air contaminants enter the system and leave the production unit, with identification of the inputs and outputs relevant to generation of toxic air contaminants; and

(B) Materials accounting which quantifies the total chemical inputs and outputs of a particular toxic air contaminant from each process, and ultimately, source-wide usage and emissions;

(b) The identification of pollution prevention options that includes measures focused on the toxic air contaminants, by-products (outputs, not inputs) and processes that have been mapped and quantified. The categories of toxic air contaminant pollution prevention options include the following:

(A) Chemical input alternatives evaluated for hazard characteristics, technical performance, cost and availability, and exposure;

(B) Product reformulation;

(C) Production process redesign or modification;

(D) Production process modernization;

(E) Improved operations and maintenance;

(F) In-process recycling; and

(G) Inventory management controls;

(c) The technical screening and feasibility evaluation of toxic air contaminant pollution prevention options include the following:

(A) Performance needs for the application, process or product that contains the toxic air contaminant for which the pollution prevention option is being sought;

(B) Identification of the option as favorable with respect to performance by other industries;

(C) Availability as “off-the-shelf” technology with demonstrated successful use;

(D) Compatibility of the option with existing process technology;

(E) Effects on product quality and compliance with customer specifications; and

(F) Long term viability of the option;

(d) The economic feasibility evaluation of toxic air contaminant pollution prevention options to determine all of the costs and savings associated with implementing the option, include the following:

(A) Direct costs or savings (e.g., capital investment, operations and maintenance, annual chemical costs vs. per unit cost);

(B) Indirect costs or savings (e.g., reduced worker health and safety costs, compliance cost reductions, and lower waste and by-product management costs);

(C) Effects on future liability (e.g., liability insurance premium reductions);

(D) Non-monetized costs or benefits (e.g., improved company public image and community relations); and

(E) New revenue sources associated with this option (e.g., will there be new markets for modified products).

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0150

RULE TITLE: Postponement of Risk Reduction

NOTICE FILED DATE: 06/26/2018

RULE SUMMARY: Postponement of Risk Reduction in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) Postponement of risk reduction is only available for existing sources and cannot be approved if risk is over the Immediate Curtailment Level. An owner or operator may request postponement of risk reduction for one five year period. After that five year period, the owner or operator must reduce risk in accordance with OAR 340-245-0130.

(2) An owner or operator of an existing source requesting postponement of the requirement to reduce risk for one or more significant TEUs must submit a request to DEQ that includes the following:

(a) Information proving inability to pay;

(b) The TEUs for which the postponement is being requested;

(c) An analysis of:

(A) All risk reduction measures that the owner or operator is required to undertake to reduce risk; and

(B) The cost to install, operate and maintain each risk reduction measure identified in paragraph (A) for which a postponement is being requested;

(d) A description of any other interim risk reduction measures, including a pollution prevention analysis under OAR 340-245-0140, that will be taken to reduce risk in lieu of implementing each risk reduction measure identified in paragraph (c)(A) for which a postponement is being requested and when those interim risk reduction measures will be implemented; and

(e) The number of employees at the source.

(3) An owner or operator must include a postponement request in the source's Toxic Air Contaminant Permit Addendum application under OAR 340-245-0100.

(4) The owner or operator making a request to postpone risk reduction:

(a) Must use the applicable U.S. Environmental Protection Agency's ABEL, INDIPAY or MUNIPAY computer model, or a substantially equivalent analysis approved by DEQ, to evaluate financial condition or ability to pay the full cost of reducing risk or meeting TBACT in accordance with EPA standards for determining ability to pay. The models' standard input values are presumed to apply unless the owner or operator can demonstrate that the standard values do not reflect the owner's or operator's actual circumstances. DEQ may generally determine that the owner or operator is able to pay if the model results show that the owner or operator has a 70% probability of being able to absorb the cost of meeting TBACT or implementing other physical, operational or process changes that could be made to reduce risk; and

(b) Is required to provide DEQ, on a confidential basis if the information meets the requirements of OAR 340-214-0130, audited financial information about the source. The information must include federal tax returns for the most recent three years, the most current year's audited financial statement, a signed auditor's statement provided by a certified public accountant, the source's latest income statement and balance sheet, and other information regarding the owner's or operator's financial condition on a form required by DEQ. The information will be held as confidential to the extent consistent with the Oregon Public Records Law, ORS 192.311 through 192.478.

(5) Negotiation and consultation.

(a) DEQ may negotiate alternatives to the postponement with the owner or operator, and may consider such alternatives in the final determination regarding whether to approve the postponement; and

(b) DEQ will consult with OHA, local elected officials, local Indian governing bodies, and relevant state and federal agencies that have jurisdiction in the notification area before making a final determination regarding the postponement.

(6) DEQ may grant a request for postponement of risk reduction in full or in part and impose any conditions, implementation of reasonable alternative measures, and implementation schedules that DEQ determines are appropriate based on the following:

(a) Evaluating the following at exposure locations where risk will exceed an applicable Risk Action Level:

(A) The presence of sensitive populations, including people with low income, members of a minority group, and residents under five years old; and
(B) The total population that lives within the notification area of the source;
(b) Considering both the potential economic harm to the owner or operator of the source of requiring that the owner or operator make the identified risk reductions against the burden of risk to the exposed population if the risk reductions are postponed.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0200

RULE TITLE: Risk Estimates

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Risk Estimates in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) When a risk assessment is required under this division, the risk assessment must consider the toxic air contaminants and the Risk-Based Concentrations listed in OAR 340-245-8040 Table 4 to assess excess cancer and noncancer risk.

(2) Directions for the Level 1 Risk Assessment Tool.

(a) An owner or operator that chooses to perform a Level 1 Risk Assessment under OAR 340-245-0050, must calculate a separate sum of risk ratios for each of the following categories: excess cancer risk, chronic noncancer risk, and acute noncancer risk for the applicable exposure locations;

(b) When making this calculation, the owner or operator must use the emissions inventory submitted under OAR 340-245-0040(1) for:

(A) Excess cancer risk and chronic noncancer risk, the average annual emission rates; and

(B) Acute noncancer risk, the maximum daily emission rates.

(c) The owner or operator must perform each of the following calculations in paragraphs (A) and (B), except as allowed in paragraph (C):

(A) For excess cancer risk and chronic noncancer risk:

(i) For each TEU, use the stack height and distance to the nearest exposure locations to identify the appropriate dispersion factor under OAR 340-245-8050 Table 5A. If the TEU is a fugitive source, use the area and height of the building and distance to the nearest exposure locations to identify the appropriate dispersion factor under OAR 340-245-8050 Table 5C;

(ii) For each TEU and each toxic air contaminant emitted from the TEU, multiply the annual emission rate by the dispersion factor identified under subparagraph (i) to calculate an air concentration at the nearest exposure location;

(iii) For each TEU, divide the air concentration of each toxic air contaminant calculated under subparagraph (ii) by the appropriate RBC of that toxic air contaminant under OAR 340-245-8040 Table 4;

(iv) For each TEU, add up the risk from each toxic air contaminant calculated under subparagraph (iii); and

(v) For all TEUs, add up all of the risks calculated under subparagraph (iv) to obtain the total excess cancer risk in one million or the total chronic noncancer Hazard Index for the entire source. For chronic noncancer risk, Hazard Indices may be calculated by noncancer target organ or organ systems in consultation with DEQ;

(B) For acute noncancer risk:

(i) For each TEU, use the stack height and distance to the nearest exposure location to identify the appropriate dispersion factor under OAR 340-245-8050 Table 5B. If the TEU is a fugitive source, use the area and height of the building and distance to the nearest exposure locations to identify the appropriate dispersion factor under OAR 340-245-8050 Table 5D;

(ii) For each TEU and each toxic air contaminant emitted from the TEU, multiply the maximum daily emission rate by the dispersion factor identified under subparagraph (i) to calculate an air concentration at the nearest exposure location;

(iii) For each TEU, divide the air concentration of each toxic air contaminant calculated under subparagraph (ii) by the acute RBC for that toxic air contaminant under OAR 340-245-8040 Table 4;

(iv) For each TEU, add up the risk from each toxic air contaminant calculated under subparagraph (iii); and

(v) For all TEUs, add up all of the risks calculated under subparagraph (iv) to obtain the total acute noncancer Hazard Index for the entire source. Hazard Indices may be calculated by noncancer target organ or organ systems in consultation with DEQ;

(C) Instead of using stack height and distance or area and height of the building and distance to the nearest exposure locations to obtain the appropriate dispersion factor under OAR 340-245-8050 Table 5, the owner or operator may instead use, as a default, the most conservative dispersion factor;

(i) For stack emissions, use the dispersion factor associated with a stack height of five meters and an exposure location distance of 50 meters, which is listed in the upper-left corner of OAR 340-245-8050 Table 5A and B;
(ii) For fugitive emissions, use the dispersion factor associated with an area of less than or equal to 3,000 square feet, a building height of less than or equal to 20 feet, and an exposure location distance of 50 meters, which is listed in the upper-left corner of OAR 340-245-8050 Table 5C and D; and
(iii) Using these default dispersion factors will result in protective calculations of risk. If the risks calculated using these default dispersion factors are less than or equal to the applicable Risk Action Levels, the owner or operator may choose to use the risks calculated in this manner to show compliance with the Source Risk Limits.
(3) Sum of Risk Ratios calculation procedure for Level 2, Level 3 and Level 4 Risk Assessments.
(a) An owner or operator that chooses to perform a Level 2, Level 3 or Level 4 Risk Assessment under OAR 340-245-0050, must calculate a separate sum of risk ratio for each of the following risk categories: excess cancer risk, chronic noncancer risk, and acute noncancer risk for the applicable exposure locations;
(b) When making this calculation, the owner or operator must use the following modeled ambient concentrations for each toxic air contaminant at all exposure locations:
(A) For excess cancer risk and chronic noncancer risk, the annual average concentrations must be used; and
(B) For acute noncancer risk, the maximum daily concentrations must be used;
(c) The owner or operator must perform the following calculations for each of the risk categories listed in subsection (a) and using the concentrations in subsection (b):
(A) For each TEU, divide the modeled concentration of each toxic air contaminant by the appropriate RBC of that toxic air contaminant under OAR 340-245-8040 Table 4, ensuring that the concentration is expressed in micrograms per cubic meter;
(B) For each TEU, add up the risk from each toxic air contaminant calculated under paragraph (A); and
(C) For all TEUs at each exposure location, add up all of the risks calculated under paragraph (B) to obtain the total excess cancer risk in one million, the total chronic noncancer Hazard Index, or the total acute noncancer Hazard Index for the entire source. For noncancer risk, Hazard Indices may be calculated by noncancer target organ or organ systems in consultation with DEQ.
(4) Significant figures and rounding. When a risk is calculated for comparison to a Risk Action Level or Source Risk Limit:
(a) The final risk calculation must be rounded off as follows:
(A) For comparison to the Aggregate TEU Level and the Source Permit Level, round off to one decimal place; and
(B) For comparison to other Risk Action Levels or Source Risk Limits, round off to a whole number;
(b) Round up if the last figure to be rounded off is 5 or greater, otherwise round down.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0210

RULE TITLE: Modeling and Risk Assessment Work Plan Requirements

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Modeling and Risk Assessment Work Plan Requirements in Division 245: Cleaner Air Oregon

RULE TEXT:

The owner or operator of a source must follow the applicable procedures in this rule when required to perform a risk assessment under OAR 340-245-0050 or 340-245-0060.

(1) Modeling Requirements. All modeled estimates of ambient concentrations required under this division must be based on the applicable air quality models and other requirements as specified in 40 CFR part 51, Appendix W, "Guidelines on Air Quality Models (Revised)," or a substantially equivalent model or requirement approved by DEQ. Any change or substitution from models and procedures specified in 40 CFR part 51, Appendix W must be approved by DEQ in advance and incorporated in the modeling protocol. AERSCREEN and AERMOD are examples of approved air quality models.

(a) When choosing to perform a Level 1 Risk Assessment or modeling for a Level 2, Level 3 or Level 4 Risk Assessment, the owner or operator of a source must first submit a modeling protocol that must be approved by DEQ as required in OAR 340-245-0030. The necessary information to perform any modeling will depend on the risk assessment level and the model being used, if any, and may include but is not limited to:

(A) Emissions inventory submitted under OAR 340-245-0040(1);

(B) Stack parameter and building data, including stack height above ground, exit diameter, exit velocity, and exit temperature, for all existing and proposed emission points from the source, and dimension data of buildings;

(C) Meteorological and topographical data;

(D) Information about the dispersion models and modeling parameters used;

(E) Exposure locations where ambient concentrations will be modeled;

(F) For determining exposure locations where ambient concentrations will be modeled, an owner or operator may provide documentation to demonstrate an area is not being used in the manner allowed by the land use zoning at the time the modeling is to be performed, and may request that the land use zoning classification of these areas be excluded in determining chronic exposure locations. If DEQ approves an exclusion under this paragraph, then:

(i) The owner or operator must model the approved locations based on their actual use;

(ii) The owner or operator must annually submit to DEQ documentation showing the areas subject to the excluded land use zoning classification continue to not be used in the manner allowed by the land use zoning applicable to the area; and

(iii) If the annual documentation provided under subparagraph (ii) shows the area is being used in the manner allowed by the land use zoning and results in potential exposure to toxic air contaminants from the source, the owner or operator must update the risk assessment based on the change in use and apply for a Toxic Air Contaminant Permit Addendum modification under OAR 340-245-0100(8) or for an operating permit modification under OAR 340 division 216 or 218 using the procedures in this division, if applicable;

(G) Use of other exposure locations where DEQ determines, based on documented evidence, that an area is not being used in the manner allowed by the land use zoning at the time the modeling is to be performed, such area should be considered an exposure location based on its actual use; and

(H) Other information that may be necessary to estimate air quality concentrations and risk at exposure locations;

(b) For the purpose of any risk assessment undertaken by DEQ, the owner or operator of any permitted or unpermitted source must submit the information in subsection (a) within 30 days of the written request from DEQ. DEQ shall use the procedures in OAR 340-245-0030 to review the information in determining its completeness, consider extensions requests, and request additional information, if needed.

(2) Risk assessment work plan requirements. When choosing to conduct a Level 3 or Level 4 Risk Assessment, the owner or operator of a source must submit a risk assessment work plan that must be approved by DEQ as required in OAR

340-245-0030. The work plan must be developed in consultation with DEQ and include but is not limited to:
(a) A problem formulation step ending with development of a conceptual site model identifying TEUs and exposure locations;
(b) An exposure assessment that models or measures toxic air contaminant concentrations at exposure locations;
(c) A risk characterization presenting a quantitative calculation of excess cancer, chronic noncancer and acute noncancer health risks associated with human exposure to toxic air contaminant emissions from the source;
(d) A quantitative or qualitative uncertainty evaluation of appropriate elements of the risk assessment;
(e) A Level 4 Risk Assessment must also include a toxicity assessment evaluating the carcinogenic effects, noncarcinogenic chronic effects, and noncarcinogenic acute effects of toxic air contaminants to which human populations may be exposed, and determining persistence and bioaccumulation potential. Sources may not consider Toxicity Reference Values other than those listed in OAR 340-245-8030 Table 3; and
(f) In a Level 4 Risk Assessment, the owner or operator may propose modifications to default exposure assumptions, including but not limited to:
(A) Exposure times, frequencies, and durations;
(B) Relative bioavailability of chemicals; and
(C) Multipathway considerations for persistent, and bioaccumulative and toxic chemicals.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0220

RULE TITLE: TBACT and TLAER Procedures

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: TBACT and TLAER Procedures in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) If required to meet TBACT or TLAER on any significant TEU, the owner or operator of a source must perform a TBACT or TLAER analysis.

(a) The owner or operator of an existing source must conduct a case-by-case TBACT analysis under section (3), except as provided in section (2);

(b) The owner or operator of a new or reconstructed source must conduct a case-by-case TLAER analysis under section (4);

(c) The owner or operator must submit the TBACT or TLAER analysis to DEQ for approval, and the owner or operator must pay the case-by-case TBACT or TLAER fee, as applicable, specified in OAR 340-216-8030 Table 3 and OAR 340-245-0400;

(d) A TEU is determined to meet TBACT if DEQ approves the TBACT analysis for the TEU and the owner or operator has implemented all operational or source modifications required to meet TBACT, or will implement them on an enforceable compliance schedule included in its Toxic Air Contaminant Permit Addendum or operating permit; and

(e) A TEU is determined to meet TLAER if DEQ approves the TLAER analysis for the TEU and the owner or operator has implemented all operational or source modifications required to meet TLAER upon beginning operation of the new or reconstructed source.

(2) Presumptive TBACT. For an existing TEU, compliance with emission control requirements, work practices or limitations established by a major source NESHAP adopted by the EPA after 1993 and before April 10, 2018 is deemed to be TBACT, provided that:

(a) The emission control requirements, work practices or limitations result in an actual reduction to the emissions of the hazardous air pollutants regulated under the NESHAP; and

(b) There are no other toxic air contaminants emitted by the source that:

(A) Are not controlled by the emission control requirements, work practices or limitations established by a major source NESHAP; and

(B) Materially contribute to public health risks;

(c) TEUs that are subject to and comply with OAR 340-244-9000 through 340-244-9090, Colored Art Glass Manufacturing rules, or OAR 340-245-9000 through 340-245-9080, Colored Art Glass Manufacturing rules, meet TBACT and a case-by-case determination is not required for such TEUs.

(3) Case-by-Case TBACT determination. The owner or operator of the TEU must submit a proposed case-by-case TBACT analysis to DEQ for review and approval.

(a) TBACT must be a toxic air contaminant emissions limitation or emissions control measure based on the maximum degree of reduction of toxic air contaminants that is feasible considering:

(A) What has been achieved in practice for:

(i) Sources in the same class as the source to which the toxic air contaminant emissions limitation or control measure will apply, as classified under ORS 468A.050; or

(ii) Processes or emissions similar to the processes or emissions of the source;

(B) Energy, health, and environmental impacts not related to air quality; and

(C) Economic impacts and cost-effectiveness, including the costs of changing existing processes or equipment or adding equipment or controls to existing processes and equipment;

(b) TBACT may be based on a design standard, equipment standard, work practice standard or other operational standard, or a combination thereof; and

(c) In assessing the cost-effectiveness of any measure for purposes of determining TBACT for a source, DEQ will assess

only the economic impacts and benefits associated with controlling toxic air contaminants.
(4) Case-by-Case TLAER determination. The owner or operator of the TEU must submit a proposed case-by-case TLAER analysis to DEQ for review and approval.
(a) DEQ will review a case-by-case TLAER analysis and ensure that it is a toxic air contaminant emissions limitation or emissions control measure that is the maximum degree of reduction technically feasible without regard to energy impacts, health and environmental impacts, or economic impacts; and
(b) TLAER is not considered achievable if the cost of control is so great that a new source could not be built or operated because it was rendered economically infeasible. If some other facility in the same or a comparable industry uses that control technology, then such use constitutes evidence that the cost to the industry of that control is not prohibitive.
(5) Periodic TBACT or TLAER Reviews. If the owner or operator is required to meet TBACT or TLAER, the owner or operator must perform and submit periodic TBACT or TLAER reviews in a TBACT or TLAER update report as follows:
(a) For all significant TEUs for which the most recent TBACT or TLAER determination concluded that no toxic air contaminant emission limits or additional control measure was required, submit a TBACT or TLAER review to DEQ with each permit renewal;
(b) For all significant TEUs that currently meet TBACT or TLAER through toxic air contaminant emission limits or control measures, submit a TBACT or TLAER review when notified by DEQ. If DEQ learns of new technologies, devices or practices that could reduce toxic air contaminant emissions or improve on control measures, DEQ will notify the owner or operator in writing that a TBACT or TLAER review is required and may specify a submittal deadline in the notification;
(c) The TBACT or TLAER update reports must include the following:
(A) A review identifying all new or improved emissions control measures, if any, that can apply to any of the significant TEUs at the source, whether they are currently controlled or not; and
(B) For each new or improved emissions control measure identified, a statement whether or not the owner or operator intends to apply the control measure;
(i) If the owner or operator intends to apply the control measure, then the owner or operator must provide an estimated date by which the control measure will be applied; or
(ii) If the owner or operator does not intend to apply the control method, then the owner or operator must provide justification for not applying it, including at a minimum, a review following the procedures of OAR 340-245-0220(3) or (4);
(d) When a new or improved emissions control measure is identified under subsection (c), DEQ must review the control measure and any justification provided by the owner or operator for not applying the control measure, and will make a preliminary determination with regard to whether or not the owner or operator must apply the control measure
(A) If DEQ's preliminary determination is that the owner or operator must apply the control measure, DEQ shall provide the owner or operator with notice and opportunity to provide input on a final determination. In making the final determination, DEQ shall take into consideration the following:
(i) The remaining service life of any existing emission control system that would be replaced;
(ii) The relative effectiveness of the new or improved control measure to reduce the source risk as compared to the risk using the existing control measure;
(iii) The cost of installation and operation of the new or improved control measure, including the cost of removing any existing control measure; and
(iv) Any other factors that DEQ finds are relevant;
(B) If DEQ's final determination is that the owner or operator must apply the control measure, then DEQ may:
(i) After consultation with the owner or operator, determine the date by which the owner or operator must apply the control measure; and
(ii) Determine a new Source Risk Limit based on information on the amount of toxic air contaminants removed by the control measure and issue a modified Toxic Air Contaminant Permit Addendum or operating permit.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or

Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0230

RULE TITLE: Toxic Air Contaminant Monitoring Requirements

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Toxic Air Contaminant Monitoring Requirements in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) An owner or operator of a source that chooses to perform toxic air contaminant monitoring under OAR 340-245-0050 must submit an application for a Toxic Air Contaminant Permit Addendum and a Toxic Air Contaminant Monitoring Plan, developed in consultation with and approved by DEQ in a Toxic Air Contaminant Permit Addendum, before beginning toxic air contaminant monitoring. Toxic air contaminant monitoring must be conducted for a period of not less than 12 months with at least 12 months of valid data with greater than 75 percent data completeness per quarter.

