State of Oregon

Department of Environmental Quality Should Improve the Air Quality Permitting Process to Reduce Its Backlog and Better Safeguard Oregon's Air

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Report Highlights

The Secretary of State's Audits Division found that the Oregon Department of Environmental Quality (DEQ) should evaluate staffing and workloads among air quality permit writers and provide better guidance to both staff and businesses to help reduce the agency's air quality permit backlog.

Background

This audit reviewed air quality permitting at the Oregon Department of Environmental Quality. Air quality permits regulate the types and amounts of air pollution businesses are allowed to emit, based on federal pollution limits set by the Clean Air Act and state limits established in state laws and DEQ rules.

Purpose

The purpose of this audit was to determine how DEQ could improve its air quality permitting process to better safeguard Oregon's air quality.

Key Findings

The Oregon Department of Environmental Quality has a significant backlog in air quality permit renewals. We found that:

1. 43% (106 out of 246) of DEQ's largest and most complex federal and state air quality permit renewals are overdue for renewal. Additionally, more than 40% of the most complex permits issued from 2007 to 2017 exceeded timeframes established by DEQ or the Clean Air Act, some by several years.
2. DEQ struggles to issue timely permits and renewals due to a variety of factors, including competing priorities, vacancies, and position cuts that have created unmanageable workloads. Other factors include inconsistent support and guidance for staff; a lack of clear, accessible guidance for applicants; and increased time for the public engagement process.
3. Untimely permits, combined with a current backlog of inspections, endanger the state's air quality and the health of Oregonians. For example, when DEQ does not issue permit renewals on time, businesses may not provide DEQ with data showing they are complying with new or updated rules.

To reach our findings, we conducted interviews, analyzed air permit data, reviewed documents and reported practices, and researched leading practices.

Recommendations

Based on our review of leading practices and air quality agencies in other states, the report includes ten recommendations to the Department of Environmental Quality. Recommendations include evaluating permit writer workloads and staffing, clarifying the public engagement process, providing better guidance to permit writers and businesses, and conducting a process improvement effort.

The agency agreed with our findings and recommendations. Its response can be found at the end of the report.

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We sincerely appreciate the courtesies and cooperation extended by officials and employees of the Department of Environmental Quality during the course of this audit.

DEQ Should Improve the Air Quality Permitting Process to Reduce Its Permit Backlog and Better Safeguard Oregon's Air

Introduction

The mission of the Department of Environmental Quality (DEQ) is to lead the state in restoring, maintaining, and enhancing the state's air, land, and water. In each of these areas, DEQ administers laws and programs, establishes standards, determines if standards are met, and takes action to enforce them when they are not.

The Oregon State Legislature has indicated state air pollution laws are intended to "safeguard the air resources of the state by controlling, abating, and preventing air pollution." Permitting facilities that emit air pollution is key to maintaining and improving Oregon's air quality.

The purpose of this audit was to determine how DEQ could improve its air quality permitting process to better safeguard the state's air quality. We found the agency is not issuing timely air quality permits. In addition, compliance inspections are integral to the ensuring facilities comply with permits, but DEQ is not consistently performing these inspections on time.

Air pollution is harmful to the health of Oregonians and the environment

Clean Air Week, 1969.
Oregon Historical Society, OrHi103775.

Beginning in the 1970s, the Clean Air Act (CAA) required the federal Environmental Protection Agency (EPA) to set national standards based on human and environmental health criteria for six common air pollutants. These "criteria pollutants" are lead, carbon monoxide, ground-level ozone commonly known as smog, nitrogen dioxide, sulfur dioxide, and particulate matter.

Of the six, smog and particulate matter, a complex mix of extremely small particles and liquid droplets, are the most widespread health risks.

Though it has decreased, smog continues to harm human health, causing respiratory problems in children, the elderly and even healthy adults. Fine particulate matter known as PM2.5 is the more dangerous type of particle pollution. PM2.5 more easily enters deep into the lungs, can enter the bloodstream, and can cause heart and asthma attacks. Other pollutants, such as lead, can cause cancer and developmental disabilities.

Federal air quality rules became more stringent in the 1990s with the passage of amendments to the CAA. These amendments created an operating permit program for larger industrial and commercial sources that release pollutants into the air and added 187 hazardous air pollutants, also known as air toxics, to the list of regulated pollutants.

Hazardous air pollutants are known or suspected to cause cancer or serious health effects. They increase the risk of cardiovascular and respiratory illness, lung disease, cancers, birth defects, developmental disorders, and premature death.

When compared to other states, the most recent National Air Toxics Assessment ranked Oregon highest in the nation for non-cancer health risks caused by hazardous air pollutants, followed by Washington.[1] Oregon's cancer risk is 24th[2] and of the 3,142 counties in the U.S., Multnomah, where Portland is located, ranks 56th for cancer risk and 3rd for non-cancer hazards.

Health problems associated with air pollution have negative economic impacts. For example, researchers estimate that up to 30% of asthma can be attributed to outdoor air pollution. In Oregon, the estimated annual medical cost of treating asthma is $411 million.

Criteria pollutants and hazardous air pollutants also affect the environment. Wildlife can experience similar problems to humans such as reproductive failure and birth defects. Air pollution can damage aquatic ecosystems and contributes to thinning of the protective layer in the upper atmosphere,[3] regional haze, and global climate change. It can also damage crops and trees, leading to reduced yields and growth.

Air quality permitting is key to maintaining and improving Oregon's air quality

Along with strategies to reduce emissions from woodstoves and vehicles, DEQ regulates stationary sources, including industrial facilities, through its air quality permitting programs. The CAA, which requires permitting of industrial air pollution, has contributed to an overall decrease in air pollution across the nation. Air quality permits regulate the types and amounts of air pollution businesses are allowed to emit, based on federal pollution limits set by the CAA and state limits established in state laws and DEQ rules.

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[1] The EPA suggests that the results of this assessment be used cautiously, as the overall quality of data submitted by states varies.
[2] Oregon's cancer risk due to toxic air pollution is 38 in a million— putting it at 24th in the nation as compared to other states.
[3] Also known as stratospheric ozone, which is naturally occurring and protects the planet from some of the sun's ultraviolet light.

Air pollution comes from a variety of sources

Air pollution in Oregon comes from a variety of sources, and the risks associated depend on the type of air pollutant, proximity to the public, and exposure. Though a contributing factor to the state's air quality, industrial facilities are not the only source of air pollution. Other sources include burning of fossil fuels, such as when driving cars and trucks, forest fires, and residential wood stoves.

Much of the state's air pollution is produced when two or more pollutants interact to create secondary chemical formations in the atmosphere. For example, nearly half of the cancer risk in Oregon is attributable to formaldehyde,[4] some of which is created when volatile organic compounds (VOCs)[5] interact with the upper atmosphere.

Emissions from industrial facilities, electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are sources of nitrogen oxide and VOCs, which interact with sunlight to created smog. Particulate matter can include one or more different chemical components, including acids, organic chemicals, metals, and soil or dust particles.

Air quality permitting has contributed to decreased air pollution and resulted in substantial economic benefits

Portland air pollution, 1963.
Oregon Historical Society, OrHi022557

Emission control measures implemented as part of the CAA, such as air quality permits and EPA's national emissions standards, have achieved dramatic reductions in air pollution. As a result, hundreds of thousands of cases of serious health effects, as well as premature deaths, have been prevented each year.

Reducing air pollution also prevents detrimental environmental effects. The EPA estimates improved air quality to have a net economic benefit to the agricultural and forestry sectors of $5.5 billion in 2010, and a projected net benefit of $10.7 billion in 2020. EPA's detailed cost benefit analyses of air pollution regulation over the last 20 years have shown that the benefits greatly outweigh the costs of compliance.

Air quality in Oregon has improved since the 1970s, due in part to regulation and permitting of industrial sources of air pollution. In the early 1970s, the state had serious air pollution problems. Oregonians in the Portland area were breathing air that violated the national air quality standard for smog by as much as 50%.