(2) Public involvement requirements. DEQ shall work with the owner or operator to develop public information concerning an approved Toxic Air Contaminant Monitoring Plan and the timeline for the approved Toxic Air Contaminant Monitoring Plan.

(3) Toxic air contaminant monitoring requirements. The owner or operator must submit a Toxic Air Contaminant Monitoring Plan in accordance with OAR 340-245-0030 that includes but is not limited to:

(a) Identification of all toxic air contaminants that will be monitored;

(b) A description of all proposed monitoring locations;

(c) A description of the monitoring and analysis protocols for each toxic air contaminant to be monitored, including at a minimum:

(A) The monitoring equipment and methods to be used for each toxic air contaminant;

(B) The sampling methods, including sample handling and custody storage requirements;

(C) The frequency of sampling at each monitoring location; the duration of each sample (i.e., the length of time in hours that each sample runs), and time of year;

(D) Analytical methods and the analytical method detection limits and reporting limits to be used for each toxic air contaminant;

(E) Quality assurance and quality control measures to be taken and who will be performing these measures; and

(F) Descriptions of security measures to protect the monitoring equipment;

(d) A description of how to determine and account for the ambient concentration of each toxic air contaminant being monitored that results from all causes other than the source under consideration, including natural and unknown causes;

(e) A description of how and where meteorological monitoring will be performed and the meteorology equipment used; and

(f) A description of how the data will be reduced and how often the results will be reported to DEQ.

(4) Reporting Requirements. The owner or operator of a source that has been issued a Toxic Air Contaminant Permit Addendum or operating permit that includes air monitoring requirements must report to DEQ the following information:

(a) Monthly monitoring result reports, no more than 30 days after all monitoring data becomes available for the month to which the data applies. The reports must include but is not limited to:

(A) Ambient toxic air contaminant concentrations, all daily risks and all monthly average risks from all monitoring locations specified in the Air Monitoring Plan;

(B) Meteorological data summary;

(C) Daily production data; and

(D) A description of any excess emissions or upset conditions that may have affected the ambient toxic air contaminant concentrations monitored, including conditions outside the property boundary that may affect ambient air (i.e., forest fires, house fires, train derailments, accidental spills, etc.);

(b) An air monitoring final report, no more than 60 calendar days after completing all Toxic Air Contaminant Monitoring Plan requirements that also includes a description of any process changes that have occurred during the air monitoring period that may affect the results of the monitoring.
(5) Air monitoring results.
(a) Upon completion of the air monitoring, the owner or operator must submit to DEQ an assessment of risk based on the air monitoring data and other relevant information;
(b) For all toxic air contaminants that are not monitored, or for which monitoring results were inconclusive, the owner or operator must use the modeled concentrations of those toxic air contaminants and add the risk from the modeled concentrations to the risk from the monitored concentrations to arrive at a total risk from the source; and
(c) Upon receipt of air monitoring data and assessment of risk under subsections (a) and (b), DEQ will review the submittal and approve or deny it in accordance with the procedures OAR 340-245-0100(4).

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0300

RULE TITLE: Toxicity Reference Values

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Toxicity Reference Values in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) This rule lists sources of toxicity information that OHA and DEQ consider authoritative in terms of their scientific rigor and methods for producing toxicity information. OHA and DEQ will recommend adoption and use of Toxicity Reference Values from the toxicity information published by the following authoritative sources:

(a) DEQ Ambient Benchmark Concentrations specified in OAR chapter 340, division 246;

(b) DEQ and OHA Short-term Guideline Concentrations;

(c) EPA Integrated Risk Information System (IRIS) or Office of Superfund Remediation and Technology Innovation (OSRTI);

(d) United States Agency for Toxic Substances and Disease Registry (ATSDR); and

(e) California's Office of Environmental Health Hazard Assessment (OEHHA).

(2) DEQ will calculate Toxicity Reference Values using one in one million as the target excess cancer risk level or a hazard quotient of one for noncancer Toxicity Reference Values.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0310

RULE TITLE: Process for Updating Lists of Regulated Toxic Air Contaminants and Their Risk-Based Concentrations

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Process for Updating Lists of Regulated Toxic Air Contaminants and Their Risk-Based Concentrations in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) Purpose.

(a) As risk assessment and toxicological sciences advance, it is important to have rules for Cleaner Air Oregon that allow for air quality regulation to continue to reflect the latest practices and science. The list of toxic air contaminants that are regulated and their RBCs represent one area where regulations will need regular updating to accommodate advancing science and practices;

(b) These rules include two lists of toxic air contaminants:

(A) OAR 340-245-8020 Table 2 contains toxic air contaminants that are for emissions reporting. The primary purpose of OAR 340-245-8020 Table 2 is to inform prioritization of RBC development and maintain a current and broad understanding of statewide toxic air contaminant emissions as industries and industrial practices change over time. The toxic air contaminants listed OAR 340-245-8020 Table 2 must be addressed in the uncertainty evaluation in a Level 3 or Level 4 Risk Assessment for the toxic air contaminants in OAR 340-245-8020 Table 2 that do not have RBCs; and

(B) OAR 340-245-8030 Table 3 contains toxic air contaminants for which TRVs are readily available and OAR 340-245-8040 Table 4 contains RBCs for regulation as part of air permitting. The purpose of OAR 340-245-8030 Table 3 and OAR 340-245-8040 Table 4 is to ensure that impacts to public health from industrial air emissions are minimized.

(2) OAR 340-245-8020 Table 2, Toxic Air Contaminant Reporting List.

(a) The Toxic Air Contaminant Reporting List is comprised of California Air Resources Board's Toxic Air Contaminant Identification List Appendix A-1, Washington's Table of ASIL, SQER and de minimis emission values, Oregon's Toxics Focus list, and EPA's Hazardous Air Pollutants list;

(b) Every three years starting from November 16, 2018, DEQ, in consultation with OHA, will review the four lists in subsection (a) for changes and may propose to update the Toxic Air Contaminant Reporting List in OAR 340-245-8020 Table 2 to capture changes in any of those four lists over the intervening three years;

(c) During the reviews of the Toxic Air Contaminant Reporting List, DEQ may also propose to add or remove toxic air contaminants based on information gathered from past reporting, industry types in Oregon that are not in California or Washington, or OHA's and DEQ's knowledge of toxic air contaminants that may be of potential public health concern in Oregon; and

(d) Owners or operators of sources must report emissions of any newly listed toxic air contaminant during the next periodic state-wide emissions inventory required in OAR 340-245-0040 following the new listing, or earlier upon request by DEQ.

(3) OAR 340-245-8030 Table 3, Toxicity Reference Values and OAR 340-245-8040 Table 4, Risk-Based Concentrations.

(a) The list of Risk-Based Concentrations is comprised of all toxic air contaminants from the Toxic Air Contaminants Reporting List for which OHA and DEQ were able to establish RBCs;

(b) Every three years starting from November 16, 2018, or as necessary, DEQ, in consultation with OHA, will review the toxic air contaminants and Toxicity Reference Values published by the authoritative sources listed in OAR 340-245-0300 for changes over the intervening three years. DEQ will propose to:

(A) Revise Toxicity Reference Values and associated Risk-Based Concentrations for toxic air contaminants listed in OAR 340-245-8030 Table 3 and OAR 340-245-8040 Table 4, as applicable, if Toxicity Reference Values have been revised by authoritative sources listed in OAR 340-245-0300;

(B) Add toxic air contaminants to OAR 340-245-8030 Table 3 and 340-245-8040 Table 4, as applicable, if Toxicity Reference Values have been generated by authoritative sources listed in OAR 340-245-0300 for toxic air contaminants

on the Toxic Air Contaminant Reporting List in OAR 340-245-8020 Table 2 from which RBCs can be set; or
(C) Remove or revise toxic air contaminants from OAR 340-245-8030 Table 3 and 340-245-8040 Table 4, as applicable, if some or all authoritative sources listed in OAR 340-245-0300 have rescinded Toxicity Reference Values for that toxic air contaminant without providing a replacement;
(c) DEQ will propose updates to OAR 340-245-8030 Table 3 and 340-245-8040 Table 4, as applicable, through the rulemaking process.
(4) Interested parties may submit petitions to DEQ to update the lists of regulated toxic air contaminants to add or remove toxic air contaminants from OAR 340-245-8020 Table 2, revise a TRV in OAR 340-245-98030 Table 3, or revise an RBC in OAR 340-245-8040 Table 4.
(a) All petitions must be made in writing and must be received by DEQ at least 18 months before the applicable triennial review described in section (2) or (3);
(b) A request to add a toxic air contaminant to the Toxic Air Contaminant Reporting List in OAR 340-0245-8020 Table 2 must include evidence that:
(A) The chemical is emitted in the state of Oregon at a rate of at least 1 pound per year; and
(B) The chemical is toxic;
(c) A request to remove a toxic air contaminant from the Toxic Air Contaminant Reporting List in OAR 340-245-8020 Table 2, the TRV list in OAR 340-245-8030 Table 3, or the RBC list in OAR 340-245-8040 Table 4 must demonstrate that all authoritative sources listed in OAR 340-245-0300 either do not have or have rescinded Toxicity Reference Values for that toxic air contaminant without providing a replacement;
(d)(A) A request to revise a Toxicity Reference Value in OAR 340-245-8030 Table 3 or an RBC in OAR 340-245-8040 Table 4 must include either:
(i) Inhalation Toxicity Reference Values established by a federal agency or by another state; or
(ii) Publicly available and peer-reviewed toxicity information for the toxic air contaminant that demonstrates a quantitative dose-response relationship in human or animal studies from which Toxicity Reference Values could be calculated;
(B) If the request applies to a toxic air contaminant for which toxicity information is available from one or more of the authoritative sources listed in OAR 340-245-0300, then only petitions to select a Toxicity Reference Value from one of those authoritative sources will be considered; and
(C) If a toxic air contaminant being requested for review has no available toxicity information as described in paragraph (A) and is emitted at a rate of at least one pound per year in the state of Oregon, then DEQ will put the toxic air contaminant on a formal “Wait List”, to be held there until toxicity information for that toxic air contaminant becomes available;
(e) If DEQ, after consultation with OHA, determines that revisions are warranted as a result of a petition, DEQ will propose revisions to TRVs or RBCs or additions or removals of toxic air contaminants to the Toxic Air Contaminant Reporting List in OAR 340-245-8020 Table 2, the TRV list in OAR 340-245-8030 Table 3 or the RBC list in OAR 340-245-8040 Table 4 through the rulemaking process; and
(f) If DEQ receives a request to revise a TRV or RBC or add or remove a toxic air contaminant from the Toxic Air Contaminant Reporting List in OAR 340-245-8020 Table 2, the TRV list in OAR 340-245-8030 Table 3 or the RBC list in OAR 340-245-8040 Table 4 and the request is received less than 18 months before the applicable triennial review described in section (2) or (3), the request will be reviewed during the triennial review in section (3).

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, Or Laws 2018, ch. 102, § 3

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035, Or Laws 2018, ch. 102, §§ 2 and 3

ADOPT: 340-245-0400

RULE TITLE: Cleaner Air Oregon Fees

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Cleaner Air Oregon Fees in Division 245

RULE TEXT:

(1) Any owner or operator that has been issued or applies for an Oregon Title V Operating Permit under OAR chapter 340, division 218 must submit the annual CAO base fees to DEQ as specified in OAR 340-220-0050(4).

(2) Any owner or operator that has been issued or applies for a Basic, General, Simple or Standard Air Contaminant Discharge Permit under OAR chapter 340, division 216 must submit the annual CAO base fee to DEQ as specified in OAR 340-216-8020 Table 2 Part 3.

(3) When notified in writing by DEQ, the owner or operator of an existing source that must perform a risk assessment is required to pay the applicable existing source call-in fee in OAR 340-216-8030 Table 3 within 30 days of receiving DEQ notification.

(4) Owners or operators of new or reconstructed sources must pay the applicable new source consulting fee and the applicable specific activity fees in OAR 340-216-8030 Table 3 with the permit application.

(5) Any owner or operator required to apply for a Toxic Air Contaminant Permit Addendum must also submit the applicable Cleaner Air Oregon Specific Activity Fees specified in OAR 340-216-8030 Table 3 to DEQ in accordance with OAR 340-245-0030.

(a) The fees in OAR 340-216-8030 Table 3 are additive in most cases;

(b) A TBACT/TLAER Review fee will be due to DEQ per TEU. When reviewing multiple similar TEUs, DEQ may elect to waive additional TEU review fees for multiple similar TEU reviews if the TEUs have similar emissions and emission rates;

(c) If one TEU requires two different pollution control devices because it emits different types of toxic air contaminants (e.g., particulate matter and volatile organic compounds), then two TBACT/TLAER Review fees will be due and payable to DEQ;

(d) The individual TEU fees can be additive or charged individually, depending on the situation. If an owner or operator is constructing or modifying multiple, identical TEUs, then one TEU Risk Assessment fee may be charged. If the TEUs were not identical, then multiple TEU Risk Assessment fees will be due and payable to DEQ;

(e) A community engagement fee of high, medium, or low for each meeting, will be due to DEQ based on DEQ's determination of the complexity and nature of the needed outreach and engagement activities; and

(f) A source test fee is required when an owner or operator submits a source test report for DEQ review under this division.

(A) The complex source test review fee is for multiple TEUs and multiple toxic air contaminant test methods;

(B) The moderate source test review fee is for a single TEU and multiple toxic air contaminant test methods; and

(C) The simple source test review fee is for a single TEU and a single toxic air contaminant test method.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.315, Or Laws 2018, ch. 102, § 13

STATUTES/OTHER IMPLEMENTED: ORS 468.065, 468A.010, 468A.015, 468A.025, 468A.035, 468A.040, 468A.050, 468A.070, 468A.155, 468A.315, Or Laws 2018, ch. 102, §§ 13 and 14

ADOPT: 340-245-8010

RULE TITLE: Table 1 - Risk Action Levels

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Table 1 - Risk Action Levels for division 245: Cleaner Air Oregon

RULE TEXT:

Table 1 - Risk Action Levels

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035

OAR 340-245-8010 Table 1

Risk Action Levels

OAR 340-245-8010
Table 1 Risk Action Levels†

Applicability	Risk Action Level	Excess Cancer Risk per Million	Noncancer Hazard Index
New and Reconstructed Source	Aggregate TEU Level	0.5	0.1
	Source Permit Level	0.5	0.5
	Community Engagement Level	5	1
	TLAER Level	10	1
	Permit Denial Level	25	1
Existing Source	Aggregate TEU Level	2.5	0.1
	Source Permit Level	5	0.5
	Community Engagement Level	25	1
	TBACT Level	50	5
	Risk Reduction Level	200	10
	Immediate Curtailment Level	500	20

Footnotes for OAR 340-245-8010 Table 1:

†Facility risk that is equal to or less than the values in the table is considered compliant with the Risk Action Level. Risk Action Levels are considered consistent with benchmarks in Oregon Laws 2018, chapter 102 (Senate Bill (SB) 1541 (2018)).

Stat. Auth.: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155
Stats. Implemented: ORS 468.065, 468A.010, 468A.015, 468A.025, 468A.035, 468A.040, 468A.050, 468A.070, and 468A.155

ADOPT: 340-245-8020

RULE TITLE: Table 2 - Toxic Air Contaminant Reporting List

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Table 2 - Toxic Air Contaminant Reporting List for division 245: Cleaner Air Oregon

RULE TEXT:

Table 2 - Toxic Air Contaminant Reporting List

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035

340-245-8020 Table 2

Toxic Air Contaminant Reporting List

State of Oregon Department of Environmental Quality

OAR 340-245-8020
Table 2 Toxic Air Contaminant Reporting List

CAS#[a]	Chemical Name
75-07-0	Acetaldehyde
60-35-5	Acetamide
67-64-1	Acetone
75-05-8	Acetonitrile
98-86-2	Acetophenone
107-02-8	Acrolein
79-06-1	Acrylamide
79-10-7	Acrylic acid
107-13-1	Acrylonitrile
50-76-0	Actinomycin D
1596-84-5	Alar
309-00-2	Aldrin
107-05-1	Allyl chloride
7429-90-5	Aluminum and compounds[b]
1344-28-1	Aluminum oxide (fibrous forms)
97-56-3	*ortho*-Aminoazotoluene
6109-97-3	3-Amino-9-ethylcarbazole hydrochloride
68006-83-7	2-Amino-3-methyl-9H pyrido[2,3-b]indole
82-28-0	1-Amino-2-methylanthraquinone
76180-96-6	2-Amino-3-methylimidazo-[4,5-f]quinoline
712-68-5	2-Amino-5-(5-Nitro-2-Furyl)-1,3,4-Thiadiazol
26148-68-5	A-alpha-c(2-amino-9h-pyrido[2,3-b]indole)
92-67-1	4-Aminobiphenyl
61-82-5	Amitrole
7664-41-7	Ammonia
7803-63-6	Ammonium bisulfate
6484-52-2	Ammonium nitrate
7783-20-2	Ammonium sulfate
62-53-3	Aniline
90-04-0	*o*-Anisidine

OAR 340-245-8020
Table 2 Toxic Air Contaminant Reporting List

State of Oregon Department of Environmental Quality

CAS#[a]	Chemical Name
134-29-2	*o*-Anisidine hydrochloride
7440-36-0	Antimony and compounds[b]
1309-64-4	Antimony trioxide
140-57-8	Aramite
7440-38-2	Arsenic and compounds[b]
7784-42-1	Arsine
1332-21-4	Asbestos
492-80-8	Auramine
115-02-6	Azaserine
446-86-6	Azathioprine
52-24-4	*Tris*-(1-Aziridinyl)phosphine sulfide
103-33-3	Azobenzene
7440-39-3	Barium and compounds[b]
71-43-2	Benzene
92-87-5	Benzidine (and its salts)
271-89-6	Benzofuran
98-07-7	Benzoic trichloride (Benzotrichloride)
98-88-4	Benzoyl chloride
94-36-0	Benzoyl peroxide
100-44-7	Benzyl chloride
1694-09-3	Benzyl Violet 4B
7440-41-7	Beryllium and compounds[b]
1304-56-9	Beryllium Oxide
13510-49-1	Beryllium Sulfate
92-52-4	Biphenyl
111-44-4	*Bis*(2-chloroethyl) ether (DCEE)
542-88-1	*Bis*(chloromethyl) ether
103-23-1	*Bis*(2-ethylhexyl) adipate
117-81-7	*Bis*(2-ethylhexyl) phthalate (DEHP)
7726-95-6	Bromine and compounds[b]
7789-30-2	Bromine pentafluoride
75-27-4	Bromodichloromethane
75-25-2	Bromoform
74-83-9	Bromomethane (Methyl bromide)

OAR 340-245-8020
Table 2 Toxic Air Contaminant Reporting List

State of Oregon Department of Environmental Quality

CAS#[a]	Chemical Name
106-94-5	1-Bromopropane (*n*-propyl bromide)
126-72-7	*Tris*(2,3-dibromopropyl)phosphate
106-99-0	1,3-Butadiene
78-93-3	2-Butanone (Methyl ethyl ketone)
540-88-5	*t*-Butyl acetate
141-32-2	Butyl acrylate
71-36-3	*n*-Butyl alcohol
78-92-2	*sec*-Butyl alcohol
75-65-0	*tert*-Butyl alcohol
85-68-7	Butyl benzyl phthalate
25013-16-5	Butylated hydroxyanisole
3068-88-0	*beta*-Butyrolactone
7440-43-9	Cadmium and compounds[b]
156-62-7	Calcium cyanamide
105-60-2	Caprolactam
2425-06-1	Captafol
133-06-2	Captan
	Carbon black extracts
75-15-0	Carbon disulfide
56-23-5	Carbon tetrachloride
463-58-1	Carbonyl sulfide
9000-07-1	Carrageenan (degraded)
120-80-9	Catechol
	Ceramic fibers
133-90-4	Chloramben
305-03-3	Chlorambucil
57-74-9	Chlordane
143-50-0	Chlordecone
115-28-6	Chlorendic Acid
76-13-1	Chlorinated fluorocarbon (1,1,2-Trichloro-1,2,2-trifluoroethane, CFC-113)
108171-26-2	Chlorinated paraffins
7782-50-5	Chlorine
10049-04-4	Chlorine dioxide
79-11-8	Chloroacetic acid

OAR 340-245-8020
Table 2 Toxic Air Contaminant Reporting List

State of Oregon Department of Environmental Quality

CAS#[a]	Chemical Name
532-27-4	2-Chloroacetophenone
85535-84-8	Chloroalkanes C10-13 (Chlorinated paraffins)
106-47-8	*p*-Chloroaniline
108-90-7	Chlorobenzene
510-15-6	Chlorobenzilate (Ethyl-4,4'-dichlorobenzilate)
75-68-3	1-Chloro-1,1-difluoroethane
75-45-6	Chlorodifluoromethane (Freon 22)
75-00-3	Chloroethane (Ethyl chloride)
67-66-3	Chloroform
74-87-3	Chloromethane (Methyl chloride)
107-30-2	Chloromethyl methyl ether (technical grade)
563-47-3	3-Chloro-2-methyl-1-propene
95-57-8	2-Chlorophenol
95-83-0	4-Chloro-*o*-phenylenediamine
76-06-2	Chloropicrin
126-99-8	Chloroprene
1897-45-6	Chlorothalonil
95-69-2	*p*-Chloro-*o*-toluidine
54749-90-5	Chlorozotocin
7738-94-5	Chromic(VI) Acid
18540-29-9	Chromium VI, chromate and dichromate particulate
18540-29-9	Chromium VI, chromic acid aerosol mist
569-61-9	C.I. Basic Red 9 Monohydrochloride
87-29-6	Cinnamyl anthranilate
7440-48-4	Cobalt and compounds[b]
	Coke Oven Emissions
7440-50-8	Copper and compounds[b]
	Creosotes
120-71-8	*p*-Cresidine
1319-77-3	Cresols (mixture), including *m*-cresol, *o*-cresol, *p*-cresol
108-39-4	*m*-Cresol
95-48-7	*o*-Cresol
106-44-5	*p*-Cresol
4170-30-3	Crotonaldehyde

OAR 340-245-8020
Table 2 Toxic Air Contaminant Reporting List

State of Oregon Department of Environmental Quality

CAS#[a]	Chemical Name
80-15-9	Cumene hydroperoxide
135-20-6	Cupferron
74-90-8	Cyanide, hydrogen
110-82-7	Cyclohexane
108-93-0	Cyclohexanol
66-81-9	Cycloheximide
50-18-0	Cyclophosphamide (anhydrous)
6055-19-2	Cyclophosphamide (hydrated)
5160-02-1	D & C Red No. 9
4342-03-4	Dacarbazine
117-10-2	Dantron
72-54-8	4,4'-DDD (4,4'-dichlorodiphenyldichloroethane)
53-19-0	2,4'-DDD (2,4'-dichlorodiphenyldichloroethane)
3547-04-4	DDE (1-chloro-4-[1-(4-chlorophenyl)ethyl]benzene)
3424-82-6	2,4'-DDE (2,4'-dichlorodiphenyldichloroethene)
72-55-9	4,4'-DDE (4,4'-dichlorodiphenyldichloroethene)
789-02-6	2,4'-DDT (2,4'-dichlorodiphenyltrichloroethane)
50-29-3	DDT
615-05-4	2,4-Diaminoanisole
39156-41-7	2,4-Diaminoanisole sulfate
101-80-4	4,4'-Diaminodiphenyl ether
95-80-7	2,4-Diaminotoluene (2,4-Toluene diamine)
334-88-3	Diazomethane
333-41-5	Diazinon
132-64-9	Dibenzofuran
124-48-1	Dibromochloromethane
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)
96-13-9	2,3-Dibromo-1-propanol
84-74-2	Dibutyl phthalate
95-50-1	1,2-Dichlorobenzene
541-73-1	1,3-Dichlorobenzene
106-46-7	*p*-Dichlorobenzene (1,4-Dichlorobenzene)
91-94-1	3,3'-Dichlorobenzidine
75-71-8	Dichlorodifluoromethane (Freon 12)

OAR 340-245-8020
Table 2 Toxic Air Contaminant Reporting List

State of Oregon Department of Environmental Quality

CAS#[a]	Chemical Name
75-43-4	Dichlorofluoromethane (Freon 21)
75-34-3	1,1-Dichloroethane (Ethylidene dichloride)
156-60-5	*trans*-1,2-dichloroethene
75-09-2	Dichloromethane (Methylene chloride)
120-83-2	2,4-Dichlorophenol
94-75-7	Dichlorophenoxyacetic acid, salts and esters (2,4-D)
78-87-5	1,2-Dichloropropane (Propylene dichloride)
542-75-6	1,3-Dichloropropene
62-73-7	Dichlorovos (DDVP)
115-32-2	Dicofol
84-61-7	Di-cyclohexyl phthalate (DCHP)
60-57-1	Dieldrin
	Diesel Particulate Matter
111-42-2	Diethanolamine
111-46-6	Diethylene glycol
111-96-6	Diethylene glycol dimethyl ether
112-34-5	Diethylene glycol monobutyl ether
111-90-0	Diethylene glycol monoethyl ether
111-77-3	Diethylene glycol monomethyl ether
84-66-2	Diethylphthalate
64-67-5	Diethyl sulfate
134-62-3	Diethyltoluamide, *N*,*N*- (DEET)
75-37-6	1,1-Difluoroethane
101-90-6	Diglycidyl resorcinol ether
94-58-6	Dihydrosafrole
119-90-4	3,3'-Dimethoxybenzidine
60-11-7	4-Dimethylaminoazobenzene
121-69-7	*N*,*N*-Dimethylaniline
119-93-7	3,3'-Dimethylbenzidine (*o*-Tolidine)
79-44-7	Dimethyl carbamoyl chloride
68-12-2	Dimethyl formamide
57-14-7	1,1-Dimethylhydrazine
131-11-3	Dimethyl phthalate
77-78-1	Dimethyl sulfate

OAR 340-245-8020
Table 2 Toxic Air Contaminant Reporting List

State of Oregon Department of Environmental Quality

CAS#[a]	Chemical Name
513-37-1	Dimethylvinylchloride
534-52-1	4,6-Dinitro-o-cresol (and salts)
51-28-5	2,4-Dinitrophenol
121-14-2	2,4-Dinitrotoluene
606-20-2	2,6-Dinitrotoluene
123-91-1	1,4-Dioxane
630-93-3	Diphenylhydantoin
122-66-7	1,2-Diphenylhydrazine (Hydrazobenzene)
25265-71-8	Dipropylene glycol
34590-94-8	Dipropylene glycol monomethyl ether
1937-37-7	Direct Black 38
2602-46-2	Direct Blue 6
16071-86-6	Direct Brown 95 (technical grade)
2475-45-8	Disperse Blue 1
298-04-4	Disulfoton
106-89-8	Epichlorohydrin
106-88-7	1,2-Epoxybutane
	Epoxy resins
12510-42-8	Erionite
140-88-5	Ethyl acrylate
100-41-4	Ethyl benzene
74-85-1	Ethylene
106-93-4	Ethylene dibromide (EDB, 1,2-Dibromoethane)
107-06-2	Ethylene dichloride (EDC, 1,2-Dichloroethane)
107-21-1	Ethylene glycol
629-14-1	Ethylene glycol diethyl ether
110-71-4	Ethylene glycol dimethyl ether
111-76-2	Ethylene glycol monobutyl ether
110-80-5	Ethylene glycol monoethyl ether
111-15-9	Ethylene glycol monoethyl ether acetate
109-86-4	Ethylene glycol monomethyl ether
110-49-6	Ethylene glycol monomethyl ether acetate
2807-30-9	Ethylene glycol monopropyl ether
151-56-4	Ethyleneimine (Aziridine)

OAR 340-245-8020
Table 2 Toxic Air Contaminant Reporting List

State of Oregon Department of Environmental Quality

CAS#[a]	Chemical Name
75-21-8	Ethylene oxide
96-45-7	Ethylene thiourea
10028-22-5	Ferric Sulfate
	Fluorides
7782-41-4	Fluorine gas
50-00-0	Formaldehyde
110-00-9	Furan
60568-05-0	Furmecyclox
3688-53-7	Furylfuramide
	Glasswool fibers
111-30-8	Glutaraldehyde
67730-11-4	Glu-P-1
67730-10-3	Glu-P-2
16568-02-8	Gyromitrin
2784-94-3	HC Blue 1
76-44-8	Heptachlor
1024-57-3	Heptachlor epoxide
118-74-1	Hexachlorobenzene
87-68-3	Hexachlorobutadiene
608-73-1	Hexachlorocyclohexanes (mixture) including but not limited to:
319-84-6	*alpha*-Hexachlorocyclohexane
319-85-7	*beta*-Hexachlorocyclohexane
58-89-9	*gamma*-Hexachlorocyclohexane (Lindane)
77-47-4	Hexachlorocyclopentadiene
67-72-1	Hexachloroethane
680-31-9	Hexamethylphosphoramide
822-06-0	Hexamethylene-1,6-diisocyanate
110-54-3	Hexane
302-01-2	Hydrazine
10034-93-2	Hydrazine sulfate
7647-01-0	Hydrochloric acid
10035-10-6	Hydrogen bromide
7664-39-3	Hydrogen fluoride
7783-06-4	Hydrogen sulfide

OAR 340-245-8020
Table 2 Toxic Air Contaminant Reporting List

State of Oregon Department of Environmental Quality

CAS#[a]	Chemical Name
123-31-9	Hydroquinone
24267-56-9	Iodine-131
13463-40-6	Iron pentacarbonyl
78-59-1	Isophorone
78-79-5	Isoprene, except from vegetative emission sources
67-63-0	Isopropyl alcohol
98-82-8	Isopropylbenzene (Cumene)
80-05-7	4,4'-Isopropylidenediphenol
303-34-4	Lasiocarpine
7439-92-1	Lead and compounds[b]
18454-12-1	Lead chromate oxide
108-31-6	Maleic anhydride
7439-96-5	Manganese and compounds[b]
148-82-3	Melphalan
3223-07-2	Melphalan HCl
7439-97-6	Mercury and compounds[b]
627-44-1	Diethylmercury
593-74-8	Dimethylmercury
22967-92-6	Methylmercury
67-56-1	Methanol
72-43-5	Methoxychlor
55738-54-0	*Trans*-2[(dimethylamino)-methylimino]-5-[2-(5-nitro-2-furyl)-vinyl]-1,3,4-oxadiazole
101-14-4	4,4'-Methylene *bis*(2-chloroaniline) (MOCA)
101-77-9	4,4'-Methylenedianiline (and its dichloride)
13552-44-8	4,4-Methylenedianiline dihydrochloride
838-88-0	4,4-Methylene *bis*(2-methylaniline)
101-61-1	4,4'-Methylene *bis*(*N*,*N*'-dimethyl)aniline
101-68-8	Methylene diphenyl diisocyanate (MDI)
60-34-4	Methyl hydrazine
540-73-8	1,2-Dimethylhydrazine
74-88-4	Methyl iodide (Iodomethane)
108-10-1	Methyl isobutyl ketone (MIBK, Hexone)
624-83-9	Methyl isocyanate

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CAS#[a]	Chemical Name
75-86-5	2-Methyllactonitrile (Acetone cyanohydrin)
80-62-6	Methyl methacrylate
66-27-3	Methyl Methanesulfonate
129-15-7	2-Methyl-1-nitroanthraquinone
70-25-7	*N*-Methyl-*N*-nitro-*N*-nitrosoguanidine
832-69-9	1-Methylphenanthrene
2381-21-7	1-Methylpyrene
109-06-8	2-Methylpyridine
1634-04-4	Methyl *tert*-butyl ether
56-04-2	Methylthiouracil
90-94-8	Michler's ketone
	Mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.
	Mineral fibers (fine mineral fibers which are man-made, and are airborne particles of a respirable size greater than 5 microns in length, less than or equal to 3.5 microns in diameter, with a length to diameter ratio of 3:1)
2385-85-5	Mirex
50-07-7	Mitomycin C
1313-27-5	Molybdenum trioxide
315-22-0	Monocrotaline
91-59-8	2-Naphthylamine
91-20-3	Naphthalene
7440-02-0	Nickel and compounds[b]
	Nickel compounds, insoluble
7440-02-0	Nickel metal
1313-99-1	Nickel oxide
12035-72-2	Nickel subsulfide
11113-75-0	Nickel sulfide
	Nickel compounds, soluble
373-02-4	Nickel acetate
3333-67-3	Nickel carbonate
12607-70-4	Nickel carbonate hydroxide
13463-39-3	Nickel carbonyl

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CAS#[a]	Chemical Name
7718-54-9	Nickel chloride
12054-48-7	Nickel hydroxide
7786-81-4	Nickel sulfate
10101-97-0	Nickel sulfate hexahydrate
13478-00-7	Nickel nitrate hexahydrate
1271-28-9	Nickelocene
3570-75-0	Nifurthiazole
7697-37-2	Nitric acid
139-13-9	Nitrilotriacetic acid
18662-53-8	Nitrilotriacetic acid, trisodium salt monohydrate
99-59-2	5-Nitro-*o*-Anisidine
98-95-3	Nitrobenzene
92-93-3	4-Nitrobiphenyl
1836-75-5	Nitrofen
59-87-0	Nitrofurazone
555-84-0	1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone
531-82-8	*N*-[4-(5-nitro-2-furyl)-2-thiazolyl]-acetamide
302-70-5	Nitrogen mustard N-oxide
100-02-7	4-Nitrophenol
79-46-9	2-Nitropropane
924-16-3	*N*-Nitrosodi-*n*-butylamine
1116-54-7	*N*-Nitrosodiethanolamine
55-18-5	*N*-Nitrosodiethylamine
62-75-9	*N*-Nitrosodimethylamine
86-30-6	*N*-Nitrosodiphenylamine
156-10-5	*p*-Nitrosodiphenylamine
621-64-7	*N*-Nitrosodi-*n*-propylamine
10595-95-6	*N*-Nitrosomethylethylamine
759-73-9	*N*-Nitroso-*N*-ethylurea
615-53-2	*N*-Nitroso-*N*-methylurethane
684-93-5	*N*-Nitroso-*N*-methylurea
59-89-2	*N*-Nitrosomorpholine
16543-55-8	*N*-Nitrosonornicotine
100-75-4	*N*-Nitrosopiperidine

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CAS#[a]	Chemical Name
930-55-2	*N*-Nitrosopyrrolidine
39765-80-5	*trans*-Nonachlor
104-40-5	Nonyphenol, 4- (& ethoxylates)
8014-95-7	Oleum (fuming sulfuric acid)
56-38-2	Parathion
87-86-5	Pentachlorophenol
32534-81-9	Pentabromodiphenyl ether
82-68-8	Pentachloronitrobenzene (Quintobenzene)
79-21-0	Peracetic acid
	Perfluorinated compounds (PFCs)
335-67-1	Perfluorooctanoic acid (PFOA)
1763-23-1	Perfluorooctanesulfonic acid (PFOS)
62-44-2	Phenacetin
94-78-0	Phenazopyridine
136-40-3	Phenazopyridine hydrochloride
3546-10-9	Phenesterin
50-06-6	Phenobarbital
108-95-2	Phenol
59-96-1	Phenoxybenzamine
63-92-3	Phenoxybenzamine hydrochloride
106-50-3	*p*-Phenylenediamine
132-27-4	*o*-Phenylphenate, sodium
90-43-7	2-Phenylphenol
75-44-5	Phosgene
7803-51-2	Phosphine
7664-38-2	Phosphoric acid
	Phosphorus and compounds[b]
10025-87-3	Phosphorus oxychloride
10026-13-8	Phosphorus pentachloride
1314-56-3	Phosphorus pentoxide
7719-12-2	Phosphorus trichloride
12185-10-3	Phosphorus, white
	Phthalates
85-44-9	Phthalic anhydride

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CAS#[a]	Chemical Name
	Polybrominated diphenyl ethers (PBDEs)
5436-43-1	PBDE-47 [2,2',4,4'-Tetrabromodiphenyl ether]
60348-60-9	PBDE-99 [2,2',4,4',5-Pentabromodiphenyl ether]
189084-64-8	PBDE-100 [2,2',4,4',6-Pentabromodiphenyl ether]
17026-54-3	PBDE-138 [2,2',3,4,4',5'-Hexabromodiphenyl ether]
68631-49-2	PBDE-153 [2,2',4,4',5,5'-hexabromodiphenyl ether]
17026-58-4	PBDE-154 [2,2',4,4',5,6'-Hexabromodiphenyl ether]
68928-80-3	PBDE-185 [2,2',3,4,4',5',6-Heptabromodiphenyl ether]
1163-19-5	PBDE-209 [Decabromodiphenyl ether]
1336-36-3	Polychlorinated biphenyls (PCBs)
	Polychlorinated biphenyls (PCBs) TEQ[c]
34883-43-7	PCB-8 [2,4'-dichlorobiphenyl]
37680-65-2	PCB 18 [2,2',5-trichlorobiphenyl]
7012-37-5	PCB-28 [2,4,4'-trichlorobiphenyl]
41464-39-5	PCB-44 [2,2',3,5'-tetrachlorobiphenyl]
35693-99-3	PCB-52 [2,2',5,5'-tetrachlorobiphenyl]
32598-10-0	PCB-66 [2,3',4,4'-tetrachlorobiphenyl]
32598-13-3	PCB 77 [3,3',4,4'-tetrachlorobiphenyl]
70362-50-4	PCB 81 [3,4,4',5-tetrachlorobiphenyl]
37680-73-2	PCB-101 [2,2',4,5,5'-pentachlorobiphenyl]
32598-14-4	PCB 105 [2,3,3',4,4'-pentachlorobiphenyl]
74472-37-0	PCB 114 [2,3,4,4',5-pentachlorobiphenyl]
31508-00-6	PCB 118 [2,3',4,4',5-pentachlorobiphenyl]
65510-44-3	PCB 123 [2,3',4,4',5'-pentachlorobiphenyl]
57465-28-8	PCB 126 [3,3',4,4',5-pentachlorobiphenyl]
38380-07-3	PCB-128 [2,2',3,3',4,4'-hexachlorobiphenyl]
35065-28-2	PCB-138 [2,2',3,4,4',5'-hexachlorobiphenyl]
35065-27-1	PCB-153 [2,2',4,4',5,5'-hexachlorobiphenyl]
38380-08-4	PCB 156 [2,3,3',4,4',5-hexachlorobiphenyl]
69782-90-7	PCB 157 [2,3,3',4,4',5'-hexachlorobiphenyl]
52663-72-6	PCB 167 [2,3',4,4',5,5'-hexachlorobiphenyl]
32774-16-6	PCB 169 [3,3',4,4',5,5'-hexachlorobiphenyl]
35065-30-6	PCB-170 [2,2',3,3',4,4',5-heptachlorobiphenyl]
35065-29-3	PCB-180 [2,2',3,4,4',5,5'-heptachlorobiphenyl]

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CAS#[a]	Chemical Name
52663-68-0	PCB-187 [2,2',3,4',5,5',6-heptachlorobiphenyl]
39635-31-9	PCB 189 [2,3,3',4,4',5,5'-heptachlorobiphenyl]
52663-78-2	PCB-195 [2,2',3,3',4,4',5,6-octachlorobiphenyl]
40186-72-9	PCB-206 [2,2',3,3',4,4',5,5',6-nonachlorobiphenyl]
2051-24-3	PCB-209 [2,2'3,3',4,4',5,5',6,6 '-decachlorobiphenyl]
	Polychlorinated dibenzo-*p*-dioxins (PCDDs) & dibenzofurans (PCDFs) TEQ[c]
1746-01-6	2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (TCDD)
40321-76-4	1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin (PeCDD)
39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin (HxCDD)
57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin (HxCDD)
19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin (HxCDD)
35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin (HpCDD)
3268-87-9	Octachlorodibenzo-*p*-dioxin (OCDD)
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TcDF)
57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)
57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)
70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)
57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)
72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)
60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)
67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)
55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)
39001-02-0	Octachlorodibenzofuran (OCDF)
	Polycyclic aromatic hydrocarbons (PAHs)
83-32-9	Acenaphthene
208-96-8	Acenaphthylene
120-12-7	Anthracene
191-26-4	Anthanthrene
56-55-3	Benz[a]anthracene
50-32-8	Benzo[a]pyrene
205-99-2	Benzo[b]fluoranthene
205-12-9	Benzo[c]fluorene
192-97-2	Benzo[e]pyrene
191-24-2	Benzo[g,h,i]perylene

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CAS#[a]	Chemical Name
205-82-3	Benzo[j]fluoranthene
207-08-9	Benzo[k]fluoranthene
86-74-8	Carbazole
218-01-9	Chrysene
27208-37-3	Cyclopenta[c,d]pyrene
226-36-8	Dibenz[a,h]acridine
224-42-0	Dibenz[a,j]acridine
194-59-2	7H-Dibenzo[c,g]carbazole
53-70-3	Dibenz[a,h]anthracene
5385-75-1	Dibenzo[a,e]fluoranthene
192-65-4	Dibenzo[a,e]pyrene
189-64-0	Dibenzo[a,h]pyrene
189-55-9	Dibenzo[a,i]pyrene
191-30-0	Dibenzo[a,l]pyrene
206-44-0	Fluoranthene
86-73-7	Fluorene
193-39-5	Indeno[1,2,3-cd]pyrene
91-57-6	2-Methyl naphthalene
198-55-0	Perylene
85-01-8	Phenanthrene
129-00-0	Pyrene
	Polycyclic aromatic hydrocarbon derivatives [PAH-Derivatives]
53-96-3	2-Acetylaminofluorene
117-79-3	2-Aminoanthraquinone
63-25-2	Carbaryl
57-97-6	7,12-Dimethylbenz[a]anthracene
42397-64-8	1,6-Dinitropyrene
42397-65-9	1,8-Dinitropyrene
56-49-5	3-Methylcholanthrene
3697-24-3	5-Methylchrysene
602-87-9	5-Nitroacenaphthene
7496-02-8	6-Nitrochrysene
607-57-8	2-Nitrofluorene
5522-43-0	1-Nitropyrene