By 1980, only 30% of Oregonians lived in areas meeting federal clean air standards. Communities were routinely out of compliance for PM, smog,

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[4] Formaldehyde is also emitted from incomplete combustion from industrial sources; engines from cars, trucks, planes, and construction equipment; diesel fuel combustion; railroad activities; and wood burning.

[5] VOCs are organic chemicals with a high vapor pressure at room temperature and are manmade or occur naturally. Some are also air toxics: benzene, carbon tetrachloride, and ethyl benzene.

and carbon monoxide (CO). In 1981, Portland exceeded standards for CO one out of every three days. However, the state has not had a CO violation since 1991, due in part to DEQ's Vehicle Inspection Program (VIP) established in the Medford and Portland Metro areas.

Criteria pollutants in Oregon have been declining over time and most are below the federal standard. The same pattern is true nationally, with combined emissions of criteria pollutants and various air toxics dropping 70% between 1970 and 2015. See Figure 1 for the percentage decrease in concentrations of criteria pollutants, comparing 1980 to 2015 levels.

Figure 1: Air Concentration of Criteria Pollutants has Decreased Nationwide Since 1980

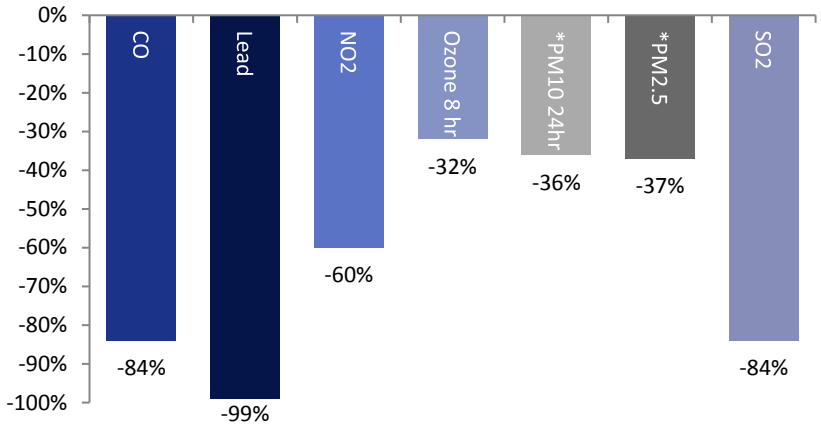


Figure note: Percentage decrease in PM concentration is from 2000 to 2015.

Air quality permitting is key to maintaining and improving air quality

Particulate matter obscures a city skyline.

As the state's population continues to grow, so do the activities that contribute to pollution. Air quality permitting of facilities is an important part of maintaining and improving the state's air quality for the health of Oregonians, the environment, and the economy. Facilities that emit pollutants and meet certain thresholds must apply for, and receive, air quality permits before they can operate. Permits describe the conditions under which facilities are to operate, based on federal and state rules. Once issued, permitted facilities are responsible for monitoring compliance with permit conditions and to keep detailed records and reports.

According to DEQ, air pollutants of most concern are PM2.5; smog; and air toxics like benzene and diesel particulate. The agency considers these pollutant most concerning because they cause the most risk to the most people. PM and smog in particular are two criteria pollutants the state has traditionally, and recently, struggled to meet standards for. There are two sizes of particulate matter — the finer and more hazardous is PM2.5 and the larger is PM10.

Over the past several decades, EPA has periodically revised National Ambient Air Quality Standards (NAAQS) and made them more stringent.

For example, in 2006, the EPA tightened regulations for fine particulate matter, and in 2015 increased standards for smog.

In recent years, several areas in Oregon fell out of attainment, meaning they did not meet NAAQS, due in part to tightened regulations. Currently, only two areas — Oakridge and Klamath Falls — are out of attainment for PM2.5. As a result, these areas must work to come back into compliance.

In addition, other geographic areas that previously violated federal NAAQS must take precautions and follow a Maintenance Plan to continue to meet standards. These are called maintenance areas. An example is the Medford area, a PM10 and CO maintenance area. Currently, there are also several areas in Oregon at risk of not meeting standards for PM2.5: Lakeview, Prineville, Medford, and Hillsboro. DEQ is also engaged with communities to avoid violations of federal standards and nonattainment.

Permitted facilities in maintenance or nonattainment areas may have more stringent regulations on their emissions and in their permits. See Figure 2 for current maintenance, non-attainment, and at risk of non-attainment areas in the state.

Figure 2: Maintenance, Non-attainment, and Areas at Risk of Non-attainment

Maintenance areas

Portland: CO; Smog

Salem: CO; Smog

Eugene-Springfield: CO

Grants Pass: PM10; CO

Medford-Ashland: PM10; CO

Klamath Falls: CO

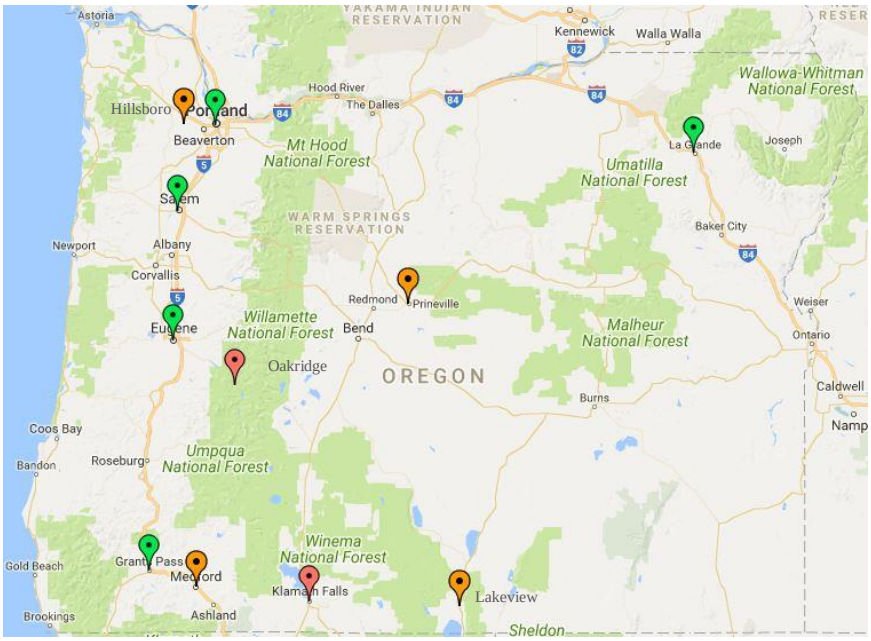
La Grande: PM10

Non-attainment areas for PM2.5

Oakridge and Klamath Falls

At risk of non-attainment for PM2.5

Lakeview, Prineville, Hillsboro, and Medford



New air toxics initiative adds human health risk evaluation and mitigation to existing air quality permitting

Federal and state rules for air quality permitting have historically focused on regulation of individual facilities, setting emission limits based on risk and the best available technology for controlling emissions. A new initiative, Cleaner Air Oregon (CAO) will now take into account the risk to people living and working nearby industrial facilities.

CAO is a partnership between DEQ and the Oregon Health Authority that will supplement existing DEQ air quality permitting by requiring evaluation and mitigation of these risks. In the draft rules, 660 air toxics are proposed to be regulated by CAO, which includes the 187 air toxics listed in the CAA.

The air toxics proposed to be regulated by CAO are known to increase the risk of a wide range of health problems. Less exposure to air toxics is expected to result in fewer premature deaths and illnesses, allowing Oregonians to experience longer lives, better quality of life, lower medical expenses, fewer work and school absences, and better worker productivity.

Historically, DEQ has not had a detailed inventory of air toxics in Oregon, but the agency recently made advances with an emissions inventory that is part of CAO.

Air quality permits and the permitting process are highly technical and complex

Title V permit (109) Most complex Largest emitters. Electricity generators, landfills, fiberglass, steel mills, pulp and paper.

Standard ACDP (137) Complex Medium emitters. Particleboard, plywood, fuel terminals, semiconductor, bakeries.

Simple ACDP (154) Simple Small emitters. Data centers, metal foundries, wastewater treatment plants, printers, publishers.