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CAS#[a]	Chemical Name
57835-92-4	4-Nitropyrene
3564-09-8	Ponceau 3R
3761-53-3	Ponceau MX
7758-01-2	Potassium bromate
671-16-9	Procarbazine
366-70-1	Procarbazine hydrochloride
1120-71-4	1,3-Propane sultone
57-57-8	*beta*-Propiolactone
123-38-6	Propionaldehyde
114-26-1	Propoxur (Baygon)
115-07-1	Propylene
6423-43-4	Propylene glycol dinitrate
107-98-2	Propylene glycol monomethyl ether
108-65-6	Propylene glycol monomethyl ether acetate
75-56-9	Propylene oxide
75-55-8	1,2-Propyleneimine (2-Methylaziridine)
51-52-5	Propylthiouracil
110-86-1	Pyridine
91-22-5	Quinoline
106-51-4	Quinone
	Radon and its decay products
	Refractory Ceramic Fibers
50-55-5	Reserpine
	Rockwool
94-59-7	Safrole
7783-07-5	Selenide, hydrogen
7782-49-2	Selenium and compounds[b]
7446-34-6	Selenium sulfide
7631-86-9	Silica, crystalline (respirable)
7440-22-4	Silver and compounds[b]
	Slagwool
1310-73-2	Sodium hydroxide
10048-13-2	Sterigmatocystin
18883-66-4	Streptozotocin

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CAS#[a]	Chemical Name
100-42-5	Styrene
96-09-3	Styrene oxide
95-06-7	Sulfallate
7664-93-9	Sulfuric acid
505-60-2	Sulfur mustard
7446-71-9	Sulfur trioxide
	Talc containing asbestiform fibers
100-21-0	Terephthalic acid
40088-47-9	Tetrabromodiphenyl ether
630-20-6	1,1,1,2-Tetrachloroethane
79-34-5	1,1,2,2-Tetrachloroethane
127-18-4	Tetrachloroethene (Perchloroethylene)
58-90-2	2,3,4,6-Tetrachlorophenol
811-97-2	1,1,1,2-Tetrafluoroethane
7440-28-0	Thallium and compounds[b]
62-55-5	Thioacetamide
139-65-1	4,4-Thiodianiline
62-56-6	Thiourea
7550-45-0	Titanium tetrachloride
108-88-3	Toluene
26471-62-5	Toluene diisocyanates (2,4- and 2,6-)
584-84-9	Toluene-2,4-diisocyanate
91-08-7	Toluene-2,6-diisocyanate
95-53-4	*o*-Toluidine
636-21-5	*o*-Toluidine hydrochloride
41903-57-5	Total Tetrachlorodibenzo-*p*-dioxin
36088-22-9	Total Pentachlorodibenzo-*p*-dioxin
34465-46-8	Total Hexachlorodibenzo-*p*-dioxin
37871-00-4	Total Heptachlorodibenzo-*p*-dioxin
55722-27-5	Total Tetrachlorodibenzofuran
30402-15-4	Total Pentachlorodibenzofuran
55684-94-1	Total Hexachlorodibenzofuran
38998-75-3	Total Heptachlorodibenzofuran
8001-35-2	Toxaphene (Polychlorinated camphenes)

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CAS#[a]	Chemical Name
126-73-8	Tributyl phosphate
120-82-1	1,2,4-Trichlorobenzene
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)
79-00-5	1,1,2-Trichloroethane (Vinyl trichloride)
79-01-6	Trichloroethene (TCE, Trichloroethylene)
75-69-4	Trichlorofluoromethane (Freon 11)
95-95-4	2,4,5-Trichlorophenol
88-06-2	2,4,6-Trichlorophenol
96-18-4	1,2,3-Trichloropropane
78-40-0	Triethyl phosphine
121-44-8	Triethylamine
112-49-2	Triethylene glycol dimethyl ether
512-56-1	Trimethyl phosphate
78-30-8	Triorthocresyl phosphate
115-86-6	Triphenyl phosphate
101-02-0	Triphenyl phosphite
1582-09-8	Trifluralin
526-73-8	1,2,3-Trimethylbenzene
95-63-6	1,2,4-Trimethylbenzene
108-67-8	1,3,5-Trimethylbenzene
540-84-1	2,2,4-Trimethylpentane
62450-06-0	Tryptophan-P-1
62450-07-1	Tryptophan-P-2
51-79-6	Urethane (Ethyl carbamate)
7440-62-2	Vanadium (fume or dust)
1314-62-1	Vanadium pentoxide
108-05-4	Vinyl acetate
593-60-2	Vinyl bromide
75-01-4	Vinyl chloride
100-40-3	4-Vinylcyclohexene
75-02-5	Vinyl fluoride
75-35-4	Vinylidene chloride
1330-20-7	Xylene (mixture), including *m*-xylene, *o*-xylene, *p*-xylene
108-38-3	*m*-Xylene

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CAS#[a]	Chemical Name
95-47-6	*o*-Xylene
106-42-3	*p*-Xylene
7440-66-6	Zinc and compounds[b]
1314-13-2	Zinc oxide

NOTE:

a) CAS# = Chemical Abstracts Service Number
b) Inorganic chemicals designated with "and compounds" should be reported as the sum of all forms of the chemical, expressed as the inorganic element.
c) TEQ = toxic equivalency, relative to 2,3,7,8-tetrachlorodibenzo-*p*-dioxin.

Stat. Auth.: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155
Stats. Implemented: ORS 468.065, 468A.010, 468A.015, 468A.025, 468A.035, 468A.040, 468A.050, 468A.070, and 468A.155

ADOPT: 340-245-8030

RULE TITLE: Table 3 - Toxicity Reference Values

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Table 3 - Toxicity Reference Values for division 245: Cleaner Air Oregon

RULE TEXT:

Table 3 - Toxicity Reference Values

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035

OAR 340-245-8030 Table 3

Toxicity Reference Values

DEQ
State of Oregon
Department of
Environmental
Quality

OAR 340-245-8030
Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes
75-07-0	Acetaldehyde		0.45	A	140	O	470	O
60-35-5	Acetamide		0.050	O				
67-64-1	Acetone				31,000	T	62,000	S
75-05-8	Acetonitrile				60	I		
107-02-8	Acrolein				0.35	A	6.9	T
79-06-1	Acrylamide		0.010	I	6.0	I		
79-10-7	Acrylic acid				1.0	I	6,000	O
107-13-1	Acrylonitrile		0.015	A	5.0	O	220	T
309-00-2	Aldrin		0.00020	I				
107-05-1	Allyl chloride		0.17	O	1.0	I		
7429-90-5	Aluminum and compounds	o			5.0	P		
7664-41-7	Ammonia				500	A	1,200	T
62-53-3	Aniline		0.63	O	1.0	I		
7440-36-0	Antimony and compounds	o			0.30	T	1.0	T
140-57-8	Aramite		0.14	I				
7440-38-2	Arsenic and compounds	o	0.00023	A	0.015	O	0.20	S
7784-42-1	Arsine				0.015	O	0.20	O
1332-21-4	Asbestos	k	4.3E-06	I				

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes
103-33-3	Azobenzene		0.032	I				
71-43-2	Benzene	j	0.13	A	3.0	O	29	T
92-87-5	Benzidine (and its salts)		7.1E-06	O				
100-44-7	Benzyl chloride		0.020	O	1.0	P	240	O
7440-41-7	Beryllium and compounds	o	0.00042	A	0.0070	O	0.020	S
111-44-4	*Bis*(2-chloroethyl) ether (DCEE)		0.0014	O			120	Tint
542-88-1	*Bis*(chloromethyl) ether		7.7E-05	O			1.4	Tint
117-81-7	*Bis*(2-ethylhexyl) phthalate (DEHP)		0.42	O				
75-25-2	Bromoform		0.91	I				
74-83-9	Bromomethane (Methyl bromide)				5.0	A	3,900	O
106-94-5	1-Bromopropane (*n*-propyl bromide)		0.48	A	33	T	1,700	T
106-99-0	1,3-Butadiene		0.033	A	2.0	O	660	O
78-93-3	2-Butanone (Methyl ethyl ketone)				5,000	I	5,000	S
78-92-2	*sec*-Butyl alcohol				30,000	P		
7440-43-9	Cadmium and compounds	o	0.00056	A	0.010	T	0.030	S
105-60-2	Caprolactam				2.2	O	50	O
75-15-0	Carbon disulfide				800	A	6,200	O
56-23-5	Carbon tetrachloride		0.17	A	100	I	1,900	O
463-58-1	Carbonyl sulfide				10	O	660	O

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m³)	Notes	(µg/m³)	Notes	(µg/m³)	Notes
57-74-9	Chlordane	j	0.010	I	0.020	T	0.20	Tint
108171-26-2	Chlorinated paraffins	n	0.040	O				
7782-50-5	Chlorine				0.15	A	170	T
10049-04-4	Chlorine dioxide				0.60	O	2.8	Tint
532-27-4	2-Chloroacetophenone				0.030	I		
108-90-7	Chlorobenzene				50	P		
75-68-3	1-Chloro-1,1-difluoroethane				50,000	I		
75-45-6	Chlorodifluoromethane (Freon 22)				50,000	I		
75-00-3	Chloroethane (Ethyl chloride)				30,000	O	40,000	T
67-66-3	Chloroform			A2	300	A	490	T
74-87-3	Chloromethane (Methyl chloride)				90	A	1,000	T
95-83-0	4-Chloro-*o*-phenylenediamine		0.22	O				
76-06-2	Chloropicrin				0.40	O	29	O
126-99-8	Chloroprene		0.0033	I	20	I		
95-69-2	*p*-Chloro-*o*-toluidine		0.013	O				
18540-29-9	Chromium VI, chromate and dichromate particulate	d	8.3E-05	A	0.20	O	0.30	S
18540-29-9	Chromium VI, chromic acid aerosol mist	d	8.3E-05	A	0.0050	T	0.0050	S
7440-48-4	Cobalt and compounds	o		A2	0.10	A		

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes
	Coke Oven Emissions		0.0016	I				
7440-50-8	Copper and compounds	o					100	O
120-71-8	*p*-Cresidine		0.023	O				
1319-77-3	Cresols (mixture), including *m*-cresol, *o*-cresol, *p*-cresol				600	O		
135-20-6	Cupferron		0.016	O				
74-90-8	Cyanide, Hydrogen				0.80	A	340	O
110-82-7	Cyclohexane				6,000	I		
50-29-3	DDT	e	0.010	I				
615-05-4	2,4-Diaminoanisole		0.15	O				
95-80-7	2,4-Diaminotoluene (2,4-Toluene diamine)		0.00091	O				
333-41-5	Diazinon						10	Tint
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.00017	P	0.20	I	1.9	Tint
106-46-7	*p*-Dichlorobenzene (1,4-Dichlorobenzene)		0.091	A	60	T	12,000	T
91-94-1	3,3'-Dichlorobenzidine		0.0029	O				
75-34-3	1,1-Dichloroethane (Ethylidene dichloride)		0.63	O				
156-60-5	*trans*-1,2-dichloroethene						790	T
75-09-2	Dichloromethane (Methylene chloride)		100	A	600	I	2,100	T
78-87-5	1,2-Dichloropropane (Propylene dichloride)				4.0	I	230	T

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m³)	Notes	(µg/m³)	Notes	(µg/m³)	Notes
542-75-6	1,3-Dichloropropene		0.25	A	32	T	36	Tint
62-73-7	Dichlorovos (DDVP)				0.54	T	18	T
60-57-1	Dieldrin		0.00022	I				
	Diesel Particulate Matter		0.10	A	5.0	O		
111-42-2	Diethanolamine				0.20	P		
112-34-5	Diethylene glycol monobutyl ether				0.10	P		
111-90-0	Diethylene glycol monoethyl ether				0.30	P		
75-37-6	1,1-Difluoroethane				40,000	I		
60-11-7	4-Dimethylaminoazobenzene		0.00077	O				
68-12-2	Dimethyl formamide				80	O		
57-14-7	1,1-Dimethylhydrazine						0.49	Tint
121-14-2	2,4-Dinitrotoluene		0.011	O				
123-91-1	1,4-Dioxane		0.20	I	30	I	7,200	T
122-66-7	1,2-Diphenylhydrazine (Hydrazobenzene)		0.0045	I				
1937-37-7	Direct Black 38		7.1E-06	O				
2602-46-2	Direct Blue 6		7.1E-06	O				
16071-86-6	Direct Brown 95 (technical grade)		7.1E-06	O				
298-04-4	Disulfoton						6.0	T
106-89-8	Epichlorohydrin		0.043	O	3.0	O	1,300	O
106-88-7	1,2-Epoxybutane				20	O		
140-88-5	Ethyl acrylate				8.0	P		

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m³)	Notes	(µg/m³)	Notes	(µg/m³)	Notes
100-41-4	Ethyl benzene		0.40	A	260	T	22,000	T
106-93-4	Ethylene dibromide (EDB, 1,2-Dibromoethane)		0.0017	A	9.0	I		
107-06-2	Ethylene dichloride (EDC, 1,2-Dichloroethane)		0.038	A	7.0	P		
107-21-1	Ethylene glycol				400	O	2,000	T
111-76-2	Ethylene glycol monobutyl ether				82	O	29,000	T
110-80-5	Ethylene glycol monoethyl ether				70	O	370	O
111-15-9	Ethylene glycol monoethyl ether acetate				60	P	140	O
109-86-4	Ethylene glycol monomethyl ether				60	O	93	O
110-49-6	Ethylene glycol monomethyl ether acetate				1.0	P		
75-21-8	Ethylene oxide		0.00033	A	30	O	160	Tint
96-45-7	Ethylene thiourea		0.077	O				
	Fluorides				13	A	240	O
7782-41-4	Fluorine gas						16	T
50-00-0	Formaldehyde		0.17	A	9.0	O	49	T
111-30-8	Glutaraldehyde				0.080	O	4.1	T
76-44-8	Heptachlor		0.00077	I				
1024-57-3	Heptachlor epoxide		0.00038	I				

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes
118-74-1	Hexachlorobenzene		0.0020	O				
87-68-3	Hexachlorobutadiene		0.045	I				
608-73-1	Hexachlorocyclohexanes (mixture) including but not limited to:		0.00091	O				
319-84-6	Hexachlorocyclohexane, *alpha*-		0.00091	O				
319-85-7	Hexachlorocyclohexane, *beta*-		0.00091	O				
58-89-9	Hexachlorocyclohexane, *gamma*- (Lindane)		0.0032	O				
77-47-4	Hexachlorocyclopentadiene				0.20	I	110	Tint
67-72-1	Hexachloroethane				30	I	58,000	T
822-06-0	Hexamethylene-1,6-diisocyanate				0.069	T	0.21	Tint
110-54-3	Hexane				700	A		
302-01-2	Hydrazine		0.00020	O	0.030	P	5.2	Tint
7647-01-0	Hydrochloric acid				20	A	2,100	O
7664-39-3	Hydrogen fluoride				13	A	16	T
7783-06-4	Hydrogen sulfide				2.0	A	98	S
78-59-1	Isophorone				2,000	O		
67-63-0	Isopropyl alcohol				200	P	3,200	O
98-82-8	Isopropylbenzene (Cumene)				400	I		
7439-92-1	Lead and compounds	o		A2	0.15	A	0.15	S
108-31-6	Maleic anhydride				0.70	O		

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m³)	Notes	(µg/m³)	Notes	(µg/m³)	Notes
7439-96-5	Manganese and compounds	o			0.090	A	0.30	S
7439-97-6	Mercury and compounds	o			0.30	A	0.60	O
67-56-1	Methanol				4,000	A	28,000	O
101-14-4	4,4'-Methylene *bis*(2-chloroaniline) (MOCA)		0.0023	O				
101-77-9	4,4'-Methylenedianiline (and its dichloride)		0.0022	O	20	O		
101-68-8	Methylene diphenyl diisocyanate (MDI)				0.080	O	12	O
108-10-1	Methyl isobutyl ketone (MIBK, Hexone)				3,000	I		
624-83-9	Methyl isocyanate				1.0	O		
80-62-6	Methyl methacrylate				700	I		
1634-04-4	Methyl *tert*-butyl ether		3.8	O	8,000	O	8,000	O
90-94-8	Michler's ketone		0.0040	O				
91-20-3	Naphthalene		0.029	A	3.7	T	200	S
	Nickel compounds, insoluble	f	0.0038	A	0.014	O	0.20	O
	Nickel compounds, soluble	f		A2	0.014	A	0.20	O
7697-37-2	Nitric acid						86	O
98-95-3	Nitrobenzene		0.025	I	9.0	I		
79-46-9	2-Nitropropane				20	I		
924-16-3	*N*-Nitrosodi-*n*-butylamine		0.00032	O				
55-18-5	*N*-Nitrosodiethylamine		1.0E-04	O				

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes
62-75-9	*N*-Nitrosodimethylamine		0.00022	O				
86-30-6	*N*-Nitrosodiphenylamine		0.38	O				
156-10-5	*p*-Nitrosodiphenylamine		0.16	O				
621-64-7	*N*-Nitrosodi-*n*-propylamine		0.00050	O				
10595-95-6	*N*-Nitrosomethylethylamine		0.00016	O				
59-89-2	*N*-Nitrosomorpholine		0.00053	O				
100-75-4	*N*-Nitrosopiperidine		0.00037	O				
930-55-2	*N*-Nitrosopyrrolidine		0.0017	O				
8014-95-7	Oleum (fuming sulfuric acid)						120	O
56-38-2	Parathion						0.020	Tint
87-86-5	Pentachlorophenol		0.20	O				
108-95-2	Phenol				200	O	5,800	O
75-44-5	Phosgene				0.30	A	4.0	O
7803-51-2	Phosphine				0.80	A		
7664-38-2	Phosphoric acid				10	A		
12185-10-3	Phosphorus, white				9.0	A	20	T
85-44-9	Phthalic anhydride				20	O		
	Polybrominated diphenyl ethers (PBDEs)	g					6.0	Tint
1336-36-3	Polychlorinated biphenyls (PCBs)		0.010	A				
	Polychlorinated biphenyls (PCBs) TEQ	h	2.6E-08	A1	4.E-05	O		

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m³)	Notes	(µg/m³)	Notes	(µg/m³)	Notes
32598-13-3	PCB 77 [3,3',4,4'-tetrachlorobiphenyl]	h	0.00026	A1	0.40	O		
70362-50-4	PCB 81 [3,4,4',5-tetrachlorobiphenyl]	h	8.8E-05	A1	0.13	O		
32598-14-4	PCB 105 [2,3,3',4,4'-pentachlorobiphenyl]	h	0.00088	A1	1.3	O		
74472-37-0	PCB 114 [2,3,4,4',5-pentachlorobiphenyl]	h	0.00088	A1	1.3	O		
31508-00-6	PCB 118 [2,3',4,4',5-pentachlorobiphenyl]	h	0.00088	A1	1.3	O		
65510-44-3	PCB 123 [2,3',4,4',5'-pentachlorobiphenyl]	h	0.00088	A1	1.3	O		
57465-28-8	PCB 126 [3,3',4,4',5-pentachlorobiphenyl]	h	2.6E-07	A1	0.00040	O		
38380-08-4	PCB 156 [2,3,3',4,4',5-hexachlorobiphenyl]	h	0.00088	A1	1.3	O		
69782-90-7	PCB 157 [2,3,3',4,4',5'-hexachlorobiphenyl]	h	0.00088	A1	1.3	O		
52663-72-6	PCB 167 [2,3',4,4',5,5'-hexachlorobiphenyl]	h	0.00088	A1	1.3	O		
32774-16-6	PCB 169 [3,3',4,4',5,5'-hexachlorobiphenyl]	h	8.8E-07	A1	0.0013	O		
39635-31-9	PCB 189 [2,3,3',4,4',5,5'-heptachlorobiphenyl]	h	0.00088	A1	1.3	O		
	Polychlorinated dibenzo-*p*-dioxins (PCDDs) & dibenzofurans (PCDFs) TEQ	h	2.6E-08	A1	4.0E-05	O		

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes
1746-01-6	2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (TCDD)		2.6E-08	A	4.0E-05	O		
40321-76-4	1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin (PeCDD)	h	2.6E-08	A1	4.0E-05	O		
39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin (HxCDD)	h	2.6E-07	A1	0.00040	O		
57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin (HxCDD)	h	2.6E-07	A1	0.00040	O		
19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin (HxCDD)	h	2.6E-07	A1	0.00040	O		
35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin (HpCDD)	h	2.6E-06	A1	0.0040	O		
3268-87-9	Octachlorodibenzo-*p*-dioxin (OCDD)	h	8.8E-05	A1	0.13	O		
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TcDF)	h	2.6E-07	A1	0.00040	O		
57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	h	8.8E-07	A1	0.0013	O		
57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	h	8.8E-08	A1	0.00013	O		

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes
70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	h	2.6E-07	A1	0.00040	O		
57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	h	2.6E-07	A1	0.00040	O		
72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	h	2.6E-07	A1	0.00040	O		
60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	h	2.6E-07	A1	0.00040	O		
67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	h	2.6E-06	A1	0.0040	O		
55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	h	2.6E-06	A1	0.0040	O		
39001-02-0	Octachlorodibenzofuran (OCDF)	h	8.8E-05	A1	0.13	O		
	Polycyclic aromatic hydrocarbons (PAHs)		0.0017	A				
191-26-4	Anthanthrene	i	0.0042	A1				
56-55-3	Benz[a]anthracene	i	0.0083	A1				
50-32-8	Benzo[a]pyrene	m	0.0017	A	0.0020	I	0.0020	I
205-99-2	Benzo[b]fluoranthene	i	0.0021	A1				
205-12-9	Benzo[c]fluorene	i	8.3E-05	A1				
191-24-2	Benzo[g,h,i]perylene	i	0.19	A1				
205-82-3	Benzo[j]fluoranthene	i	0.0056	A1				

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m³)	Notes	(µg/m³)	Notes	(µg/m³)	Notes
207-08-9	Benzo[k]fluoranthene	i	0.056	A1				
218-01-9	Chrysene	i	0.017	A1				
27208-37-3	Cyclopenta[c,d]pyrene	i	0.0042	A1				
53-70-3	Dibenz[a,h]anthracene	i	0.00017	A1				
192-65-4	Dibenzo[a,e]pyrene	i	0.0042	A1				
189-64-0	Dibenzo[a,h]pyrene	i	0.0019	A1				
189-55-9	Dibenzo[a,i]pyrene	i	0.0028	A1				
191-30-0	Dibenzo[a,l]pyrene	i	5.6E-05	A1				
206-44-0	Fluoranthene	i	0.021	A1				
193-39-5	Indeno[1,2,3-cd]pyrene	i	0.024	A1				
3697-24-3	5-Methylchrysene	i	0.0017	A1				
7496-02-8	6-Nitrochrysene	i	0.00017	A1				
7758-01-2	Potassium bromate		0.0071	O				
1120-71-4	1,3-Propane sultone		0.0014	O				
123-38-6	Propionaldehyde				8.0	I		
115-07-1	Propylene				3,000	O		
6423-43-4	Propylene glycol dinitrate				0.27	T	20	T
107-98-2	Propylene glycol monomethyl ether				7,000	O		
75-56-9	Propylene oxide		0.27	O	30	O	3,100	O
	Refractory Ceramic Fibers	k			0.030	T		
7783-07-5	Selenide, hydrogen						5.0	O
7782-49-2	Selenium and compounds	j, o				A3	2.0	S

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes
7631-86-9	Silica, crystalline (respirable)				3.0	O		
1310-73-2	Sodium hydroxide						8.0	O
100-42-5	Styrene				1,000	A	21,000	S
7664-93-9	Sulfuric acid				1.0	O	120	O
505-60-2	Sulfur Mustard						0.70	T
7446-71-9	Sulfur trioxide				1.0	O	120	O
630-20-6	1,1,1,2-Tetrachloroethane		0.14	I				
79-34-5	1,1,2,2-Tetrachloroethane		0.017	O				
127-18-4	Tetrachloroethene (Perchloroethylene)		3.8	A	41	T	41	T
811-97-2	1,1,1,2-Tetrafluoroethane				80,000	I		
62-55-5	Thioacetamide		0.00059	O				
7550-45-0	Titanium tetrachloride				0.10	T	10	Tint
108-88-3	Toluene				5,000	A	7,500	T
26471-62-5	Toluene diisocyanates (2,4- and 2,6-)		0.091	O	0.021	A	0.071	T
8001-35-2	Toxaphene (Polychlorinated camphenes)		0.0031	I				
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)				5,000	A	11,000	T
79-00-5	1,1,2-Trichloroethane (Vinyl trichloride)		0.063	O				

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Table 3 Toxicity Reference Values

			Toxicity Reference Values (TRVs)					
			Chronic Cancer[a]		Chronic Noncancer[b]		Acute Noncancer[c]	
CAS#	Chemical	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes	(µg/m^3)	Notes
79-01-6	Trichloroethene (TCE, Trichloroethylene)		0.24	A	2.1	T	2.1	Tint
88-06-2	2,4,6-Trichlorophenol		0.050	O				
96-18-4	1,2,3-Trichloropropane				0.30	I	1.8	T
121-44-8	Triethylamine				200	O	2,800	O
526-73-8	1,2,3-Trimethylbenzene				60	I		
95-63-6	1,2,4-Trimethylbenzene				60	I		
108-67-8	1,3,5-Trimethylbenzene				60	I		
51-79-6	Urethane (Ethyl carbamate)		0.0034	O				
7440-62-2	Vanadium (fume or dust)				0.10	T	0.80	T
1314-62-1	Vanadium pentoxide		0.00012	P	0.0070	P	30	O
108-05-4	Vinyl acetate	j			200	O	200	I
593-60-2	Vinyl bromide				3.0	I		
75-01-4	Vinyl chloride		0.11	I	100	I	1,300	T
75-35-4	Vinylidene chloride	j			200	I	200	I
1330-20-7	Xylene (mixture), including *m*-xylene, *o*-xylene, *p*-xylene				220	A	8,700	T

Notes:

a TRV based on a 1 in 1 million excess cancer risk.
TRV = $1x10^{-6}$ / IUR, where IUR = chemical-specific inhalation unit risk value [(µg/m^3)$^{-1}$].

b TRV based on chronic non-cancer value from authoritative sources (µg/m^3).

c TRV based on acute or subchronic non-cancer value from authoritative sources (µg/m^3).

d The TRVs presented for chromium are applicable to hexavalent chromium.

e DDT TRVs apply to the sum of DDT, DDE, and DDD compounds.

f As recommended by the ATSAC in 2018, the two categories of nickel compounds contain the following specific nickel compounds:
Soluble nickel compounds are considered to be emitted mainly in aerosol form, to be less potent carcinogens than insoluble nickel compounds, and include nickel acetate, nickel chloride, nickel carbonate, nickel hydroxide, nickelocene, nickel sulfate, nickel sulfate hexahydrate, nickel nitrate hexahydrate, nickel carbonate hydroxide.
Insoluble nickel compounds are considered to be emitted mainly in particulate form, to be more potent carcinogens than soluble nickel compounds, and to include nickel subsulfide, nickel oxide, nickel sulfide, nickel metal.

g TRVs apply to octabrominated diphenyl ethers (CAS# 32536-52-0) and pentabrominated diphenyl ethers (CAS# 32534-81-9), including BDE-99.

h TRV for chronic cancer calculated by applying toxicity equivalency factor to 2,3,7,8-TCDD TRV.

i TRV for chronic cancer calculated by applying toxicity equivalency factor to benzo[a]pyrene TRV.

j If the short-term toxicity reference value is lower than the chronic noncancer toxicity reference value, the chronic noncancer toxicity reference value was used for the short-term toxicity reference value because chronic noncancer toxicity reference values are generally more reliable.

k TRVs for asbestos and refractory ceramic fibers are in units of fibers/cm^3.

m Because benzo[a]pyrene can cause developmental effects, the chronic noncancer TRV is also used as the acute noncancer TRV.

n Chlorinated paraffins of average chain length of C12, approximately 60% chlorine by weight.

o An inorganic chemical designated with "and compounds" indicates that the TRV applies to the sum of all forms of the chemical, expressed as the inorganic element.

Legend:

A = ATSAC, DEQ Air Toxics Science Advisory Committee, 2018.
A1 = ATSAC, 2018. TRV for cancer calculated by applying toxic equivalency factor.
A2 = Because the ATSAC decided it was inappropriate to develop an ABC based on carcinogenic effects, DEQ did not obtain a cancer TRV from the other authoritative sources.
A3 = Because the ATSAC decided it was inappropriate to develop an ABC based on noncarcinogenic effects, DEQ did not obtain a TRV from the other authoritative sources.
CAS# = Chemical Abstracts Service number
I = IRIS, EPA integrated risk information system
O = OEHHA, California Environmental Protection Agency, Office of Environmental Health Hazard Assessment
P = PPRTV, EPA preliminary peer reviewed toxicity value
S = SGC, DEQ short-term guideline concentration
T = ATSDR, U.S. Agency for Toxic Substances and Disease Registry
TEQ = toxic equivalency, relative to 2,3,7,8-tetrachlorodibenzo-*p*-dioxin.
Tint = ATSDR, intermediate minimal risk level
TRV = toxicity reference value

Stat. Auth.: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155
Stats. Implemented: ORS 468.065, 468A.010, 468A.015, 468A.025, 468A.035, 468A.040, 468A.050, 468A.070, and 468A.155

ADOPT: 340-245-8040

RULE TITLE: Table 4 - Risk-Based Concentrations

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Table 4 - Risk-Based Concentrations for division 245: Cleaner Air Oregon

RULE TEXT:

Table 4 - Risk-Based Concentrations

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035

340-245-8040 Table 4

Risk-Based Concentrations

State of Oregon Department of Environmental Quality

OAR 340-245-8040
Table 4 - Risk-Based Concentrations

			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
75-07-0	Acetaldehyde		0.45	140	12	620	5.5	620	470
60-35-5	Acetamide		0.050		1.3		0.60		
67-64-1	Acetone			31,000		140,000		140,000	62,000
75-05-8	Acetonitrile			60		260		260	
107-02-8	Acrolein			0.35		1.5		1.5	6.9
79-06-1	Acrylamide	g	0.0059	6.0	0.062	26	0.12	26	
79-10-7	Acrylic acid			1.0		4.4		4.4	6,000
107-13-1	Acrylonitrile		0.015	5.0	0.38	22	0.18	22	220
309-00-2	Aldrin		0.00020		0.0053		0.0024		
107-05-1	Allyl chloride		0.17	1.0	4.3	4.4	2.0	4.4	
7429-90-5	Aluminum and compounds	l		5.0		22		22	
7664-41-7	Ammonia			500		2,200		2,200	1,200
62-53-3	Aniline		0.63	1.0	16	4.4	7.5	4.4	
7440-36-0	Antimony and compounds	l		0.30		1.3		1.3	
140-57-8	Aramite		0.14		3.7		1.7		
7440-38-2	Arsenic and compounds	l	2.4E-05	0.00017	0.0013	0.0024	0.00062	0.0024	0.20
7784-42-1	Arsine			0.015		0.066		0.066	0.20
1332-21-4	Asbestos	i	4.3E-06		0.00011		5.2E-05		
103-33-3	Azobenzene		0.032		0.84		0.39		
71-43-2	Benzene		0.13	3.0	3.3	13	1.5	13	29
92-87-5	Benzidine (and its salts)	g	4.2E-06		4.4E-05		8.6E-05		
100-44-7	Benzyl chloride		0.020	1.0	0.53	4.4	0.24	4.4	240
7440-41-7	Beryllium and compounds	l	0.00042	0.0070	0.011	0.031	0.0050	0.031	0.020

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Table 4 - Risk-Based Concentrations

			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
111-44-4	*Bis*(2-chloroethyl) ether (DCEE)		0.0014		0.037		0.017		120
542-88-1	*Bis*(chloromethyl) ether		7.7E-05		0.0020		0.00092		1.4
117-81-7	*Bis*(2-ethylhexyl) phthalate (DEHP)	c	0.080		11		5.0		
75-25-2	Bromoform		0.91		24		11		
74-83-9	Bromomethane (Methyl bromide)			5.0		22		22	3,900
106-94-5	1-Bromopropane (n-propyl bromide)		0.48	33	12	150	5.7	150	1,700
106-99-0	1,3-Butadiene		0.033	2.0	0.86	8.8	0.40	8.8	660
78-93-3	2-Butanone (Methyl ethyl ketone)			5,000		22,000		22,000	5,000
78-92-2	*sec*-Butyl alcohol			30,000		130,000		130,000	
7440-43-9	Cadmium and compounds	c, l	0.00056	0.0050	0.014	0.037	0.0067	0.037	0.030
105-60-2	Caprolactam			2.2		9.7		9.7	50
75-15-0	Carbon disulfide			800		3,500		3,500	6,200
56-23-5	Carbon tetrachloride		0.17	100	4.3	440	2.0	440	1,900
463-58-1	Carbonyl sulfide			10		44		44	660
57-74-9	Chlordane		0.010	0.020	0.26	0.088	0.12	0.088	0.20
108171-26-2	Chlorinated paraffins	j	0.040		1.0		0.48		
7782-50-5	Chlorine			0.15		0.66		0.66	170
10049-04-4	Chlorine dioxide			0.60		2.6		2.6	2.8
532-27-4	2-Chloroacetophenone			0.030		0.13		0.13	
108-90-7	Chlorobenzene			50		220		220	
75-68-3	1-Chloro-1,1-difluoroethane			50,000		220,000		220,000	
75-45-6	Chlorodifluoromethane (Freon 22)			50,000		220,000		220,000	

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Table 4 - Risk-Based Concentrations

			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
75-00-3	Chloroethane (Ethyl chloride)			30,000		130,000		130,000	40,000
67-66-3	Chloroform			300		1,300		1,300	490
74-87-3	Chloromethane (Methyl chloride)			90		400		400	1,000
95-83-0	4-Chloro-*o*-phenylenediamine		0.22		5.7		2.6		
76-06-2	Chloropicrin			0.40		1.8		1.8	29
126-99-8	Chloroprene		0.0033	20	0.087	88	0.040	88	
95-69-2	*p*-Chloro-*o*-toluidine		0.013		0.34		0.16		
18540-29-9	Chromium VI, chromate and dichromate particulate	c, d	3.1E-05	0.083	0.00052	0.88	0.0010	0.88	0.30
18540-29-9	Chromium VI, chromic acid aerosol mist	c, d	3.1E-05	0.0021	0.00052	0.022	0.0010	0.022	0.0050
7440-48-4	Cobalt and compounds	l		0.10		0.44		0.44	
	Coke Oven Emissions	g	0.00095		0.0100		0.019		
7440-50-8	Copper and compounds	l							100
120-71-8	*p*-Cresidine		0.023		0.60		0.28		
1319-77-3	Cresols (mixture), including *m*-cresol, *o*-cresol, *p*-cresol			600		2,600		2,600	
135-20-6	Cupferron		0.016		0.41		0.19		
74-90-8	Cyanide, Hydrogen			0.80		3.5		3.5	340
110-82-7	Cyclohexane			6,000		26,000		26,000	
50-29-3	DDT	e	0.010		0.27		0.12		
615-05-4	2,4-Diaminoanisole		0.15		3.9		1.8		
95-80-7	2,4-Diaminotoluene (2,4-Toluene diamine)		0.00091		0.024		0.011		
333-41-5	Diazinon								10
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	g	9.8E-05	0.20	0.0010	0.88	0.0020	0.88	1.9

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Table 4 - Risk-Based Concentrations

			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
106-46-7	*p*-Dichlorobenzene (1,4-Dichlorobenzene)		0.091	60	2.4	260	1.1	260	12,000
91-94-1	3,3'-Dichlorobenzidine		0.0029		0.076		0.035		
75-34-3	1,1-Dichloroethane (Ethylidene dichloride)		0.63		16		7.5		
156-60-5	*trans*-1,2-dichloroethene								790
75-09-2	Dichloromethane (Methylene chloride)		59	600	620	2,600	1,200	2,600	2,100
78-87-5	1,2-Dichloropropane (Propylene dichloride)			4.0		18		18	230
542-75-6	1,3-Dichloropropene		0.25	32	6.5	140	3.0	140	36
62-73-7	Dichlorovos (DDVP)			0.54		2.4		2.4	18
60-57-1	Dieldrin		0.00022		0.0057		0.0026		
	Diesel Particulate Matter		0.10	5.0	2.6	22	1.2	22	
111-42-2	Diethanolamine			0.20		0.88		0.88	
112-34-5	Diethylene glycol monobutyl ether			0.10		0.44		0.44	
111-90-0	Diethylene glycol monoethyl ether			0.30		1.3		1.3	
75-37-6	1,1-Difluoroethane			40,000		180,000		180,000	
60-11-7	4-Dimethylaminoazobenzene		0.00077		0.020		0.0092		
68-12-2	Dimethyl formamide			80		350		350	
57-14-7	1,1-Dimethylhydrazine								0.49
121-14-2	2,4-Dinitrotoluene		0.011		0.29		0.13		
123-91-1	1,4-Dioxane		0.20	30	5.2	130	2.4	130	7,200
122-66-7	1,2-Diphenylhydrazine (Hydrazobenzene)		0.0045		0.12		0.055		
1937-37-7	Direct Black 38		7.1E-06		0.00019		8.6E-05		
2602-46-2	Direct Blue 6		7.1E-06		0.00019		8.6E-05		

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Table 4 - Risk-Based Concentrations

			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
16071-86-6	Direct Brown 95 (technical grade)		7.1E-06		0.00019		8.6E-05		
298-04-4	Disulfoton								6.0
106-89-8	Epichlorohydrin		0.043	3.0	1.1	13	0.52	13	1,300
106-88-7	1,2-Epoxybutane			20		88		88	
140-88-5	Ethyl acrylate			8.0		35		35	
100-41-4	Ethyl benzene		0.40	260	10	1,100	4.8	1,100	22,000
106-93-4	Ethylene dibromide (EDB, 1,2-Dibromoethane)		0.0017	9.0	0.043	40	0.020	40	
107-06-2	Ethylene dichloride (EDC, 1,2-Dichloroethane)		0.038	7.0	1.0	31	0.46	31	
107-21-1	Ethylene glycol			400		1,800		1,800	2,000
111-76-2	Ethylene glycol monobutyl ether			82		360		360	29,000
110-80-5	Ethylene glycol monoethyl ether			70		310		310	370
111-15-9	Ethylene glycol monoethyl ether acetate			60		260		260	140
109-86-4	Ethylene glycol monomethyl ether			60		260		260	93
110-49-6	Ethylene glycol monomethyl ether acetate			1.0		4.4		4.4	
75-21-8	Ethylene oxide	g	0.00020	30	0.0021	130	0.0040	130	160
96-45-7	Ethylene thiourea		0.077		2.0		0.92		
	Fluorides	c		2.3		20		20	240
7782-41-4	Fluorine gas								16
50-00-0	Formaldehyde		0.17	9.0	4.3	40	2.0	40	49
111-30-8	Glutaraldehyde			0.080		0.35		0.35	4.1
76-44-8	Heptachlor		0.00077		0.020		0.0092		
1024-57-3	Heptachlor epoxide		0.00038		0.010		0.0046		

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Table 4 - Risk-Based Concentrations

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			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
118-74-1	Hexachlorobenzene		0.0020		0.051		0.024		
87-68-3	Hexachlorobutadiene		0.045		1.2		0.55		
608-73-1	Hexachlorocyclohexanes (mixture) including but not limited to:	c	0.00017		0.018		0.0084		
319-84-6	Hexachlorocyclohexane, *alpha*-	c	0.00017		0.018		0.0084		
319-85-7	Hexachlorocyclohexane, *beta*-	c	0.00017		0.018		0.0084		
58-89-9	Hexachlorocyclohexane, *gamma*- (Lindane)	c	0.00060		0.065		0.030		
77-47-4	Hexachlorocyclopentadiene			0.20		0.88		0.88	110
67-72-1	Hexachloroethane			30		130		130	58,000
822-06-0	Hexamethylene-1,6-diisocyanate			0.069		0.30		0.30	0.21
110-54-3	Hexane			700		3,100		3,100	
302-01-2	Hydrazine		0.00020	0.030	0.0053	0.13	0.0024	0.13	5.2
7647-01-0	Hydrochloric acid			20		88		88	2,100
7664-39-3	Hydrogen fluoride	c		2.1		19		19	16
7783-06-4	Hydrogen sulfide			2.0		8.8		8.8	98
78-59-1	Isophorone			2,000		8,800		8,800	
67-63-0	Isopropyl alcohol			200		880		880	3,200
98-82-8	Isopropylbenzene (Cumene)			400		1,800		1,800	
7439-92-1	Lead and compounds	c, l		0.15		0.66		0.66	0.15
108-31-6	Maleic anhydride			0.70		3.1		3.1	
7439-96-5	Manganese and compounds	l		0.090		0.40		0.40	0.30
7439-97-6	Mercury and compounds	c, l		0.077		0.63		0.63	0.60
67-56-1	Methanol			4,000		18,000		18,000	28,000

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Table 4 - Risk-Based Concentrations

			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
101-14-4	4,4'-Methylene *bis*(2-chloroaniline) (MOCA)		0.0023		0.060		0.028		
101-77-9	4,4'-Methylenedianiline (and its dichloride)		0.00030	20	0.023	88	0.010	88	
101-68-8	Methylene diphenyl diisocyanate (MDI)			0.080		0.35		0.35	12
108-10-1	Methyl isobutyl ketone (MIBK, Hexone)			3,000		13,000		13,000	
624-83-9	Methyl isocyanate			1.0		4.4		4.4	
80-62-6	Methyl methacrylate			700		3,100		3,100	
1634-04-4	Methyl *tert*-butyl ether		3.8	8,000	100	35,000	46	35,000	8,000
90-94-8	Michler's ketone		0.0040		0.10		0.048		
91-20-3	Naphthalene	c	0.029	3.7	0.76	16	0.35	16	200
	Nickel compounds, insoluble	f	0.0038	0.014	0.10	0.062	0.046	0.062	0.20
	Nickel compounds, soluble	f		0.014		0.062		0.062	0.20
7697-37-2	Nitric acid								86
98-95-3	Nitrobenzene		0.025	9.0	0.65	40	0.30	40	
79-46-9	2-Nitropropane			20		88		88	
924-16-3	*N*-Nitrosodi-*n*-butylamine		0.00032		0.0084		0.0039		
55-18-5	*N*-Nitrosodiethylamine	g	5.9E-05		0.00062		0.0012		
62-75-9	*N*-Nitrosodimethylamine	g	0.00013		0.0013		0.0026		
86-30-6	*N*-Nitrosodiphenylamine		0.38		10		4.6		
156-10-5	*p*-Nitrosodiphenylamine		0.16		4.1		1.9		
621-64-7	*N*-Nitrosodi-*n*-propylamine		0.00050		0.013		0.0060		
10595-95-6	*N*-Nitrosomethylethylamine		0.00016		0.0041		0.0019		
59-89-2	*N*-Nitrosomorpholine		0.00053		0.014		0.0063		
100-75-4	*N*-Nitrosopiperidine		0.00037		0.0096		0.0044		

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Table 4 - Risk-Based Concentrations