Air quality permits specify operating conditions for facilities to control and limit emissions based on federal and state rules. Permitting staff are spread throughout the state in three DEQ regions.

Air quality permits are based on emissions

Title V permits - Came about due to the 1990 CAA amendments and are issued to major industrial sources of pollution. Major sources are facilities that have the potential to annually emit 100 tons of any criteria pollutant, 10 tons of any single hazardous air pollutant or 25 tons of any combination of hazardous air pollutants. The EPA has delegated authority to issue these permits to state and local air agencies, including DEQ. Title V permits detail how facilities are to meet federal and state requirements.

Air Contaminant Discharge Permits (ACDPs) - Air agencies also have the ability to issue air quality permits based on state or local regulations. Oregon DEQ first initiated state level permits in 1972, now called Air Contaminant Discharge Permits (ACDPs). Facilities with ACDPs emit less than 100 tons of a criteria pollutant, 10 tons per year for a single hazardous air pollutant, and under 25 tons per year for collective hazardous air pollutants. Oregon's one regional air agency, the Lane County Regional Air Protection Agency (LRAPA), issues Title V and ACDPs for Lane County and the cities of Eugene, Springfield, Cottage Grove, and Oakridge.

As ACDPs increase in complexity, so do their environmental mandates, the level of the public's engagement in the process, and the associated fees. Standard, Simple, and Basic ACDPs are assigned to individual facilities and take into account individual characteristics. General ACDPs are issued to facilities in certain industries who meet specific requirements. There are four primary types of ACDPs.

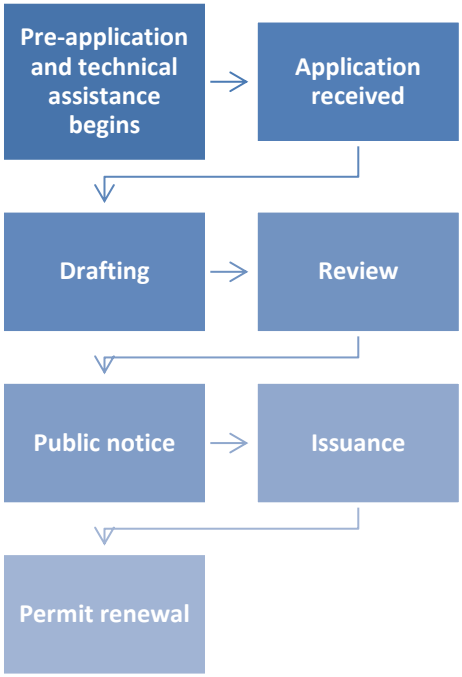
General ACDP (2,095) Simpler Small emitters, facilities within categories. Gas stations, dry cleaners, coffee roasters.

Basic ACDP (107) Simplest Smallest emitters. Rock crushers, asphalt paving, auto body shops, crematories.

- **Standard ACDPs** are the most complex and restrictive. They may have complex regulations or monitoring requirements, add-on controls, or address a history of compliance or complaint problems. Standard ACDPs are also used to authorize construction of a Title V facility.
- **Simple ACDPs** are issued to facilities that do not qualify for a Basic or General ACDP, but are below the Standard threshold.
- **General ACDPs** are issued to facilities in an industry category, above the threshold for a Basic ACDP.
- **Basic ACDPs** are the simplest type of permit, with the lowest production rates.

Permit writers are key to air quality permitting process

The first step in the air quality permitting process is for a facility to determine what kind of permit it needs, often with the help of DEQ staff. Before an application is submitted, permit writers may provide technical assistance, such as education about the permitting process, and conduct preliminary research on the facility.



For larger and more complex sources, writers may also consult with DEQ operational staff who assist with air quality modeling, which simulates how air pollutants disperse and react in the atmosphere to affect air quality. Modeling helps determine the potential impact of a facility's emissions on air quality. When DEQ receives an application for an air quality permit, the pre-drafting phase begins. If the application is complete, it moves on to the drafting phase. However, writers must often work with applicants to obtain information to complete the permit.

During the drafting phase for more complex permits, permit writers evaluate and analyze a host of environmental, engineering, and technical information and data. They incorporate relevant rules and regulations to create permit conditions that specify pollution control techniques facilities have to use to adhere to federal and state rules.

Once drafted, permits undergo an internal DEQ review process that involves peers and managers. The applicant also has the opportunity to review the permit for accuracy. In addition, permits with higher potential risk to the environment or human health have more opportunities for public participation. Those with the highest risk are required to have public notice and comment periods, along with hearings and informational meetings. Permit writers respond to public comment and revise permits as necessary before they are issued.

If a facility's air quality permit application meets all legal requirements, DEQ will issue the permit.

Air quality permits should be renewed and inspections completed within specific timeframes

Once issued, facilities are required to adhere to the permit conditions, including continuous self-monitoring and reporting of regular and accidental emissions. To ensure compliance, permit writers review these reports, conduct regular compliance inspections, and respond to complaints from the public. DEQ provides oversight to ensure facilities conduct their emissions source testing properly and to ensure compliance with regulations and emissions limits. Air quality staff called Source Test Coordinators approve plans for testing, review test results, and observe source test emissions testing. Source testing evaluates the type and amount of emissions from industrial stacks.

Each type of permit has timeframes that dictate how long it should take to be issued, how long it is valid before a renewal is required, and frequency of compliance inspections. The EPA sets these guidelines for Title V permits, and DEQ sets them for ACDPs. See Figure 3 for details.

Figure 3: Air Quality Permits Vary in Length of Term, Issuance Guidelines, and Frequency of Inspections.*

	Permit term	Issuance timeliness guidelines	Compliance inspection frequency
Title V permit	5 years	18 months (EPA) 12 months (DEQ)	Every other year
Standard ACDP permit	5 years	180 days	Every 3 years
Simple ACDP permit	5 years	120 days	Every 4 years
General ACDP permit	10 years	30 days	Every 5 years
Basic ACDP Permit	10 years	30 days	Every 10 years

*Does not include permit modifications.

DEQ's mission is to lead the state in restoring, maintaining, and enhancing the quality of Oregon's air, land, and water

DEQ Fast Facts

- Formed: 1969
- 2017-2019 Biennial budget: $379 million
- Authorized Full Time Equivalent (FTE) staff: 724
- Actual FTE, as of September 2017: 616
- Regional air quality staff, as of July 2017: 35

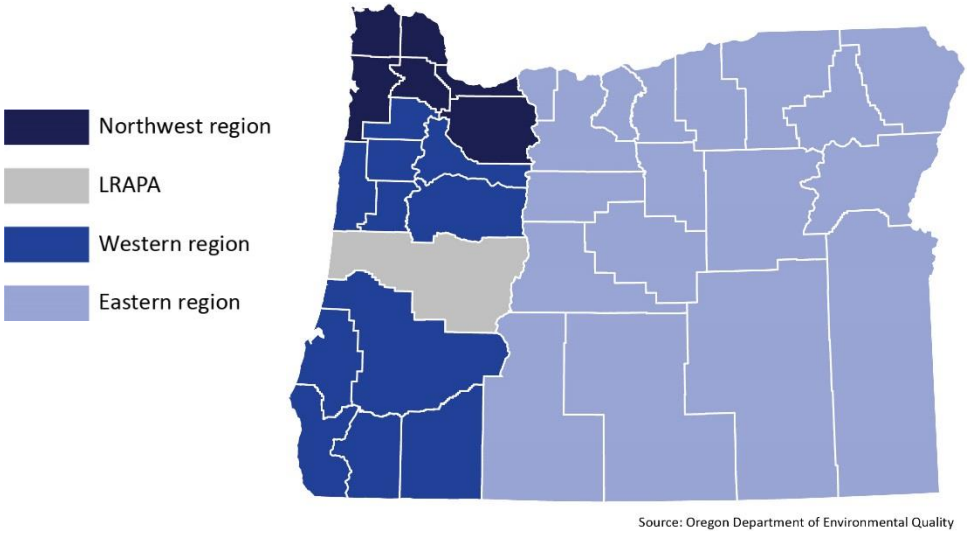
DEQ achieves its mission by administering laws and programs for air, land and water quality; establishing standards; and enforcing standards when they are not met. DEQ's policy and rulemaking board is the Oregon Environmental Quality Commission. The commission is a five-member panel appointed by the governor for four-year terms. In addition to adopting rules, the commission also establishes policies, issues orders, judges appeals of fines or other agency actions, and appoints the DEQ director.