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			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
930-55-2	*N*-Nitrosopyrrolidine		0.0017		0.043		0.020		
8014-95-7	Oleum (fuming sulfuric acid)								120
56-38-2	Parathion								0.020
87-86-5	Pentachlorophenol		0.20		5.1		2.4		
108-95-2	Phenol			200		880		880	5,800
75-44-5	Phosgene			0.30		1.3		1.3	4.0
7803-51-2	Phosphine			0.80		3.5		3.5	
7664-38-2	Phosphoric acid			10		44		44	
12185-10-3	Phosphorus, white			9.0		40		40	20
85-44-9	Phthalic anhydride			20		88		88	
	Polybrominated diphenyl ethers (PBDEs)	h							6.0
1336-36-3	Polychlorinated biphenyls (PCBs)	c	0.00053		0.020		0.0092		
	Polychlorinated biphenyls (PCBs) TEQ	c	1.0E-09	1.3E-07	9.0E-08	2.6E-05	4.2E-08	2.6E-05	
32598-13-3	PCB 77 [3,3',4,4'-tetrachlorobiphenyl]	c	1.0E-05	0.0013	0.00090	0.26	0.00042	0.26	
70362-50-4	PCB 81 [3,4,4',5-tetrachlorobiphenyl]	c	3.4E-06	0.00042	0.00030	0.085	0.00014	0.085	
32598-14-4	PCB 105 [2,3,3',4,4'-pentachlorobiphenyl]	c	3.4E-05	0.0042	0.0030	0.85	0.0014	0.85	
74472-37-0	PCB 114 [2,3,4,4',5-pentachlorobiphenyl]	c	3.4E-05	0.0042	0.0030	0.85	0.0014	0.85	
31508-00-6	PCB 118 [2,3',4,4',5-pentachlorobiphenyl]	c	3.4E-05	0.0042	0.0030	0.85	0.0014	0.85	
65510-44-3	PCB 123 [2,3',4,4',5'-pentachlorobiphenyl]	c	3.4E-05	0.0042	0.0030	0.85	0.0014	0.85	
57465-28-8	PCB 126 [3,3',4,4',5-pentachlorobiphenyl]	c	1.0E-08	1.3E-06	9.0E-07	0.00026	4.2E-07	0.00026	

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Table 4 - Risk-Based Concentrations

			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
38380-08-4	PCB 156 [2,3,3',4,4',5-hexachlorobiphenyl]	c	3.4E-05	0.0042	0.0030	0.85	0.0014	0.85	
69782-90-7	PCB 157 [2,3,3',4,4',5'-hexachlorobiphenyl]	c	3.4E-05	0.0042	0.0030	0.85	0.0014	0.85	
52663-72-6	PCB 167 [2,3',4,4',5,5'-hexachlorobiphenyl]	c	3.4E-05	0.0042	0.0030	0.85	0.0014	0.85	
32774-16-6	PCB 169 [3,3',4,4',5,5'-hexachlorobiphenyl]	c	3.4E-08	4.2E-06	3.0E-06	0.00085	1.4E-06	0.00085	
39635-31-9	PCB 189 [2,3,3',4,4',5,5'-heptachlorobiphenyl]	c	0.00088	1.3	0.023	5.7	0.011	5.7	
	Polychlorinated dibenzo-*p*-dioxins (PCDDs) & dibenzofurans (PCDFs) TEQ	c	1.0E-09	1.3E-07	9.0E-08	2.6E-05	4.2E-08	2.6E-05	
1746-01-6	2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (TCDD)	c	1.0E-09	1.3E-07	9.0E-08	2.6E-05	4.2E-08	2.6E-05	
40321-76-4	1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin (PeCDD)	c	1.0E-09	1.3E-07	9.0E-08	2.6E-05	4.2E-08	2.6E-05	
39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin (HxCDD)	c	1.0E-08	1.3E-06	9.0E-07	0.00026	4.2E-07	0.00026	
57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin (HxCDD)	c	1.0E-08	1.3E-06	9.0E-07	0.00026	4.2E-07	0.00026	
19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin (HxCDD)	c	1.0E-08	1.3E-06	9.0E-07	0.00026	4.2E-07	0.00026	
35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin (HpCDD)	c	1.0E-07	1.3E-05	9.0E-06	0.0026	4.2E-06	0.0026	
3268-87-9	Octachlorodibenzo-*p*-dioxin (OCDD)	c	3.4E-06	0.00042	0.00030	0.085	0.00014	0.085	

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Table 4 - Risk-Based Concentrations

			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TcDF)	c	1.0E-08	1.3E-06	9.0E-07	0.00026	4.2E-07	0.00026	
57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	c	3.4E-08	4.2E-06	3.0E-06	0.00085	1.4E-06	0.00085	
57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	c	3.4E-09	4.2E-07	3.0E-07	8.5E-05	1.4E-07	8.5E-05	
70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	c	1.0E-08	1.3E-06	9.0E-07	0.00026	4.2E-07	0.00026	
57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	c	1.0E-08	1.3E-06	9.0E-07	0.00026	4.2E-07	0.00026	
72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	c	1.0E-08	1.3E-06	9.0E-07	0.00026	4.2E-07	0.00026	
60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	c	1.0E-08	1.3E-06	9.0E-07	0.00026	4.2E-07	0.00026	
67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	c	1.0E-07	1.3E-05	9.0E-06	0.0026	4.2E-06	0.0026	
55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	c	1.0E-07	1.3E-05	9.0E-06	0.0026	4.2E-06	0.0026	
39001-02-0	Octachlorodibenzofuran (OCDF)	c	3.4E-06	0.00042	0.00030	0.085	0.00014	0.085	
	Polycyclic aromatic hydrocarbons (PAHs)	c, g	4.3E-05		0.0016		0.0030		
191-26-4	Anthanthrene	c, g	0.00011		0.0039		0.0076		
56-55-3	Benz[a]anthracene	c, g	0.00021		0.0078		0.015		
50-32-8	Benzo[a]pyrene	c, g	4.3E-05	0.0020	0.0016	0.0088	0.0030	0.0088	0.0020
205-99-2	Benzo[b]fluoranthene	c, g	5.3E-05		0.0020		0.0038		

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Table 4 - Risk-Based Concentrations

			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
205-12-9	Benzo[c]fluorene	c, g	2.1E-06		7.8E-05		0.00015		
191-24-2	Benzo[g,h,i]perylene	c, g	0.0047		0.17		0.34		
205-82-3	Benzo[j]fluoranthene	c, g	0.00014		0.0052		0.010		
207-08-9	Benzo[k]fluoranthene	c, g	0.0014		0.052		0.10		
218-01-9	Chrysene	c, g	0.00043		0.016		0.030		
27208-37-3	Cyclopenta[c,d]pyrene	c, g	0.00011		0.0039		0.0076		
53-70-3	Dibenz[a,h]anthracene	c, g	4.3E-06		0.00016		0.00030		
192-65-4	Dibenzo[a,e]pyrene	c, g	0.00011		0.0039		0.0076		
189-64-0	Dibenzo[a,h]pyrene	c, g	4.7E-05		0.0017		0.0034		
189-55-9	Dibenzo[a,i]pyrene	c, g	7.1E-05		0.0026		0.0051		
191-30-0	Dibenzo[a,l]pyrene	c, g	1.4E-06		5.2E-05		0.00010		
206-44-0	Fluoranthene	c, g	0.00053		0.020		0.038		
193-39-5	Indeno[1,2,3-cd]pyrene	c, g	0.00061		0.022		0.043		
3697-24-3	5-Methylchrysene	c, g	4.3E-05		0.0016		0.0030		
7496-02-8	6-Nitrochrysene	c, g	4.3E-06		0.00016		0.00030		
7758-01-2	Potassium bromate		0.0071		0.19		0.086		
1120-71-4	1,3-Propane sultone		0.0014		0.038		0.017		
123-38-6	Propionaldehyde			8.0		35		35	
115-07-1	Propylene			3,000		13,000		13,000	
6423-43-4	Propylene glycol dinitrate			0.27		1.2		1.2	20
107-98-2	Propylene glycol monomethyl ether			7,000		31,000		31,000	
75-56-9	Propylene oxide		0.27	30	7.0	130	3.2	130	3,100
	Refractory Ceramic Fibers	i		0.030		0.13		0.13	
7783-07-5	Selenide, hydrogen								5.0
7782-49-2	Selenium and compounds	l							2.0

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Table 4 - Risk-Based Concentrations

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			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
7631-86-9	Silica, crystalline (respirable)			3.0		13		13	
1310-73-2	Sodium hydroxide								8.0
100-42-5	Styrene			1,000		4,400		4,400	21,000
7664-93-9	Sulfuric acid			1.0		4.4		4.4	120
505-60-2	Sulfur Mustard								0.70
7446-71-9	Sulfur trioxide			1.0		4.4		4.4	120
630-20-6	1,1,1,2-Tetrachloroethane		0.14		3.5		1.6		
79-34-5	1,1,2,2-Tetrachloroethane		0.017		0.45		0.21		
127-18-4	Tetrachloroethene (Perchloroethylene)		3.8	41	100	180	46	180	41
811-97-2	1,1,1,2-Tetrafluoroethane			80,000		350,000		350,000	
62-55-5	Thioacetamide		0.00059		0.015		0.0071		
7550-45-0	Titanium tetrachloride			0.10		0.44		0.44	10
108-88-3	Toluene			5,000		22,000		22,000	7,500
26471-62-5	Toluene diisocyanates (2,4- and 2,6-)		0.091	0.021	2.4	0.092	1.1	0.092	0.071
8001-35-2	Toxaphene (Polychlorinated camphenes)		0.0031		0.081		0.038		
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)			5,000		22,000		22,000	11,000
79-00-5	1,1,2-Trichloroethane (Vinyl trichloride)		0.063		1.6		0.75		
79-01-6	Trichloroethene (TCE, Trichloroethylene)	g	0.20	2.1	3.5	9.2	2.9	9.2	2.1
88-06-2	2,4,6-Trichlorophenol		0.050		1.3		0.60		
96-18-4	1,2,3-Trichloropropane			0.30		1.3		1.3	1.8
121-44-8	Triethylamine			200		880		880	2,800
526-73-8	1,2,3-Trimethylbenzene			60		260		260	

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Table 4 - Risk-Based Concentrations

			Residential Chronic		Non-Residential Chronic				Acute
			Cancer RBC[a]	Non-cancer RBC[a]	Child Cancer RBC[a]	Child Non-cancer RBC[a]	Worker Cancer RBC[a]	Worker Non-cancer RBC[a]	Non-cancer RBC[a]
CAS#[b]	Chemical	Notes	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)
95-63-6	1,2,4-Trimethylbenzene			60		260		260	
108-67-8	1,3,5-Trimethylbenzene			60		260		260	
51-79-6	Urethane (Ethyl carbamate)	g	0.0020		0.021		0.041		
7440-62-2	Vanadium (fume or dust)			0.10		0.44		0.44	0.80
1314-62-1	Vanadium pentoxide		0.00012	0.0070	0.0031	0.031	0.0014	0.031	30
108-05-4	Vinyl acetate			200		880		880	200
593-60-2	Vinyl bromide			3.0		13		13	
75-01-4	Vinyl chloride	g, k	0.11	100	0.22	440	2.7	440	1,300
75-35-4	Vinylidene chloride			200		880		880	200
1330-20-7	Xylene (mixture), including *m*-xylene, *o*-xylene, *p*-xylene			220		970		970	8,700

Notes:

a RBC = Risk-Based Concentration

b CAS# = Chemical Abstracts Service number

c Chronic RBCs include factors for multipathway risk.

d The RBCs presented for chromium are applicable to hexavalent chromium. In the absence of data indicating otherwise, assume that any total chromium (i.e., unspeciated) that is measured or modeled is entirely in the hexavalent form. Determine, based on information about the source of emissions, whether hexavalent chromium is emitted in aerosol or particulate form, and apply the corresponding RBC. Because there are no RBCs for trivalent chromium, a source determined to be emitting only trivalent chromium cannot be shown to pose an unacceptable risk, so the risk in this case will be considered acceptable.

e DDT RBCs apply to the sum of DDT, DDE, and DDD compounds.

f As recommended by DEQ's Air Toxics Science Advisory Committee (ATSAC) in 2018, the two categories of nickel compounds contain the following specific nickel compounds:
Soluble nickel compounds are considered to be emitted mainly in aerosol form, to be less potent carcinogens than insoluble nickel compounds, and include nickel acetate, nickel chloride, nickel carbonate, nickel hydroxide, nickelocene, nickel sulfate, nickel sulfate hexahydrate, nickel nitrate hexahydrate, nickel carbonate hydroxide.
Insoluble nickel compounds are considered to be emitted mainly in particulate form, to be more potent carcinogens than soluble nickel compounds, and to include nickel subsulfide, nickel oxide, nickel sulfide, nickel metal.

g RBCs adjusted to protect early-life exposure to infants and children because chemical is carcinogenic by a mutagenic mode of action.

h RBCs apply to octabrominated diphenyl ethers (CAS# 32536-52-0) and pentabrominated diphenyl ethers (CAS# 32534-81-9), including BDE-99.

i RBCs for asbestos and refractory ceramic fibers are in units of fibers/cm^3.

j Chlorinated paraffins of average chain length of C12, approximately 60% chlorine by weight.

k DEQ followed the ATSAC recommendation to develop a vinyl chloride TRV that already includes early-life exposure.

l An inorganic chemical designated with "and compounds" indicates that the RBC applies to the sum of all forms of the chemical, expressed as the inorganic element.

Stat. Auth.: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155
Stats. Implemented: ORS 468.065, 468A.010, 468A.015, 468A.025, 468A.035, 468A.040, 468A.050, 468A.070, and 468A.155

ADOPT: 340-245-8050

RULE TITLE: Table 5 - Level 1 Risk Assessment Tool Dispersion Factors

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Table 5 - Level 1 Risk Assessment Tool Dispersion Factors for division 245: Cleaner Air Oregon

RULE TEXT:

Table 5 - Level 1 Risk Assessment Tool Dispersion Factors

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155

STATUTES/OTHER IMPLEMENTED: 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155, 468A.010, 468A.015, 468A.035

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Table 5 Level 1 Risk Assessment Tool Dispersion Factors

Table 5A: Stack Emission Dispersion Factors for Annual Exposure (µg/m^3 / pounds/year)

Stack	Exposure Location Distance (meters)												
Ht (m)	50	60	70	80	90	100	110	120	130	140	150	160	170
5	0.0033	0.0026	0.0021	0.0017	0.0014	0.0012	0.0010	0.00088	0.00076	0.00066	0.00058	0.00051	0.00046
10	0.0014	0.0012	0.0011	0.00094	0.00084	0.00075	0.00068	0.00062	0.00057	0.00052	0.00048	0.00044	0.00041
15	0.00075	0.00061	0.00054	0.00049	0.00044	0.00040	0.00037	0.00034	0.00031	0.00029	0.00027	0.00025	0.00024
20	0.00072	0.00054	0.00035	0.00031	0.00028	0.00026	0.00023	0.00022	0.00020	0.00019	0.00017	0.00016	0.00015
25	0.00050	0.00041	0.00035	0.00025	0.00019	0.00018	0.00016	0.00015	0.00014	0.00013	0.00012	0.00012	0.00011
30	0.00037	0.00030	0.00026	0.00023	0.00019	0.00013	0.00012	0.00011	0.00010	0.000096	0.000090	0.000085	0.000080
35	0.00030	0.00023	0.00019	0.00017	0.00015	0.00013	0.00011	0.000081	0.000075	0.000071	0.000068	0.000064	0.000061
40	0.00023	0.00019	0.00015	0.00013	0.00012	0.00011	0.000096	0.000081	0.000064	0.000054	0.000051	0.000049	0.000047
45	0.00018	0.00016	0.00013	0.00011	0.000095	0.000085	0.000078	0.000072	0.000063	0.000053	0.000042	0.000038	0.000037
50	0.00014	0.00013	0.00011	0.000090	0.000077	0.000068	0.000062	0.000057	0.000053	0.000048	0.000042	0.000035	0.000029

Stack	Exposure Location Distance (meters)												
Ht (m)	180	190	200	250	300	350	400	450	500	600	700	800	1000
5	0.00041	0.00037	0.00034	0.00023	0.00017	0.00013	0.00010	0.000084	0.000071	0.000052	0.000040	0.000032	0.000022
10	0.00038	0.00035	0.00033	0.00023	0.00017	0.00013	0.000098	0.000078	0.000064	0.000047	0.000036	0.000029	0.000021
15	0.00023	0.00021	0.00020	0.00016	0.00013	0.00010	0.000083	0.000069	0.000057	0.000041	0.000032	0.000025	0.000018
20	0.00014	0.00014	0.00013	0.00010	0.000086	0.000073	0.000062	0.000053	0.000046	0.000035	0.000027	0.000021	0.000015
25	0.00010	0.000096	0.000091	0.000072	0.000059	0.000051	0.000044	0.000039	0.000034	0.000027	0.000022	0.000018	0.000013
30	0.000075	0.000071	0.000068	0.000053	0.000044	0.000037	0.000032	0.000028	0.000025	0.000021	0.000017	0.000014	0.000010
35	0.000058	0.000055	0.000052	0.000042	0.000034	0.000029	0.000025	0.000022	0.000019	0.000016	0.000014	0.000011	0.000008
40	0.000045	0.000043	0.000041	0.000033	0.000028	0.000023	0.000020	0.000018	0.000016	0.000013	0.000011	0.000009	0.000007
45	0.000036	0.000034	0.000033	0.000027	0.000023	0.000019	0.000017	0.000015	0.000013	0.000011	0.000009	0.000008	0.000006
50	0.000027	0.000026	0.000026	0.000022	0.000019	0.000016	0.000014	0.000012	0.000011	0.000009	0.000007	0.000006	0.000005

Table 5B: Stack Emission Dispersion Factors for 24 hour Exposure (µg/m^3 / pounds/day)

Stack	Exposure Location Distance (meters)												
Ht (m)	50	60	70	80	90	100	110	120	130	140	150	160	170
5	8.3	7.1	6.1	5.2	4.4	3.8	3.2	2.7	2.4	2.1	1.8	1.6	1.4
10	3.8	3.4	3.1	2.8	2.6	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5
15	1.8	1.6	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.00	0.95	0.91	0.87
20	1.6	1.3	0.91	0.86	0.82	0.77	0.73	0.69	0.65	0.62	0.59	0.56	0.54
25	0.97	0.93	0.85	0.64	0.52	0.50	0.48	0.46	0.44	0.42	0.40	0.38	0.36
30	0.62	0.59	0.57	0.55	0.49	0.34	0.32	0.31	0.30	0.29	0.28	0.27	0.26
35	0.42	0.41	0.39	0.38	0.37	0.34	0.29	0.22	0.21	0.21	0.20	0.20	0.19
40	0.30	0.29	0.28	0.28	0.27	0.26	0.25	0.22	0.17	0.15	0.15	0.15	0.14
45	0.22	0.22	0.21	0.21	0.20	0.20	0.19	0.19	0.17	0.16	0.12	0.11	0.11
50	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.14	0.14	0.13	0.12	0.10	0.082

Stack	Exposure Location Distance (meters)												
Ht (m)	180	190	200	250	300	350	400	450	500	600	700	800	1000
5	1.3	1.2	1.1	0.72	0.55	0.44	0.36	0.30	0.26	0.20	0.16	0.13	0.092
10	1.4	1.3	1.3	0.91	0.67	0.50	0.38	0.30	0.25	0.18	0.14	0.12	0.088
15	0.83	0.80	0.77	0.64	0.53	0.43	0.36	0.30	0.25	0.18	0.13	0.10	0.075
20	0.52	0.49	0.48	0.40	0.35	0.31	0.27	0.23	0.20	0.16	0.12	0.096	0.064
25	0.35	0.34	0.32	0.27	0.23	0.21	0.19	0.17	0.15	0.12	0.100	0.082	0.057
30	0.25	0.24	0.23	0.19	0.17	0.15	0.13	0.12	0.11	0.095	0.078	0.066	0.048
35	0.18	0.18	0.17	0.15	0.13	0.11	0.099	0.090	0.083	0.072	0.062	0.053	0.040
40	0.14	0.14	0.13	0.11	0.10	0.088	0.078	0.070	0.064	0.056	0.049	0.044	0.033
45	0.11	0.11	0.10	0.092	0.081	0.072	0.065	0.058	0.053	0.045	0.040	0.036	0.028
50	0.081	0.080	0.079	0.072	0.065	0.059	0.053	0.048	0.044	0.037	0.032	0.029	0.024

Use of stack emission dispersion factors in a Level 1 screening risk assessment:

For each Toxics Emissions Unit, select the appropriate stack height and distance from the stack to nearest exposure locations approved by DEQ. For each exposure location, find the corresponding annual dispersion factor in Table 5A. For each toxic air contaminant, multiply the annual toxic air contaminant emission rate (in pounds/year) by the dispersion factor. Divide the product by the RBC for all the toxic air contaminants for the appropriate exposure location in OAR 340-245-8040 Table 4. Add up the resulting ratios for all Toxic Emissions Units for each exposure location. Compare the results with the Risk Action Levels in OAR 340-245-8010 Table 1. Repeat the process for daily emission rates (in pounds/day) using Table 5B at the acute exposure location.

For a stack height between the values shown in the table, either use the next lowest stack height, or interpolate the dispersion factor. For an exposure location distance between the values shown in the table, either use the next lowest distance, or interpolate the dispersion factor. For stack heights greater than 50 meters, use the appropriate dispersion factor for 50 meters. For exposure locations greater than 1,000 meters from the stack, use the appropriate dispersion factor at 1,000 meters. In the absence of a known stack height and exposure location distance, use as a default the annual dispersion factor (0.0033 µg/m3 / pounds/year) and daily dispersion factor (8.3 µg/m3 / pounds/day) for a stack height of 5 meters and an exposure location distance of 50 meters.

Table 5 Level 1 Risk Assessment Tool Dispersion Factors

Table 5C: Fugitive Emission Dispersion Factors for Annual Exposure (µg/m^3 / pounds/year)

Building Area	Building	Exposure Location Distance (meters)											
(1,000 ft2)	Height (ft)	50	60	70	80	90	100	110	120	130	140	150	160
≤3	≤20	0.0045	0.0033	0.0026	0.0020	0.0017	0.0014	0.0012	0.0010	0.00089	0.00078	0.00069	0.00062
>3 to 6	≤20	0.0044	0.0032	0.0025	0.0020	0.0016	0.0014	0.0012	0.0010	0.00088	0.00077	0.00069	0.00061
>3 to 6	>20	0.0041	0.0031	0.0024	0.0019	0.0016	0.0013	0.0011	0.0010	0.00086	0.00076	0.00067	0.00060
>6 to 10	≤20	0.0044	0.0033	0.0025	0.0020	0.0017	0.0014	0.0012	0.0010	0.00088	0.00077	0.00069	0.00062
>6 to 10	>20	0.0037	0.0028	0.0022	0.0018	0.0015	0.0013	0.0011	0.0010	0.00083	0.00074	0.00066	0.00059
>10 to 15	≤20	0.0044	0.0033	0.0025	0.0020	0.0017	0.0014	0.0012	0.0010	0.00088	0.00077	0.00069	0.00062
>10 to 15	>20	0.0034	0.0027	0.0021	0.0018	0.0015	0.0012	0.0011	0.00093	0.00081	0.00072	0.00064	0.00058
>15 to 30	≤20	0.0043	0.0032	0.0025	0.0020	0.0016	0.0014	0.0012	0.0010	0.00088	0.00077	0.00069	0.00061
>15 to 30	>20	0.0034	0.0027	0.0021	0.0018	0.0015	0.0012	0.0011	0.00093	0.00082	0.00072	0.00065	0.00058
>30	>20	0.0022	0.0018	0.0015	0.0013	0.0011	0.0010	0.00086	0.00076	0.00068	0.00061	0.00055	0.00050
Building Area	**Building**	**Exposure Location Distance (meters)**											
(1,000 ft2)	Height (ft)	180	190	200	250	300	350	400	450	500	600	700	800
≤3	≤20	0.00050	0.00046	0.00042	0.00029	0.00021	0.00016	0.00013	0.00010	0.000087	0.000064	0.000049	0.000039
>3 to 6	≤20	0.00050	0.00046	0.00042	0.00028	0.00021	0.00016	0.00013	0.00010	0.000087	0.000064	0.000049	0.000039
>3 to 6	>20	0.00049	0.00045	0.00041	0.00028	0.00021	0.00016	0.00013	0.00010	0.000087	0.000064	0.000049	0.000039
>6 to 10	≤20	0.00050	0.00046	0.00042	0.00028	0.00021	0.00016	0.00013	0.00010	0.000087	0.000064	0.000049	0.000039
>6 to 10	>20	0.00048	0.00044	0.00041	0.00028	0.00020	0.00016	0.00013	0.00010	0.000086	0.000064	0.000049	0.000039
>10 to 15	≤20	0.00050	0.00046	0.00042	0.00028	0.00021	0.00016	0.00013	0.00010	0.000087	0.000064	0.000049	0.000039
>10 to 15	>20	0.00048	0.00044	0.00040	0.00028	0.00020	0.00016	0.00012	0.00010	0.000086	0.000063	0.000049	0.000039
>15 to 30	≤20	0.00050	0.00046	0.00042	0.00028	0.00021	0.00016	0.00013	0.00010	0.000087	0.000064	0.000049	0.000039
>15 to 30	>20	0.00048	0.00044	0.00040	0.00028	0.00020	0.00016	0.00013	0.00010	0.000086	0.000063	0.000049	0.000039
>30	>20	0.00042	0.00039	0.00036	0.00025	0.00019	0.00015	0.00012	0.00010	0.000083	0.000061	0.000048	0.000038

Table 5D: Fugitive Emission Dispersion Factors for 24 hour Exposure (µg/m^3 / pounds/day)

Building Area	Building	Exposure Location Distance (meters)											
(1,000 ft2)	Height (ft)	50	60	70	80	90	100	110	120	130	140	150	160
≤3	≤20	4.8	3.7	2.9	2.4	2.0	1.7	1.4	1.2	1.1	0.97	0.87	0.78
>3 to 6	≤20	4.1	3.1	2.5	2.0	1.7	1.4	1.2	1.1	0.95	0.84	0.76	0.68
>3 to 6	>20	3.5	2.8	2.2	1.9	1.6	1.3	1.2	1.0	0.90	0.80	0.72	0.65
>6 to 10	≤20	4.0	3.1	2.5	2.0	1.7	1.4	1.2	1.1	0.94	0.84	0.75	0.68
>6 to 10	>20	3.3	2.6	2.1	1.8	1.5	1.3	1.1	0.97	0.86	0.77	0.69	0.63
>10 to 15	≤20	4.0	3.1	2.4	2.0	1.7	1.4	1.2	1.1	0.94	0.84	0.75	0.68
>10 to 15	>20	2.9	2.4	2.0	1.6	1.4	1.2	1.1	0.93	0.83	0.74	0.67	0.61
>15 to 30	≤20	3.7	2.9	2.3	1.9	1.6	1.4	1.2	1.0	0.92	0.82	0.74	0.67
>15 to 30	>20	2.9	2.3	1.9	1.6	1.4	1.2	1.0	0.92	0.82	0.74	0.67	0.60
>30	>20	1.8	1.5	1.3	1.2	1.0	0.92	0.82	0.73	0.66	0.60	0.55	0.51
Building Area	**Building**	**Exposure Location Distance (meters)**											
(1,000 ft2)	Height (ft)	180	190	200	250	300	350	400	450	500	600	700	800
≤3	≤20	0.65	0.59	0.55	0.38	0.29	0.22	0.18	0.15	0.13	0.095	0.074	0.060
>3 to 6	≤20	0.57	0.52	0.48	0.33	0.25	0.20	0.16	0.13	0.11	0.083	0.065	0.053
>3 to 6	>20	0.54	0.50	0.46	0.32	0.24	0.19	0.15	0.13	0.11	0.081	0.064	0.052
>6 to 10	≤20	0.56	0.52	0.48	0.33	0.25	0.20	0.16	0.13	0.11	0.083	0.065	0.053
>6 to 10	>20	0.53	0.48	0.45	0.31	0.24	0.19	0.15	0.12	0.11	0.080	0.063	0.051
>10 to 15	≤20	0.56	0.52	0.48	0.33	0.25	0.19	0.16	0.13	0.11	0.083	0.065	0.053
>10 to 15	>20	0.51	0.47	0.43	0.31	0.23	0.18	0.15	0.12	0.10	0.078	0.062	0.050
>15 to 30	≤20	0.55	0.51	0.47	0.33	0.25	0.19	0.16	0.13	0.11	0.083	0.065	0.053
>15 to 30	>20	0.51	0.47	0.43	0.31	0.23	0.18	0.15	0.12	0.10	0.078	0.062	0.050
>30	>20	0.43	0.40	0.37	0.27	0.21	0.17	0.14	0.12	0.098	0.075	0.059	0.048

Use of fugitive emission dispersion factors in a Level 1 screening risk assessment:

For each Toxics Emissions Unit, select the appropriate building dimensions and distance from building to nearest exposure locations approved by DEQ. For each exposure location, find the corresponding annual dispersion factor in Table 5C. For each toxic air contaminant, multiply the annual toxic air contaminant emission rate (in pounds/year) by the dispersion factor. Divide the product by the RBC for all the toxic air contaminants for the appropriate exposure location in OAR 340-245-8040 Table 4. Add up the resulting ratios for all Toxic Emissions Units for each exposure location. Compare the results with the Risk Action Levels in OAR 340-245-8010 Table 1. Repeat the process for daily emission rates (in pounds/day) using Table 5D at the acute exposure location.

For an exposure location distance between the values shown in the table, either use the next lowest distance, or interpolate the dispersion factor. For exposure locations greater than 1,000 meters from the building, use the appropriate dispersion factor at 1,000 meters. In the absence of known building dimensions and exposure location distance, use as a default, the annual dispersion factor (0.0045 µg/m3 / pounds/year) and daily dispersion factor (4.8 µg/m3 / pounds/day) for a building area of ≤3,000 ft2, height of ≤20 ft, and exposure location distance of 50 meters.

Stat. Auth.: ORS 468.020, 468.065, 468A.025, 468A.040, 468A.050, 468A.070, 468A.155

Stats. Implemented: ORS 468.065, 468A.010, 468A.015, 468A.025, 468A.035, 468A.040, 468A.050, 468A.070, and 468A.155

ADOPT: 340-245-9000

RULE TITLE: Colored Art Glass Manufacturing Facility Rules; Applicability and Jurisdiction

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Colored Art Glass Manufacturing Facility Rules; Applicability and Jurisdiction in Division 245: Cleaner Air Oregon

RULE TEXT:

Notwithstanding OAR chapter 340, division 246, OAR 340-245-9000 through 340-245-9080 apply to all facilities in the state of Oregon that:

(1) Manufacture glass from raw materials, or a combination of raw materials and cullet, for:

(a) Use in art, architecture, interior design and other similar decorative applications, or

(b) Use by glass manufacturers for use in art, architecture, interior design and other similar decorative applications; and

(2) Manufacture 5 tons per year or more of glass using raw materials that contain glassmaking HAPs.

(3) Subject to the requirements in this division and OAR 340-200-0010(3), LRAPA is designated by the EQC to implement OAR 340-245-9000 through 9095 within its area of jurisdiction.

NOTE: This rule was moved verbatim from OAR 340-244-9000 and renumbered and amended.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040

STATUTES/OTHER IMPLEMENTED: 468A.025, 468A.040

ADOPT: 340-245-9010

RULE TITLE: Colored Art Glass Manufacturing Facility Rules; Definitions

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Colored Art Glass Manufacturing Facility Rules; Definitions in Division 245: Cleaner Air Oregon

RULE TEXT:

The definitions in OAR 340-200-0020 and this rule apply to OAR 340-245-9000 through 9095. If the same term is defined in this rule and 340-200-0020, the definition in this rule applies to this division.

(1) “Colored Art Glass Manufacturer” or “CAGM” means a facility that meets the applicability requirements in OAR 340-245-9000 and refers to the owner or operator of such a facility when the context requires.

(2) “Chromium III” means chromium in the +3 oxidation state, also known as trivalent chromium.

(3) “Chromium VI” means chromium in the +6 oxidation state, also known as hexavalent chromium.

(4) “Chromium”, without a following roman numeral, means total chromium.

(5) “Controlled” means the glassmaking furnace emissions are treated by an emission control device approved by DEQ.

(6) “Cullet” means pieces of finished glass that, when mixed with raw materials and charged to a glassmaking furnace, is used to produce new glass. Cullet does not include frit as defined in subsection (9)(a). Cullet is not considered to be a raw material.

(7) “Emission control device” means control device as defined in OAR chapter 340, division 200.

(8) “Finished glass” means the final glass product that results from melting and refining materials in a glassmaking furnace. Finished glass that has been remelted without the addition of raw materials is still finished glass.

(9) “Frit” means both of the following:

(a) Granules of glassified or vitrified material that is not made from finished glass, and which contains a higher proportion of glassmaking HAP than would be found in a finished glass. The purpose of such material includes, but is not limited to, making powdered glassmaking HAPs safer to handle by combining them with silica or other oxides.

(b) Granules of crushed finished glass.

(10) “Glassmaking furnace” means a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass.

(11) “Glassmaking HAP” means arsenic, cadmium, chromium, lead, manganese, nickel or selenium in any form, such as the pure chemical element, in compounds or mixed with other materials.

(12) “Raw material” means:

(a) Substances that are intentionally added to a glass manufacturing batch and melted in a glassmaking furnace to produce glass, including but not limited to:

(A) Minerals, such as silica sand, limestone, and dolomite;

(B) Inorganic chemical compounds, such as soda ash (sodium carbonate), salt cake (sodium sulfate), and potash (potassium carbonate);

(C) Oxides and other compounds of chemical elements, such as lead oxide, chromium oxide, and sodium antimonate; and

(D) Ores of chemical elements, such as chromite and pyrolusite.

(b) Glassmaking HAPs that are naturally-occurring trace constituents or contaminants of other substances are not considered to be raw materials.

(c) Raw material includes materials that contain glassmaking HAPs in amounts that materially affect the properties of the finished product, such as its color, texture or bubble content. Such materials may be powdered, frit, or in some other form. For the purpose of this definition, frit as described in subsection (9)(a) is a raw material, but frit as described in subsection (9)(b) is not a raw material.

(d) Cullet and material that is recovered from a glassmaking furnace control device for recycling into the glass formulation are not considered to be raw materials.

(13) “Tier 1 CAGM” means a CAGM that produces at least 5 tons per year, but less than 100 tons per year, of glass using

raw materials that contain glassmaking HAPs in glassmaking furnaces that are only electrically heated.
(14) “Tier 2 CAGM” means:
(a) A CAGM that produces 5 tons per year or more of glass using raw materials that contain glassmaking HAPs in glassmaking furnaces, at least one of which is fuel-heated or combination fuel- and electrically-heated; or
(b) Produces 100 tons per year or more of glass using raw materials that contain glassmaking HAPs in any type of glassmaking furnace.
(15) “Uncontrolled” means the glassmaking furnace emissions are not treated by an emission control device approved by DEQ.
(16) “Week” means Sunday through Saturday.
NOTE: This rule was moved verbatim from OAR 340-244-9010 and renumbered and amended.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040

STATUTES/OTHER IMPLEMENTED: 468A.025, 468A.040

ADOPT: 340-245-9015

RULE TITLE: Colored Art Glass Manufacturing Facility Rules; Compliance Extensions

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Colored Art Glass Manufacturing Facility Rules; Compliance Extensions in Division 245: Cleaner Air Oregon

RULE TEXT:

A Tier 1 CAGM may request, and DEQ may grant, one or more extensions, not to exceed a total of 12 months, to the compliance date for installation of emission control systems if the CAGM cannot meet the compliance date for reasons beyond its reasonable control. A Tier 1 CAGM that has been granted an extension:

(1) Is allowed to operate without the emission control device required by OAR 340-224-9050 until the required emission control device is installed and operational, or the extension expires, whichever is earlier; and

(2) Must comply with OAR 340-245-9020 and 340-245-9060(1) as applicable.

NOTE: This rule was moved verbatim from OAR 340-244-9015 and renumbered and amended.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040

STATUTES/OTHER IMPLEMENTED: 468A.025, 468A.040

ADOPT: 340-245-9020

RULE TITLE: Colored Art Glass Manufacturing Facility Rules; Permit Required

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Colored Art Glass Manufacturing Facility Rules; Permit Required in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) Not later than December 1, 2016, if located within the Portland AQMA, and not later than April 1, 2017, if located outside the Portland AQMA, all CAGMs not otherwise subject to a permitting requirement must apply for a permit under OAR 340-216-8020 Table 2, Part B, category #84.

(2) A CAGM that applies for a permit on or before the required date is not in violation of OAR 340-216-0020(3).

(3) CAGMs constructed after September 1, 2016 must obtain a permit prior to construction.

NOTE: This rule was moved verbatim from OAR 340-244-9020 and renumbered.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040

STATUTES/OTHER IMPLEMENTED: 468A.025, 468A.040

ADOPT: 340-245-9030

RULE TITLE: Colored Art Glass Manufacturing Facility Rules; Requirements That Apply To Tier 2 CAGMs

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Colored Art Glass Manufacturing Facility Rules; Requirements That Apply To Tier 2 CAGMs in Division 245: Cleaner Air Oregon

RULE TEXT:
(1) Tier 2 CAGMs located within the Portland AQMA may not use raw materials containing arsenic, cadmium, chromium, lead, manganese or nickel except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-245-9070.
(2) Effective January 1, 2017, Tier 2 CAGMs located within the Portland AQMA may not use raw materials containing selenium except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-245-9070.
(3) Tier 2 CAGMs located outside the Portland AQMA may not use raw materials containing arsenic, cadmium or chromium VI except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-245-9070.
(4) Effective April 1, 2017, Tier 2 CAGMs located outside the Portland AQMA may not use raw materials containing chromium, lead, manganese, nickel or selenium except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-245-9070.
NOTE: This rule was moved verbatim from OAR 340-244-9030 and renumbered and amended.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040

STATUTES/OTHER IMPLEMENTED: 468A.025, 468A.040

ADOPT: 340-245-9050

RULE TITLE: Colored Art Glass Manufacturing Facility Rules; Requirements That Apply To Tier 1 CAGMs

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Colored Art Glass Manufacturing Facility Rules; Requirements That Apply To Tier 1 CAGMs in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) No later than October 1, 2016, if located within the Portland AQMA, and April 1, 2017, if located outside the Portland AQMA, each Tier 1 CAGM must comply with subsection (a) or (b) for each glassmaking furnace or group of glassmaking furnaces that use raw material containing arsenic, cadmium, chromium, lead, manganese or nickel:

(a) Install an emission control device that meets the emission control device requirements in OAR 340-245-9070; or

(b) Request a permit condition that prohibits the use of arsenic, cadmium, chromium, lead, manganese or nickel in the glassmaking furnace or group of glassmaking furnaces, and comply with that condition.

(2) No later than January 1, 2017, if located within the Portland AQMA, and April 1, 2017, if located outside the Portland AQMA, each Tier 1 CAGM must comply with subsection (a) or (b) for each glassmaking furnace or group of glassmaking furnaces that use raw material containing selenium:

(a) Install an emission control device that meets the emission control device requirements in OAR 340-245-9070; or

(b) Request a permit condition that prohibits the use of selenium in the glassmaking furnace or group of glassmaking furnaces, and comply with that condition.

NOTE: This rule was moved verbatim from OAR 340-244-9050 and renumbered and amended.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040

STATUTES/OTHER IMPLEMENTED: 468A.025, 468A.040

ADOPT: 340-245-9060

RULE TITLE: Colored Art Glass Manufacturing Facility Rules; Operating Restrictions That Apply To Tier 1 CAGMs

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Colored Art Glass Manufacturing Facility Rules; Operating Restrictions That Apply To Tier 1 CAGMs in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) Tier 1 CAGMs may not use raw materials that contain chromium VI in any uncontrolled glassmaking furnace.

(2) Tier 1 CAGMs are not restricted on the raw materials that may be used in glassmaking furnaces that are controlled by an emission control device approved by DEQ.

NOTE: This rule was moved verbatim from OAR 340-244-9060 and renumbered.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040

STATUTES/OTHER IMPLEMENTED: 468A.025, 468A.040

ADOPT: 340-245-9070

RULE TITLE: Colored Art Glass Manufacturing Facility Rules; Emission Control Device Requirements

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Colored Art Glass Manufacturing Facility Rules; Emission Control Device Requirements in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) CAGMs must comply with the requirements in subsection (a) or (b), as applicable, for each emission control device used to comply with this rule.

(a) Tier 1 CAGMs must comply with one of the requirements in paragraphs (A), (B) or (C):

(A) Conduct a source test as required under section (3) and demonstrate that the emission control device does not emit particulate matter in excess of 0.005 grains per dry standard cubic foot as measured by EPA Method 5 or an equivalent method approved by DEQ.

(B) If the emission control system is a fabric filter (baghouse), install a bag leak detection system that meets the requirements of section (4).

(C) If the emission control system is a fabric filter (baghouse), install an afterfilter that meets the requirements of section (5).

(b) Tier 2 CAGMs must:

(A) Conduct a source test as required under section (3) and demonstrate that the emission control device does not emit particulate matter in excess of 0.005 grains per dry standard cubic foot as measured by EPA Method 5 or an equivalent method approved by DEQ; and

(B) If a fabric filter (baghouse) is used, install either a bag leak detection system that meets the requirements of section (4) or an afterfilter that meets the requirements of section (5).

(2) Emission control device requirements:

(a) A CAGM must obtain DEQ approval of the design of all emission control devices before installation, as provided in this rule.

(b) A CAGM must submit a Notice of Intent to Construct as required by OAR 340-210-0205 through 340-210-0250 no later than 15 days before the date installation begins. If DEQ does not deny or approve the Notice of Intent to Construct within 10 days after receiving the Notice, the Notice will be deemed to be approved.

(c) Emission control devices may control emissions from more than one glassmaking furnace.

(d) Each emission control device must be equipped with the following monitoring equipment:

(A) An inlet temperature monitoring device;

(B) A differential pressure monitoring device if the emission control device is a baghouse; and

(C) Any other monitoring device or devices specified in DEQ's approval of the Notice of Intent to Construct.

(e) Each emission control device must be equipped with inlet ducting that provides the following:

(A) Sufficient cooling of exhaust gases to no more than the maximum design inlet temperature under worst-case conditions; and

(B) Provision for inlet emissions testing, including sufficient duct diameter, sample ports, undisturbed flow conditions, and access for testing.

(f) Each emission control device must be equipped with outlet ducting that provides for outlet emissions testing, including sufficient duct diameter, sample ports, undisturbed flow conditions, and access for testing.

(g) After commencing operation of any emission control device, the CAGM must monitor the emission control device as required by OAR 340-245-9080.

(3) If source testing is conducted under section (1), the CAGM must perform the following source testing on at least one emission control device.