DEQ operates within a regional structure

DEQ operates within a regional structure, with staff in three regions carrying out air, land, and water program responsibilities, and with agency headquarters providing support. The three regions, as shown in Figure 4, are Northwest (includes Portland), Western, and Eastern. Lane County's

regional air agency, LRAPA, handles air quality programming for Lane County and the cities of Eugene, Springfield, Cottage Grove, and Oakridge.

Figure 4: DEQ Programs Divided into Three Regions



Source: Oregon Department of Environmental Quality

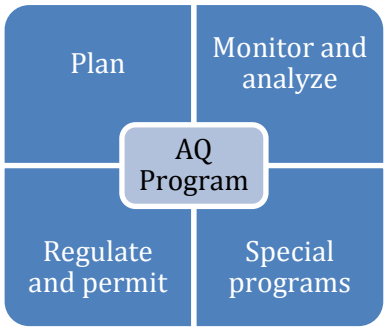
During our fieldwork, we learned about challenges unique to each region. The Eastern Region is the largest, encompassing two-thirds of the state's geographical area. This creates challenges due to travel time for inspections and complaint investigations, for example. The Western Region faces similar challenges due to its size, as well as specific challenges because of its topography. The Northwest Region is the agency's most populous region with the highest concentration of air quality permits. See Figure 5 for the number and type of permits in each region.

Figure 5: Permits in Each Region, as of July 2017

	Eastern Region	Western Region	Northwest Region
Title V	31	42	36
Standard ACDP	25	40	72
Simple ACDP	33	38	83
General ACDP	460	796	839
Basic ACDP	52	21	34
TOTAL	**601**	**937**	**1,064**

DEQ rules and programs help the state meet federal air quality standards

DEQ's air quality program has several components. The Air Quality Program works to ensure that Oregon's air meets the NAAQS required by the CAA. This involves creating a plan to meet national standards, monitoring and analyzing air quality data, regulating emissions from a variety of sources, and creating programs targeted at specific air quality issues. For example, the Cleaner Air Oregon rulemaking, the Heat Smart



Program for woodstoves, and the Clean Fuels and Clean Diesel programs target specific air quality issues or causes.

Staff in the DEQ laboratory[6] collect and analyze data from air monitors around the state. Laboratory staff conduct analytical testing of the air filter samples for particulate matter, including substances such as arsenic, beryllium, cadmium, chromium, cobalt, lead, carbon, and metals. DEQ technical services staff study the science underlying air quality and estimate emissions from thousands of sources like woodstoves and cars. They also measure pollution trends and model them, in a way that's similar to how meteorologists forecast weather. In addition, laboratory staff play a large role during wildfires by monitoring conditions and pollution levels and assisting with communications to the public.

In addition to air quality permits, emissions are regulated through the Vehicle Inspection Program in the Portland and Medford areas.

DEQ's overall budget and staffing have declined over time

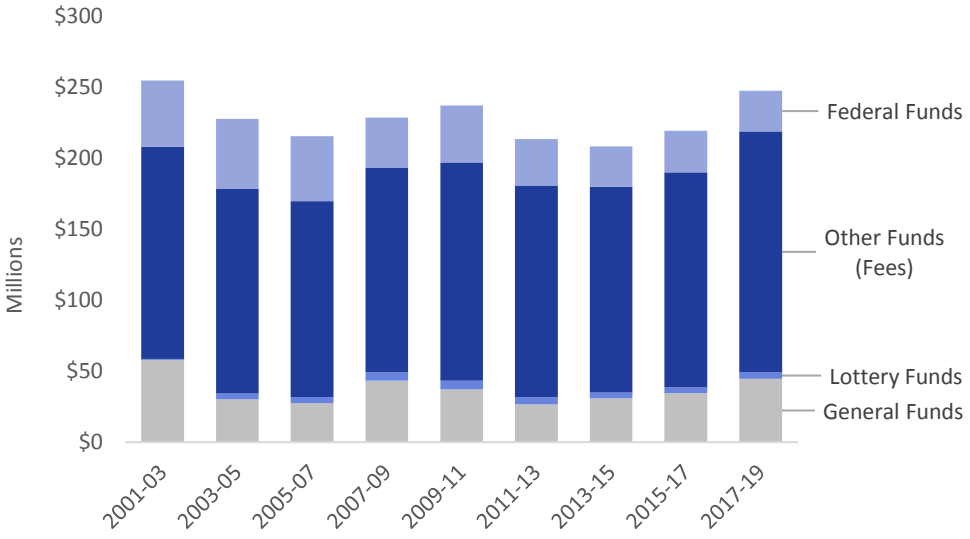
DEQ's budget has fluctuated over time, as the amount of state General Funds, federal government funding, fee revenue, and funding from other sources has varied. The agency's overall budget for the 2017-19 biennium is $379 million, down 8% since the 2001-03 biennium, after adjusting for inflation.

Revenue from the state General Fund and federal government has dropped considerably. Since the 2001-03 biennium, General Funds are down 23%, from an inflation-adjusted $58.1 million to $44.6 million in the 2017-19 budget. Over the same period, federal funds decreased 39% from an inflation-adjusted $46.7 to $28.6 million.

Conversely, revenue from permits and other fees are up 14% over the same period, from an inflation-adjusted $149.2 million to $169.6 million. This increase has not been enough to offset the loss in general and federal funds.

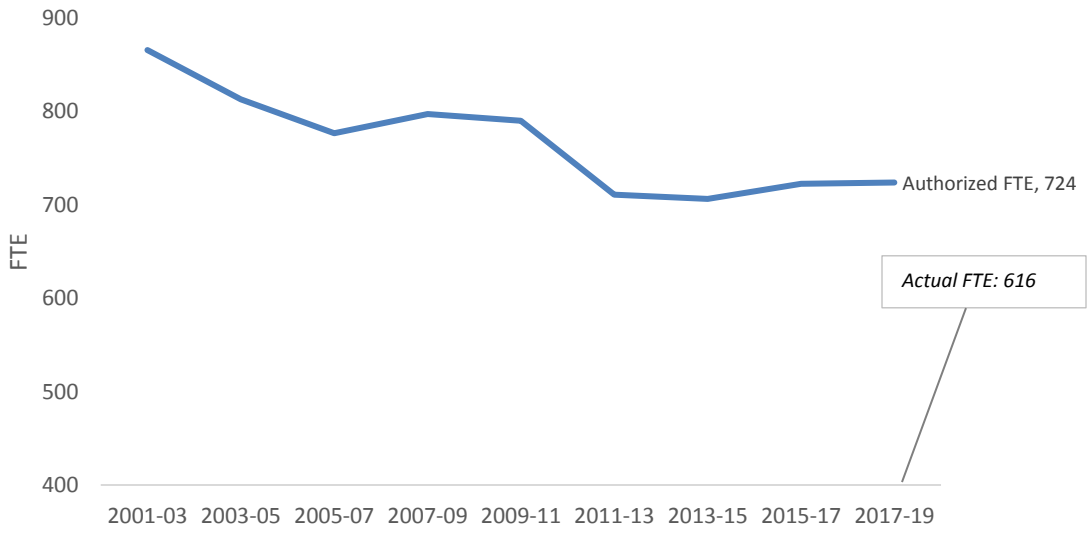
[6] The Laboratory collects and analyzes samples of air, water, soil, and tissues to provide information on Oregon's environment DEQ programs. See our 2011 report on DEQ's lab: Report 2011-10, Department of Environmental Quality: Increase Laboratory Productivity to Better Meet Customer Needs.