(a) Within 60 days of commencing operation of the emission control devices, test control device outlet for particulate matter using DEQ Method 5 or equivalent method;

(b) The emission control device to be tested must be approved by DEQ;
(c) A source test plan must be submitted at least 30 days before conducting the source test; and
(d) The source test plan must be approved by DEQ before conducting the source test.
(4) If a bag leak detection system is installed under section (1), the requirements for the bag leak detection system are:
(a) The bag leak detection system must be installed and operational as soon as possible but not more than 90 days after the baghouse becomes operational or 90 days after the effective date of the rule, whichever is later.
(b) Each bag leak detection system must meet the specifications and requirements in paragraphs (A) through (H).
(A) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.
(B) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator must continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger).
(C) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (D), and the alarm must be located such that it can be heard by the appropriate plant personnel.
(D) In the initial adjustment of the bag leak detection system, the CAGM must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.
(E) Following initial adjustment, the CAGM may not adjust the averaging period, alarm set point, or alarm delay time without approval from DEQ except as provided in paragraph (F).
(F) Once per quarter, the CAGM may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by OAR 340-224-9080(4).
(G) The CAGM must install the bag leak detection sensor downstream of the fabric filter.
(H) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.
(5) If an afterfilter is installed under section (1), the requirements for the afterfilter are:
(a) The afterfilter must be installed and operational as soon as possible but not more than 120 days after the baghouse becomes operational or 120 days after the effective date of the rule, whichever is later;
(b) The afterfilter must filter the entire exhaust flow from the fabric filter (baghouse); and
(c) The afterfilter must be equipped with:
(A) HEPA filters that have a Minimum Efficiency Reporting Value of 17 (MERV 17) or higher per American National Standards Institute (ANSI) Standard 52.2; and
(B) A differential pressure monitoring device.
NOTE: This rule was moved verbatim from OAR 340-244-9070 and renumbered and amended.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040

STATUTES/OTHER IMPLEMENTED: 468A.025, 468A.040

ADOPT: 340-245-9080

RULE TITLE: Colored Art Glass Manufacturing Facility Rules; Emission Control Device Monitoring

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Colored Art Glass Manufacturing Facility Rules; Emission Control Device Monitoring in Division 245: Cleaner Air Oregon

RULE TEXT:

(1) Each Tier 1 CAGM must perform the following monitoring on each emission control device it uses to comply with this rule:

(a) At least once each week, observe and record the inlet temperature and the fabric filter (baghouse) differential pressure and afterfilter differential pressure (as applicable); and

(b) At least once every 12 months:

(A) Inspect the ductwork and emission control device housing for leakage;

(B) Inspect the interior of the emission control device for structural integrity and, if a fabric filter (baghouse) is used, to determine the condition of the fabric filter; and

(C) Record the date, time and results of the inspection.

(2) Each Tier 2 CAGM must perform the following monitoring on each emission control device used to comply with this rule:

(a) At least once each day, observe and record the inlet temperature and the fabric filter (baghouse) differential pressure and afterfilter differential pressure (as applicable); and

(b) At least once every 12 months:

(A) Inspect the ductwork and emission control device housing for leakage;

(B) Inspect the interior of the emission control device for structural integrity and, and if a fabric filter (baghouse) is used, to determine the condition of the fabric filter; and

(C) Record the date, time and results of the inspection.

(3) CAGMs must observe and record any parameters specified in a DEQ approval of the Notice of Intent to Construct applicable to a control device.

(4) If a bag leak detection system is used, the CAGM must develop and submit to DEQ for approval a site-specific monitoring plan for each bag leak detection system. The CAGM must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in subsections (a) through (f).

(a) Installation of the bag leak detection system;

(b) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(c) Operation of the bag leak detection system, including quality assurance procedures;

(d) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(e) How the bag leak detection system output will be recorded and stored; and

(f) Corrective action procedures as specified in section (5). In approving the site-specific monitoring plan, DEQ may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(5) For each bag leak detection system, the CAGM must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in subsection (4)(f), the CAGM must alleviate the cause of the alarm within 3 hours of the alarm by taking all necessary corrective actions. Corrective actions may include, but are not limited to the following:

(a) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;
(b) Sealing off defective bags or filter media;
(c) Replacing defective bags or filter media or otherwise repairing the control device;
(d) Sealing off a defective fabric filter compartment;
(e) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; and
(f) Shutting down the process producing the PM emissions.
(6) For each bag leak detection system, the CAGM must keep the following records:
(a) Records of the bag leak detection system output;
(b) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and
(c) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the alarm was alleviated within 3 hours of the alarm.
NOTE: This rule was moved verbatim from OAR 340-244-9080 and renumbered.

STATUTORY/OTHER AUTHORITY: ORS 468.020, 468A.025, 468A.040

STATUTES/OTHER IMPLEMENTED: 468A.025, 468A.040

AMEND: 340-246-0010

RULE TITLE: Policy and Purpose

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Add rule citations. Add reference to Oregon’s Federal Hazardous Air Pollution Program, Cleaner Air Oregon, and the Colored Art Glass Manufacturing Facility Rules.

RULE TEXT:

The purpose of Oregon's state air toxics program is to address threats to public health and the environment from toxic air pollutants that remain after implementing the state delegated technology-based strategies of the federal air toxics program in OAR 340-244-0010 through 340-244-0252, Cleaner Air Oregon in OAR 340-245-0005 through 340-245-8050, and OAR 340-244-9000 through 340-244-9090. Oregon's program meets the goals of the federal Urban Air Toxics Strategy by using a community-based effort that focuses on geographic areas of concern. It also addresses cases of elevated health risks from air toxics emissions at stationary sources and source categories of air toxics emissions.

STATUTORY/OTHER AUTHORITY: 468A.010(1), 468A.015, ORS 468.035

STATUTES/OTHER IMPLEMENTED: ORS 468A.015, 468A.025

AMEND: 340-246-0090

RULE TITLE: Ambient Benchmarks for Air Toxics

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added: In OAR 340-245-0300, ambient benchmarks may also be considered in the risk-based concentration hierarchy used to determine risk-based concentrations for purposes of Cleaner Air Oregon regulations in OAR 340-245-0005 through 240-245-8050.

RULE TEXT:

(1) Purpose. Ambient benchmarks are concentrations of air toxics that serve as goals in the Oregon Air Toxics Program. They are based on human health risk and hazard levels considering sensitive populations. Ambient benchmarks are not regulatory standards, but reference values by which air toxics problems can be identified, addressed and evaluated. DEQ will use ambient benchmarks as indicated in these rules, to implement the Geographic, Source Category, and Safety Net Programs. Ambient benchmarks set by the procedures described in this rule apply throughout Oregon, including that area within the jurisdiction of the Lane Regional Air Protection Agency. In OAR 340-245-0300, ambient benchmarks may also be considered in the risk-based concentration hierarchy used to determine risk-based concentrations for purposes of Cleaner Air Oregon regulations in OAR 340-245-0005 through 240-245-8050. Ambient benchmarks are subject to public notice and comment before adoption by the Environmental Quality Commission as administrative rules.

(2) Establishing Ambient Benchmarks

(a) DEQ will consult with the ATSAC to prioritize air toxics for ambient benchmark development. Highest priority air toxics are those that pose the greatest risk to public health.

(b) To prioritize air toxics, DEQ will apply the criteria described in OAR 340-246-0090(2)(c) to modeling, monitoring, and emissions inventory data.

(c) Ambient benchmark prioritization criteria will include at least the following:

(A) Toxicity or potency of a pollutant;

(B) Exposure and number of people at risk;

(C) Impact on sensitive human populations;

(D) The number and degree of predicted ambient benchmark exceedances; and

(E) Potential to cause harm through persistence and bio-accumulation.

(d) DEQ will develop ambient benchmarks for proposal to the ATSAC based upon a protocol that uses reasonable estimates of plausible upper-bound exposures that neither grossly underestimate nor grossly overestimate risks.

(e) Within three months of the first meeting of the ATSAC, DEQ will propose ambient benchmark concentrations for the highest priority air toxics for review by the ATSAC. DEQ will propose additional and revised air toxics ambient benchmarks for review by the ATSAC based on the prioritization criteria in OAR 340-246-0090(2)(c). Once the ATSAC has completed review of each set of proposed ambient benchmarks, DEQ will, within 60 days, begin the process to propose ambient benchmarks as administrative rules for adoption by the Environmental Quality Commission.

(f) If DEQ is unable to propose ambient benchmarks to the ATSAC by the deadlines specified in OAR 340-246-0090(2)(e), the ATSAC will review the most current EPA ambient benchmarks. If EPA ambient benchmarks are not available, the ATSAC will review the best available information from other states and local air authorities.

(g) The ATSAC will consider proposed ambient benchmarks and evaluate their adequacy for meeting risk and hazard levels, considering human health, including sensitive human populations, scientific uncertainties, persistence, bio-accumulation, and, to the extent possible, multiple exposure pathways. The ATSAC will conduct this review consistent with the criteria in OAR 340-246-0090(2)(c) and (d). The ATSAC will report these findings to DEQ. If the ATSAC unanimously disagrees with DEQ's recommendation, DEQ will re-consider and re-submit its recommendation at a later date.

(h) The ATSAC will complete review of and report findings on each set of ambient benchmarks as quickly as possible, but no later than 12 months after DEQ has proposed them. If the ATSAC is unable to complete review of ambient

benchmarks within 12 months after DEQ's proposal, DEQ will initiate rulemaking to propose ambient benchmarks.
(i) DEQ will review all ambient benchmarks at least every five years and, if necessary, propose revised or additional ambient benchmarks to the ATSAC. At its discretion, DEQ may review and propose a benchmark for review by the ATSAC at any time when new information is available.
(3) Ambient Benchmarks. Benchmark concentrations are in units of micrograms of air toxic per cubic meter of ambient air, on an average annual basis. The Chemical Abstract Service Registry Number (CASRN) is shown in parentheses.
(a) The ambient benchmark for acetaldehyde (75-07-0) is 0.45 micrograms per cubic meter.
(b) The ambient benchmark for acrolein (107-02-8) is 0.35 micrograms per cubic meter.
(c) The ambient benchmark for acrylonitrile (107-13-1) is 0.01 micrograms per cubic meter.
(d) The ambient benchmark for ammonia (7664-41-7) is 500 micrograms per cubic meter.
(e) The ambient benchmark for arsenic (7440-38-2) is 0.0002 micrograms per cubic meter.
(f) The ambient benchmark for benzene (71-43-2) is 0.13 micrograms per cubic meter.
(g) The ambient benchmark for beryllium (7440-41-7) is 0.0004 micrograms per cubic meter.
(h) The ambient benchmark for 1,3-butadiene (106-99-0) is 0.03 micrograms per cubic meter.
(i) The ambient benchmark for cadmium and cadmium compounds (7440-43-9) is 0.0006 micrograms per cubic meter.
(j) The ambient benchmark for carbon disulfide (75-15-0) is 800 micrograms per cubic meter.
(k) The ambient benchmark for carbon tetrachloride (56-23-5) is 0.2 micrograms per cubic meter.
(l) The ambient benchmark for chlorine (7782-50-5) is 0.1 micrograms per cubic meter.
(m) The ambient benchmark for chloroform (67-66-3) is 300 micrograms per cubic meter.
(n) The ambient benchmark for chromium, hexavalent (18540-29-9) is 0.00008 micrograms per cubic meter.
(o) The ambient benchmark for cobalt and cobalt compounds (7440-48-4) is 0.1 micrograms per cubic meter.
(p) The ambient benchmark for 1,4-dichlorobenzene (106-46-7) is 0.09 micrograms per cubic meter.
(q) The ambient benchmark for 1,3-dichloropropene (542-75-6) is 0.25 micrograms per cubic meter.
(r) The ambient benchmark for diesel particulate matter (none) is 0.1 micrograms per cubic meter. The benchmark for diesel particulate matter applies only to such material from diesel-fueled internal combustion sources.
(s) The ambient benchmark for dioxins and furans (1746-01-6) is 0.00000003 micrograms per cubic meter. The benchmark for dioxin is for total chlorinated dioxins and furans expressed as 2,3,7,8-TCDD toxicity equivalents.
(t) The ambient benchmark for ethyl benzene (100-41-4) is 0.4 micrograms per cubic meter.
(u) The ambient benchmark for ethylene dibromide (106-93-4) is 0.002 micrograms per cubic meter.
(v) The ambient benchmark for ethylene dichloride (107-06-2) is 0.04 micrograms per cubic meter.
(w) The ambient benchmark for ethylene oxide (75-21-8) is 0.0003 micrograms per cubic meter.
(x) The ambient benchmark for formaldehyde (50-00-0) is 0.2 micrograms per cubic meter.
(y) The ambient benchmark for n-hexane (110-54-3) is 700 micrograms per cubic meter.
(z) The ambient benchmark for hydrogen chloride (7647-01-0) is 20 micrograms per cubic meter.
(aa) The ambient benchmark for hydrogen cyanide (74-90-8) is 0.8 micrograms per cubic meter.
(bb) The ambient benchmark for fluoride anion (7664-39-3) is 13 micrograms per cubic meter.
(cc) The ambient benchmark for lead and lead compounds (7439-92-1) is 0.15 micrograms per cubic meter.
(dd) The ambient benchmark for manganese and manganese compounds (7439-96-5) is 0.09 micrograms per cubic meter.
(ee) The ambient benchmark for elemental mercury (7439-97-6) is 0.3 micrograms per cubic meter.
(ff) The ambient benchmark for methyl bromide (74-83-9) is 5 micrograms per cubic meter.
(gg) The ambient benchmark for methyl chloride (74-87-3) is 90 micrograms per cubic meter.
(hh) The ambient benchmark for methyl chloroform (71-55-6) is 5,000 micrograms per cubic meter.
(ii) The ambient benchmark for methylene chloride (75-09-2) is 100 micrograms per cubic meter.
(jj) The ambient benchmark for naphthalene (91-20-3) is 0.03 micrograms per cubic meter.
(kk) The benchmark for soluble nickel compounds (various) is 0.01 micrograms per cubic meter, where soluble nickel compounds include nickel acetate (373-20-4), nickel chloride (7718-54-9), nickel carbonate (3333-39-3), nickel

carbonyl (13463-39-3), nickel hydroxide (12054-48-7), nickelocene 1271-28-9), nickel sulfate 7786-81-4), nickel sulfate hexahydrate 10101-97-0), nickel nitrate hexahydrate (13478-00-7), and nickel carbonate hydroxide (12607-70-4).

(ll) The ambient benchmark for insoluble nickel compounds (various) is 0.004 micrograms per cubic meter, where insoluble nickel compounds include nickel subsulfide (12035-72-2), nickel oxide (1313-99-1), nickel sulfide (11113-75-0), and nickel metal (7440-02-0).

(mm) The ambient benchmark for phosphine (7803-51-2) is 0.8 micrograms per cubic meter.

(nn) The ambient benchmark for phosphoric acid (7664-38-2) is 10 micrograms per cubic meter.

(oo) The ambient benchmark for total (as the sum of congeners) polychlorinated biphenyls (1336-36-3) is 0.01 micrograms per cubic meter.

(pp) The ambient benchmark for total polycyclic aromatic hydrocarbons (none) is 0.002 micrograms per cubic meter, where total polycyclic aromatic hydrocarbons are the sum of the toxicity equivalency factor (with respect to benzo(a)pyrene (50-32-8)) adjusted concentrations for all of the following individual 26 polycyclic aromatic hydrocarbons: 5-methylchrysene (3697-24-3); 6-nitrochrysene (7496-02-8); acenaphthene (83-32-9); acenaphthylene (208-96-8); anthanthrene (191-26-4); anthracene (120-12-7); benz(a)anthracene (56-55-3); benzo(a)pyrene (50-32-8); benzo(b)fluoranthene (205-99-6); benzo(c)fluoranthene (243-17-4); benzo(e)pyrene (192-97-2); benzo(g,h,i)perylene (191-24-2); benzo(j)fluoranthene (205-82-3); benzo(k)fluoranthene (207-08-9); chrysene (218-01-9); cyclopenta(c,d)pyrene (27208-37-3); dibenz(a,h)anthracene (226-36-8); dibenzo(a,e)pyrene (192-65-4); dibenzo(a,h)pyrene (189-64-0); dibenzo(a,i)pyrene (189-55-9); dibenzo(a,l)pyrene (191-30-0); fluoranthene (206-44-0); fluorene (86-73-7); indeno(1,2,3-c,d)pyrene (193-39-5); phenanthrene (85-01-8); and pyrene (129-00-0).

(qq) The ambient benchmark for tetrachloroethylene (127-18-4) is 4 micrograms per cubic meter.

(rr) The ambient benchmark for toluene (108-88-3) is 5,000 micrograms per cubic meter.

(ss) The ambient benchmark for 2,4- & 2,6 toluene diisocyanate, mixture (26471-62-5) is 0.02 micrograms per cubic meter.

(tt) The ambient benchmark for trichloroethylene (79-01-6) is 0.2 micrograms per cubic meter.

(uu) The ambient benchmark for vinyl chloride (75-01-4) is 0.1 micrograms per cubic meter.

(vv) The ambient benchmark for white phosphorus (7723-14-0) is 9 micrograms per cubic meter.

(ww) The ambient benchmark for xylenes, mixed (1330-20-7) is 200 micrograms per cubic meter.

(xx) The ambient benchmark for hydrogen sulfide (7783-06-4) is 2.0 micrograms per cubic meter.

(yy) The ambient benchmark for methanol (67-56-1) is 4,000 micrograms per cubic meter.

(zz) The ambient benchmark for phosgene (75-44-5) is 0.3 micrograms per cubic meter.

(aaa) The ambient benchmark for n-propyl bromide (106-94-5) is 0.5 micrograms per cubic meter.

(bbb) The ambient benchmark concentration for styrene (100-42-5) is 1,000 micrograms per cubic meter.

STATUTORY/OTHER AUTHORITY: ORS 468.035, 468A.010(1), 468A.015

STATUTES/OTHER IMPLEMENTED: ORS 468A.015, 468A.025

AMEND: 340-246-0190

RULE TITLE: Air Toxics Safety Net Program (0190 through 0230)

NOTICE FILED DATES: 06/26/2018, 10/20/2017

RULE SUMMARY: Added: (d) The source is not subject to the permitting requirements under OAR chapter 340, division 245.

RULE TEXT:

(1) The purpose of the Air Toxics Safety Net Program is to address human exposures at public receptors to air toxics emissions from stationary sources that are not addressed by other regulatory programs or the Geographic Program. It is the Commission's expectation that the Safety Net Program in OAR 340-246-0190 through 340-246-0230 will apply only rarely.

(2) Subject to the requirements contained in OAR 340-246-0190 through 340-246-0230, the Lane Regional Air Pollution Authority is designated by the Commission as the agency responsible for implementing the Air Toxics Safety Net Program within its area of jurisdiction. The requirements and procedures contained in this rule must be used by the Regional Authority to implement the Air Toxics Safety Net Program unless the Regional Authority adopts superseding rules, which are at least as restrictive as the rules adopted by the Commission.

(3) Selection of Sources. DEQ will select a source for the Air Toxics Safety Net Program if all of the following criteria are met:

(a) DEQ has ambient monitoring information, gathered using appropriate EPA or other published international, national, or state standard methods that concentrations of air toxics have caused an exceedance of at least one ambient benchmark at a site representing expected human exposure to air toxics from the source at a public receptor in a location outside of the source's ownership or control.

(b) DEQ has information that the source's air toxics emissions alone have caused an exceedance of at least one ambient benchmark at a site representing expected human exposure to air toxics from the source at a public receptor, in a location outside of the source's ownership or control. This could be based on emissions inventory, modeling or other information.

(c) The source is not subject to or scheduled for a federal residual risk assessment under the federal Clean Air Act section 112(f)(2) through (6).

(d) The source is not subject to the permitting requirements under OAR chapter 340, division 245.

(e) The source is not subject to an emissions limit or control requirement imposed as the result of modeling or a risk assessment performed or required by DEQ prior to November 1, 2003 for the air toxics that exceed the ambient benchmarks.

(f) The source is located outside of a selected geographic area, as designated in OAR 340-246-0130 through 0170.

(4) Air Toxics Science Advisory Committee Review. Before requiring a source to conduct a source-specific risk assessment, DEQ will present its analysis to the ATSAC. Within 120 days, the ATSAC will review the analysis and make a finding. If the ATSAC concurs with DEQ or takes no action, DEQ may proceed under this rule. If the ATSAC objects, DEQ will not proceed until it receives concurrence from the Commission.

(5) Source-Specific Exposure Modeling and Risk Assessment. Upon written notification by DEQ, a source must conduct a risk assessment including exposure modeling for the air toxics measured at levels above ambient benchmarks. The source must use a risk assessment methodology provided by DEQ. This risk assessment will provide the basis for establishing air toxics emissions reductions or demonstrating that at public receptors in areas outside of a source's ownership or control, people are not being exposed to air toxics at levels that exceed the ambient benchmarks.

(6) Risk Assessment Methodology. DEQ will provide guidance on the methods to be used. The risk assessment methodology will be developed in consultation with the ATSAC and will result in a protocol that:

(a) Uses reasonable estimates of plausible upper-bound exposures that neither grossly underestimate nor grossly overestimate risks;

(b) Considers the range of probabilities of risks actually occurring, the range of size of the populations likely to be

exposed to the risk, and current and reasonably likely future land uses;
(c) Defines the use of high-end and central-tendency exposure cases and assumptions;
(d) Develops values associated with chronic exposure for carcinogens; and
(e) Addresses both carcinogenic and non-carcinogenic air toxics and allows for detailed exposure assessments to the extent possible.
(7) Review and Acceptance by DEQ. DEQ will evaluate the risk assessment for adequacy and completeness before accepting the results. If the results demonstrate that the source is not causing human exposures to air toxics at levels that exceed the ambient benchmarks at public receptors, in areas outside the source's ownership or control, and DEQ has received concurrence from the ATSAC, DEQ will notify the source that air toxics emissions reductions will not be required under this rule.

STATUTORY/OTHER AUTHORITY: ORS 468.035, 468A.010(1), 468A.015

STATUTES/OTHER IMPLEMENTED: ORS 468A.015, 468A.025