Figure 6: DEQ Budget From the 2001-2003 Biennium to the 2017-19 Biennium has Decreased[7]



DEQ's overall staffing level has largely mirrored the changes in its budget. In the most recently passed budget, for 2017-19, DEQ is authorized to have 724 Full Time Equivalent (FTE) positions, down from 866 in the 2001-03 biennium, or a drop of 16%. According to DEQ, the actual filled positions were even lower in September 2017, at around 616 FTE. Figure 7 shows the agency's FTE from 2001-03 to 2017-19.

Figure 7: DEQ's Full Time Equivalent (FTE) Positions Have Decreased Over Time



[7] Adjusted for inflation. Excluding Clean Water State Revolving Loan Fund.

Objective, Scope and Methodology

Objective

Our audit objective was to determine how DEQ can improve its air quality permitting process to better safeguard Oregon's air quality.

Scope

The audit focused on the agency's process for issuing state Air Contaminant Discharge Permits and federal air operating permits, commonly known as Title V permits, to industrial and commercial facilities. Our audit did not examine the quality of these permits.

Methodology

To address our objective, we interviewed agency staff and stakeholders, accompanied staff on complaint and compliance inspections, interviewed and administered questionnaires to other air agencies, analyzed agency permitting and workforce data, and reviewed documentation.

To gain an understanding of the permitting process and challenges staff face, we conducted interviews or administered questionnaires to air quality staff at DEQ headquarters and all regional air quality permitting staff. To do so, we visited regional offices in Portland, Salem, Bend, and Medford to talk with nearly 40 staff.

We also conducted interviews with numerous stakeholder groups, including:

- organizations representing environmental interests and concerned with air quality issues such as Neighbors for Clean Air and Eastside Portland Air Coalition;
- organizations representing the regulated business community such as Oregon Business and Industry and the Working Waterfront Coalition;
- governmental bodies such as the Environmental Protection Agency, Port of Portland, and the Columbia River Inter-Tribal Fish Commission; and
- representatives of businesses with air quality permits issued by DEQ.

In addition to stakeholders, we interviewed and administered questionnaires to a judgmentally chosen sample of eight air agencies to identify leading practices. We chose these agencies because they were in the same EPA region as Oregon, or because they had made progress in reducing the number of administratively extended Title V permits.

- Maryland Department of the Environment, Air and Radiation Management Administration;
- North Carolina Department of Environmental Quality, Air Quality Division;

- New Mexico Environment Department, Air Quality Bureau;
- Alaska Department of Environmental Conservation, Division of Air Quality;
- Idaho Department of Environmental Quality, Air Quality Division;
- Lane Regional Air Protection Agency (Oregon);
- Puget Sound Clean Air Agency (Washington); and
- Southwest Clean Air Agency (Washington).

In addition to leading practices identified at other air agencies, we also reviewed EPA and other reports and documentation on best practices related to the permitting process, including audit reports from other states. We also reviewed rule, law, policy and procedure documents related to air quality permitting federally and in Oregon.

We analyzed DEQ's permitting data for pending and issued permits, covering the period January 2007-July 2017. We also analyzed agency staff timekeeping data for 2015-16. We assessed the data for reliability and concluded it was sufficiently reliable for our audit purposes.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained and reported provides a reasonable basis to achieve our audit objective.

Audit Results: DEQ Should Improve the Permitting Process to Reduce Its Permit Backlog and Better Safeguard Air Quality

DEQ has a significant backlog of pending air quality permits, as well as a backlog in compliance inspections. These backlogs are the result of insufficient staff devoted to permitting, a lack of guidance to permit writers, a shortage of clear and accessible guidance for applicants, and competing priorities. Backlogs increase the risk that permit holders could be operating equipment and emitting pollution outside their permits, which can negatively affect human health and the environment.

DEQ is not issuing timely air quality permits or consistently performing timely compliance inspections

Steam from a smoke stack at an electric power plant.

DEQ has fallen behind on many renewals for Title V, Standard, and Simple Air Contaminant Discharge Permits (ACDP), and on some compliance inspections. According to the United States Environmental Protection Agency (EPA), "timely renewals are important for ensuring permits contain all applicable requirements, particularly when many new applicable requirements have been promulgated, and reflect the agency's current approaches for monitoring, recordkeeping and reporting."

43% of DEQ's largest and most complex air quality permit renewals are in backlog status

When DEQ receives a timely application for a permit renewal, but does not renew the permit before it expires, it is "administratively extended." This means that the facility may continue to operate under the conditions of the existing permit until the pending application is processed and the renewal is issued.

These administratively extended permits make up DEQ's permit backlog.

DEQ does not efficiently track its permit backlog across its three regions. While the agency's air quality data system tracks permit applications, milestones, and whether permits have been issued, it does not produce any reports that show the permit renewal backlog. Instead, air quality managers developed a central permitting plan spreadsheet of permits due for renewal, including those in the backlog, and each region updates the spreadsheet for their region.

As of July 2017, DEQ had permitted 2,602 facilities. While about 5.8% of all permits were behind, DEQ's largest and most complex permits—Title V and Standard—have the highest percentage overdue for renewal at 43.1%.

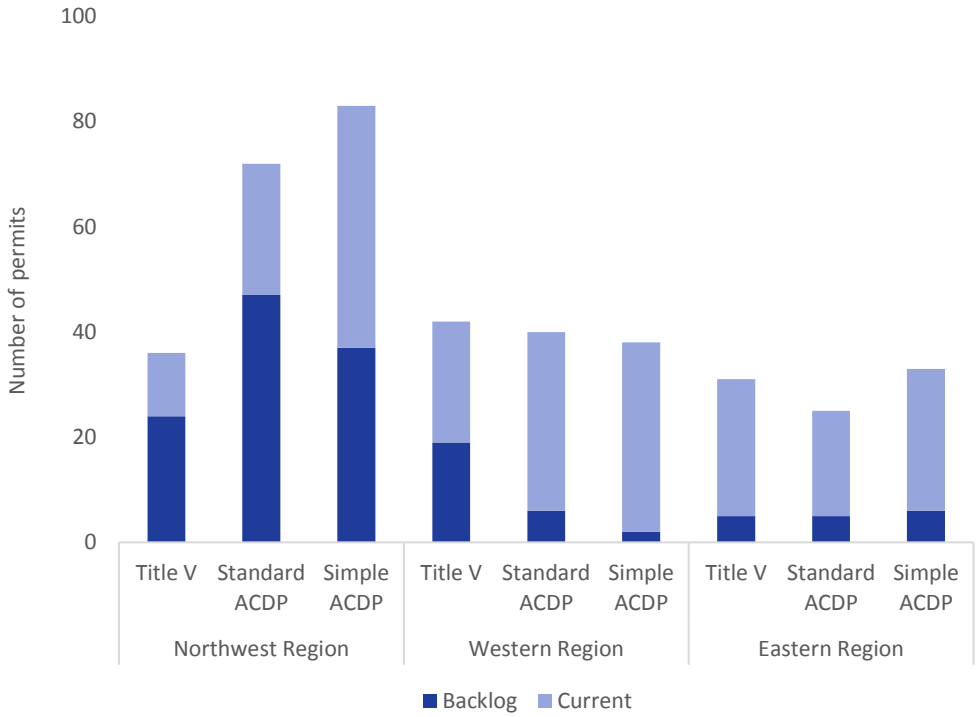
Figure 8: Most Complex Permits Have Highest Percentage Overdue for Renewal

	Backlogged Permit Renewals	Total Permits*	Percentage of Permits Backlogged
Title V	48	109	44.0%
Standard ACDP	58	137	42.3%
Total of Title V and Standard ACDP	***106***	***246***	***43.1%***
Simple ACDP	45	154	29.2%
General ACDP	0	2,095	0%
Basic ACDP	0	107	0%
Total of all permits	**151**	**2,602**	**5.8%**

**LRAPA permits are not included in these totals.*

The renewal backlog not only varies by permit type, but also by DEQ region. The Northwest Region, which has the largest number of permits, also has the largest permit backlog, followed by the Western and Eastern Regions. See Figure 9.

Figure 9: Status of Permits by DEQ Region, as of July 2017



Two-thirds of the Northwest Region's Title V renewals are behind, as compared to about 45% for the Western region and only 16% for the Eastern Region. The Northwest Region also has a much higher backlog in Standard and Simple ACDPs, at roughly 65% and 45%, respectively. For the Western and Eastern Regions, the backlog of Standard and Simple renewals ranges from about 5% up to 20%.

On average, pending renewals have been backlogged about two and a half years (881 days). The median number is much lower, at longer than a year and a half (570 days)

Many permit renewals have been backlogged for years. On average, these pending renewals have been backlogged about two and a half years (881 days). The median number is much lower, at longer than a year and a half (570 days). This suggests that the average is being pulled higher by a small number of renewals that have been backlogged for years. Figure 10 shows the average and median days pending for Title V, Standard, and Simple renewals.

Figure 10: Average and Median Days Backlogged Renewals Have Been Pending Exceed Processing Targets

	Permit Processing Target, in days	Average Days Pending	Median Days Pending
Title V	365	1,233	749
Standard ACDP	180	928	804
Simple ACDP	120	623	467
All Permits	**N/A**	**881**	**570**

Title V renewals have been backlogged for longer, on average, than the other permits. For Title V, Standard, and Simple permits, the average and median renewal times are all more than twice as long as DEQ's permit processing target.

In the last decade, nearly a quarter of permits were not issued on time

In addition to the backlog of permit *renewals* still pending, many of the permits that DEQ did issue from January 2007 through July 2017 were not issued within the agency's established timelines. Of *all* permit actions (new permits, renewals, and permit modifications[8]), 22% were not issued on time.

For *new* Title V permits, 43% were not issued on time, while 44% of Standard ACDPs and 37% of Simple ACDPs were not issued on time. Figure 11 shows the number of permits issued beyond established timeframe for each type.

Figure 11: Permit Actions Issued Beyond Their Target, by Permit Type, January 2007 to July 2017

	Permits Beyond Target	Total Permit Actions	Percentage Beyond Target
Title V	46	161	28.6%
Standard, Simple, and Basic ACDP	113	471	24.0%
General ACDP	445	2,078	21.4%
Total	**604**	**2,710**	**22.3%**

The average amount of time it takes DEQ to issue a new permit, modification, or renewal varies drastically by the type of permit. For new

[8] Permit modifications are used when a permitted facility wants to make a change to their facility. They range from simple, non-technical modifications to complex technical changes.

permits, Title V took the longest, on average, at a year and a half (549 days), while new Simple ACDPs took an average of about four months (124 days). Figure 12 shows the average and median days it took DEQ to issue new permits, modifications, and renewals.

Figure 12: Average and Median Days to Issue Permits Exceeded Processing Targets, January 2007 to July 2017

	Permit Processing Target, in days	Average Days to Issue	Median Days to Issue
Title V			
New	365	549	336
Significant Modification	365	118	52
Renewal	365	662	364
Standard ACDP			
New	180	250	154
Renewal	180	260	108
Simple ACDP			
New	120	124	97
Renewal	120	184	81

In the past decade, DEQ issued 9% of Title V renewals after the point when the *next* renewal should have been issued.

Looking closer at permit renewals DEQ has issued, Figure 13 shows the number of months it took DEQ to issue Title V, Standard ACDP, and Simple ACDP renewals, categorized by different time periods.

While DEQ issued most renewals in less than 12 months, some took much longer. For example, 12% of Title V renewals took 24-60 months, and 9% took more than 60 months, or five years. Since Title V permits have to be renewed every five years, this means that 9% of DEQ's Title V renewals were issued after the point when the *next* renewal should have been done.

Figure 13: Number of Months it Took to Issue Permit Renewals, by Permit Type, January 2007 to July 2017

	Permit Processing Target, in days	Time to Issue Renewal, in months	Percentage of Permit Renewals Issued
Title V Renewals	365	12 or less	50.6%
		13-18	15.6%
		19-24	13.0%
		25-60	11.7%
		Over 60	9.1%
Standard ACDP Renewals	180	6 or less	62.6%
		7-12	11.2%
		13-24	16.8%
		25-60	8.4%
		Over 60	0.9%
Simple ACDP Renewals	120	4 or less	64.3%
		5-12	22.4%
		13-24	7.1%
		25-60	6.1%
		Over 60	0.0%

Northwest Region failed to issue Basic ACDP for auto body repair facilities

We found one type of Basic permit for auto body repair facilities simply not being implemented at all. The General ACDP for surface coaters that emit

hazardous air pollutants, like some auto body shops, went into effect in 2011. The permit was developed to implement new regulations on the use of coatings that contain certain metals.[9] More than 100 shops exempted out of this General permit category because they certified and demonstrated the paints they used did not include the target metals identified in the federal regulation.

However, Portland area facilities that opted out of the General ACDP were never evaluated to see if they required coverage under the lesser Basic ACDP for auto body repair facilities. As a result, DEQ reports there are approximately 150 auto body shops in the Northwest Region in need of this permit. These businesses have likely been emitting volatile organic compounds that contribute to smog since the permit was first developed nearly seven years ago.

When we asked why the agency failed to roll out this permit, staff reported that previous management did not make it a priority due to workloads. Also, current management reported they intend to evaluate facilities and roll out Basic ACDPs for auto body repair facilities in early 2018.

DEQ also has a permit compliance inspection backlog, a key control for ensuring businesses comply with permit requirements

DEQ staff checks the vapor seal on an underground gas tank during an inspection.

The EPA and DEQ require regular inspections of permitted facilities. Depending on the type of permitted facility, these inspections may occur every other year, every three years, or every five years. Permit writers conduct these inspections to ensure businesses comply with their permit conditions. When violations are discovered, DEQ takes enforcement action. However, without inspections, DEQ cannot ensure facilities are in compliance with the conditions of their permits and state and federal air quality regulations.

When permits are not renewed on time, inspections are even more important because self-reporting and monitoring requirements for new rules may not be in place until incorporated into the permit renewal.

DEQ management reported there is a backlog of inspections, mostly for ACDPs. We were unable to confirm the extent of the inspection backlog because the agency does not adequately track inspections agency wide. There is no agency-wide tracking of facilities needing inspections, in part because existing systems do not allow for it. DEQ has a separate system for tracking compliance and enforcement information, but the program only tracks when compliance inspections are scheduled, not when they are due. Because of this, regional air quality managers are not able to track the backlog in the system.

[9] These metals are cadmium, chromium, manganese, nickel, and lead. The federal regulations are known as National Emissions Standards for Hazardous Air Pollutants (NESHAP).

Multiple challenges increase the time it takes DEQ to issue and renew permits and perform compliance inspections

Several factors combine to increase the time it takes DEQ permit writers to issue and renew permits and perform inspections. These include staffing shortages caused by vacancies and position cuts, lack of consistent guidance and support for staff, lack of clear and accessible guidance to permit applicants, and a poorly documented permit process.

Vacancies and position cuts create unmanageable and unrealistic workloads

DEQ lacks sufficient staffing to perform permitting and inspection responsibilities. According to DEQ, the number of filled positions is 616 FTE out of an authorized 724 FTE.

About 25% of DEQ's air quality permit-writing positions were vacant as of August 2017.

DEQ has been slow to fill vacancies, which has resulted in unmanageable workloads in the Air Quality program and permitting work falling behind. Of the 28 permit writing positions, seven were vacant as of August 2017: three in the Northwest Region and four in the Western Region[10]. We also found that filling permit writer vacancies has often taken DEQ more than a year. In fact, two vacancies have been open for more than two years.

When someone leaves, and the position is not immediately filled, their permitting and inspection workload is divided among the remaining staff members. For example, a Title V permit writer in the Northwest Region reported their workload nearly doubled when they were assigned Standard and Simple ACDP permits after a colleague retired. In addition to permit writing, this staff person was also training a new writer and stated there was enough work on their plate to work 80 hours a week. Writers in the Western Region mentioned similar situations. It is very difficult, if not impossible, for staff to complete this amount of work, which could lead to staff burnout.

All regions and headquarters have also lost Air Quality program positions, and the agency has lost overall FTE over time. DEQ's authorized FTE for 2017-19 has declined 16% from the 2001-03 biennium, and a proposed ACDP fee increase did not pass during the 2017-2019 legislative session. At the same time, the workload has increased, due in part to new rules and regulations, and new permits and modifications spurred by economic growth. In the Northwest Region, a workload analysis to determine staffing needs showed that in addition to filling three vacancies, six more staff were needed to make the department fully functional. Another manager noted that if they were fully staffed, they probably would not have a permitting backlog.

[10] As of August 2017, there was a 16% vacancy rate in the entire air quality program; 24% in the Western Region and 19% in the Northwest Region.

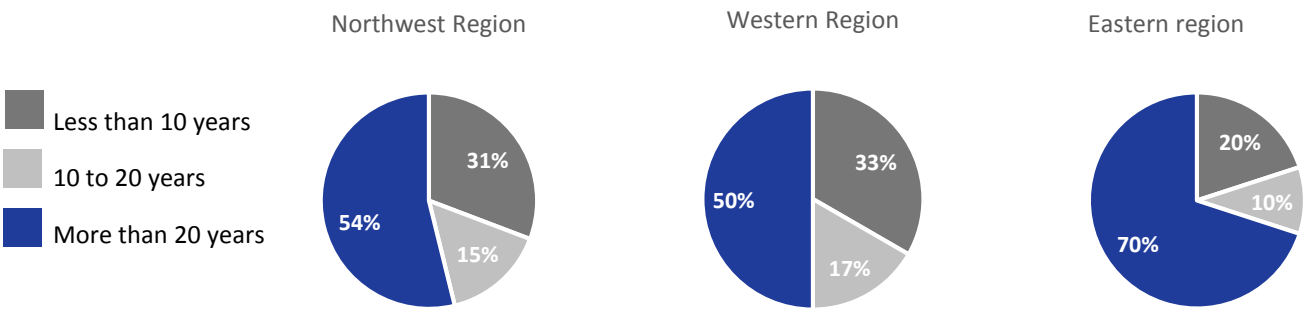
Regional managers are also facing challenging workloads. The Southern and Northern offices of the Western Region merged in 2013, condensing two management positions into one. Likewise, in the Northwest Region, two offices and management positions were condensed into one around the same time. Both managers reported challenges with successfully managing their programmatic and staff-related workloads.

Lack of succession planning has created knowledge gaps

The increasing number of permit writers retiring creates a unique challenge in the air quality program. The program has faced a number of retirements in recent years, resulting in a loss of important institutional knowledge and expertise. In fact, during the course of our audit, two permit writers retired — writers of the most complex air quality permits (Title V and Standard ACDP).

More than half of permit writers in the Northwest and Western Regions and 70% of staff in the Eastern Region have been with the agency for more than 20 years. Figure 14 shows the time in service for AQ staff in each of the regions.

Figure 14: Time in State Service for Regional AQ Staff, by Region



Retirements also create challenges because there is a steep learning curve to the job. Air quality staff told us it can take one to two years for new writers to become fully versed in the complexity of their position.

DEQ leadership reported the agency is not currently engaged in succession planning. In addition to a lack of overall succession planning, we found little evidence that there are strategies in place to retain and transfer the extensive institutional knowledge of retiring air quality permit writers. With a high number of staff at the agency for more than twenty years, DEQ is at high risk of losing skilled staff and their extensive knowledge.

In a recently released performance audit on succession planning,[11] we found that successful succession planning helps organizations retain knowledge by putting strategies in place to transfer knowledge and retain

[11] Report 2017 – 21: Department of Administrative Services Should Enhance Succession Planning to Address Workforce Risks and Challenges.

knowledgeable employees. A robust succession plan links strategic and workforce planning decisions, analyzes gaps between current state and future needs, develops succession strategies, and monitors efforts.

Lack of consistent guidance and support for staff slows the permitting process

Federal and state air quality rules are getting more complex. For example, new federal standards required writers to modify permits for facilities with a boiler over a certain size. One senior writer noted that a majority of permitted facilities have a boiler of some sort, and that the rules are more complicated for certain types of boilers, such as wood-waste boilers used in pulp and paper mills.

At the same time rules are getting more complicated, writers are receiving less guidance and support from staff at DEQ headquarters. For example, operational staff at DEQ headquarters do not consistently provide guidance on how to incorporate new rules into permits.

Many of the tools designed to help writers either do not work or are badly outdated. In 2012, DEQ staff took part in a process improvement effort to identify challenges and solutions in permitting across the agency's Air, Land, and Water programs.

DEQ's manual for air quality permit writers has not been updated since 1993.

However, most of the recommendations for the air program were not implemented, or only partially so. For example, one recommendation was to update the air quality permit writers' manual, which has not been updated since its original draft, in 1993. This recommendation still has not been addressed.

Permit writers also identified a lack of updated and easy-to-locate permitting tools and guidance. Though a central repository for such air quality documents was created, DEQ management has not maintained the repository. Many of the links are broken or do not link to current information.

Lack of clear and accessible guidance to permit applicants increases time spent on technical assistance

Permit guidance for applicants is difficult to find on DEQ's website. The guidance is also hard to follow because it is written in technical language. We heard from permit writers that some companies do not have the resources or expertise to understand the guidance and therefore must turn to DEQ for help. This leads applicants to call permit writers with questions, which takes time away from permitting activities.

Poor guidance frequently results in incomplete permit applications, which can also slow the permit writing process. Writers have to place incomplete applications on hold because they do not have all the required documentation. This takes time away from other permitting activities, as staff have to track down the necessary documentation. A checklist or better

guidance for the applicants could lessen the probability of incomplete applications.

Poorly documented and inconsistent permit process

While we found general agreement on the overall permitting phases, the steps within the phases vary. We also found the process for air quality permit writing was not fully or consistently documented across the three regions— though the Eastern Region had the most developed process documentation. When processes within organizations are not documented, controlling and improving them is challenging, making it difficult to find more efficient ways to issue permits. Documenting the permit process could also guide permit writers across the regions and aid in consistency. Likewise, tracking inspection due dates can help both identify the current inspection backlog and plan for future inspections before they become overdue.

Based on our interviews, the permit review phase varied the most, with staff identifying bottlenecks and inefficiencies. In the Western Region, permit drafts are reviewed by a permit writer "lead worker" before manager review, which can prevent bottlenecks. We heard from writers in this region that this helps make the review process more efficient and takes some of the burden off their manager. In the Eastern and Northwest Regions, there is peer and manager review, as there are no lead workers. However, high workloads make it challenging for peers to find time to review others' draft permits and permit writers stated reviews sometimes bottleneck at the manager level.

Competing compliance priorities limit staff time for permitting activities

Black smoke from a crematory smoke stack. Photo submitted to DEQ as part of citizen complaint.

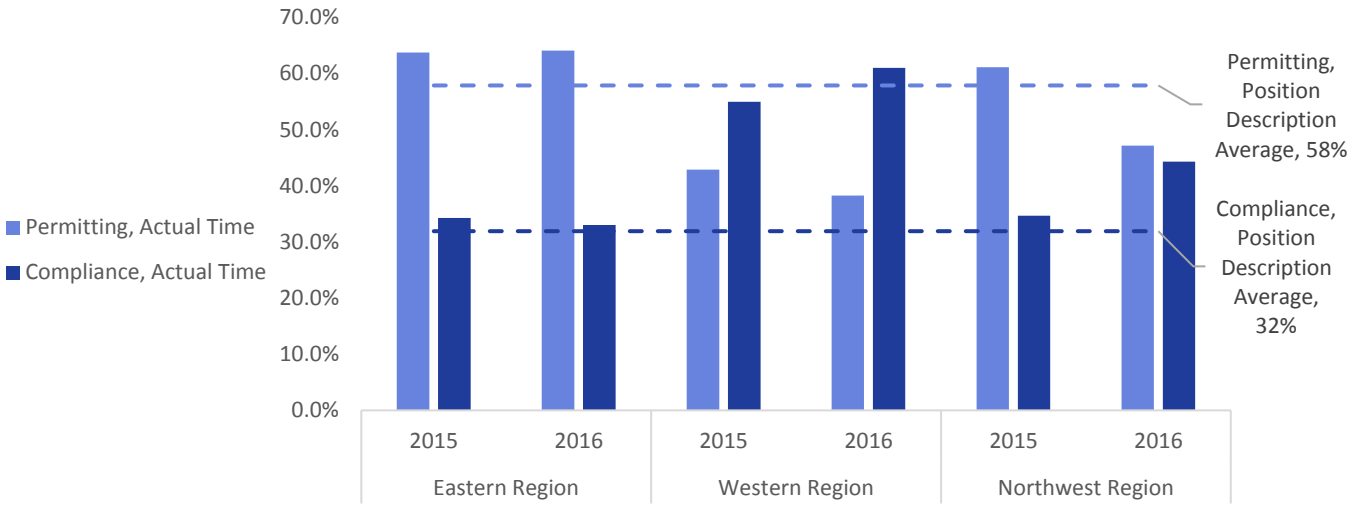
Permit writers have a host of responsibilities outside of issuing permits. Issuing new permits and permit modifications are a top priority, but renewals often fall in importance because of higher priority work. Writers essentially drop renewals they are working on when a new or modified permit comes, sometimes not picking them up until a year later. This means not only a delay in the renewal, but additional work when coming back to the renewal, to ensure previous work done is still accurate.

Compliance duties such as complaint and odor investigations, and enforcement work can take up a significant amount of time. For some, such as staff who primarily work on Basic and General ACDPs, compliance and enforcement is a majority of their work.

Review of position descriptions showed that on average, permit writers should be spending 58% of their time on permitting activities. Permitting activities include technical assistance and all other phases of the permit writing process. However, according to our analysis of timekeeping data from 2015 to 2016, permit writers across all regions spent only an average of 49% of their time on permitting activities.

Looking by region, writers in the Eastern Region largely matched the position description average in 2015 and 2016, while Western Region writers spent much more time on compliance activities in both years. The Northwest Region varied by year. Figure 15 shows the position description average and actual time spent by region.

Figure 15: Percentage of Permit Writers' Actual Time Worked Varied by Region



Permit writers are also responsible for responding to complaints about facilities. In interviews with writers, we heard of examples when complaints became their top priority. For instance, an ongoing odor investigation takes one writer away from permitting activities twice a month.

Another writer reported spending so much time in the past two years on technical work and analysis associated with compliance determination and odor investigations, that there was little time left for actual permit writing. Data show this writer as having a backlog of 30 administratively extended permits as of July 30, 2017. They attributed their backlog to time spent on non-permitting activities and inheriting past due permits when a colleague retired.

Permit writers also ensure permitted facilities comply with their permits. To do so, they complete inspections and review compliance reports, both of which vary in frequency depending on the permit type. Some facilities send in monthly emissions data, which assigned writers are required to review.

During a compliance inspection, the writer reviews adherence to permit conditions, which can include:

- reviewing recordkeeping and documentation;
- thoroughly inspecting the facility and observing processes; and
- asking questions about processes and pollution control techniques.

During inspections, writers also educate facility staff on pollution prevention and compliance requirements, and answer questions.

Like complaints, enforcement actions can at times become a permit writer's top priority. Writers are responsible for identifying and documenting violations of permit conditions. They may identify violations through a complaint investigation, compliance inspection, or self-reporting, such as in monthly emission reports. For low-level offenses, writers typically send a warning letter, which can be time consuming. If it is a repeat offense or something more serious, they are responsible for building the case for referral to DEQ's Office of Compliance and Enforcement.

Increasing public notice requirements and related process inefficiencies taking a greater percentage of up permit writers' time

Before some types of permits are issued, there is a public notice period. There may also be an information meeting or public hearing. Staff in all the regions told us that responding to growing public interest and engagement in the air quality permitting process is increasing the time it takes to issue permits.

For instance, the writer must respond to each of the public comments received on a permit. As the number of comments increases, so does the time it takes writers to respond. This takes time away from other permits because their time and attention is diverted to working on this one issue. The same holds true for permits with informational meetings and public hearings.

The degree to which each air quality permit action requires public participation varies. DEQ has established public participation procedures for each type of action, placing each into a category. DEQ categorizes these actions based on the potential risk to the environment and public health. These categories are codified in state rule such that the lower the environmental and public health significance, the lower the opportunity for public participation. Additional information about DEQ air quality permit actions and public engagement is shown in Figure 16.

Figure 16: Air Quality Permit Actions and Public Engagement

	Category I	Category II	Category III	Category IV
Permit action types	**Basic ACDP**: New permits and renewals **General ACDP**: Assignment **Simple and Standard ACDP:** Non-technical modifications **Construction ACDP**: Non-technical modification **Short-term activity ACDP**: New	**Simple ACDP**: New and renewal, moderate and complex modifications **Standard ACDP**: Renewals, moderate and complex modifications **w/o** emission increase **Construction ACDP:** Moderate & Complex modification	**Standard ACDP**: Renewals, moderate and complex modifications **with** emission increase **Construction ACDP**: New **Title V**: New, renewal, and significant modification	**Standard ACDP:** New Source Review/ Prevention of Significant Deterioration: new and significant modifications
Public notice	No public notice	30 day notice of written comment	35 day notice of written comment	30-day notice of information meeting. 40-day notice of written comment.
Public hearing	No public hearing	No public hearing	Public hearing if requested by 10 or more people. 30-day notice of public hearing.	30-day notice of public hearing.

However, the agency does not always follow these procedures. They may elevate permit actions into a higher category, adding additional meetings and outreach. DEQ may move a permit action into a higher category if they anticipate high public interest due to the facility's compliance history, potential for environmental impacts, or concern about the location or type of facility. Some writers we talked to thought this additional public outreach during the permitting process added to the time it took to issue a permit and could be unnecessary — especially in instances with low risk.

In addition, the agency does not clearly state the purpose of public hearings, or comment on their website or in press releases. Several permit writers also stated their interactions with the public regarding permit actions indicated that some have the impression their participation can impact whether or not a permit is issued. However, DEQ must issue the permit if a permit application meets regulatory requirements and has land use approval from the county or city in which the facility operates.

In one example, a permit action traditionally categorized as a two or three was elevated to a four. Observations by the audit team at the hearing for this permit renewal indicated some of the attendees did not understand the purpose of the hearing. For example, several members of the public testified against DEQ issuing the renewal. The writer reported receiving more than eighty pages of comments, all of which required responses. Many of these comments were not specific to the permit, and beyond DEQ's control — such as concerns about land use. Without adequate and clear communication as to why, elevating permit actions may give the public the

impression that the permit has higher environmental and public health significance. That, in turn, can lead to confusion, frustration, and misunderstanding of DEQ's regulatory role.

Cleaner Air Oregon and rulemaking requirements decreases time available for permitting and compliance inspection activities

In 2016, the discovery of glass manufacturers in Portland as the source of high levels of toxic metals caused public outrage and concern. This spurred the creation of the Governor's Cleaner Air Oregon (CAO) initiative, as well as new rules for colored glass facilities in the state. Permit writers and headquarters staff are involved in CAO rulemaking, taking time away from regular duties.

It is not unusual for permit writers to work on rule making. DEQ routinely updates, and occasionally creates, state rules regarding air quality. To do so, knowledgeable staff are pulled to help. For example, several General ACDP permits are in the process of being updated, taking staff time away from permit writing and inspections. In addition, a key staff member responsible for providing guidance and updating materials for permit writers has been reassigned to help implement and write rules for CAO, contributing to the lack of permitting guidance for staff.

Additionally, many permit writers have spent time helping permittees assemble information for the CAO air toxics emissions inventory. Some writers had to help smaller, less technically astute businesses record emissions information in spreadsheets. For example, one writer explained that some smaller permittees did not have or know how to use Excel and had to come into the DEQ office to complete the inventory with the writer's assistance.

During the course of the audit, DEQ's oversight board chair, agency staff, and environmental and business leaders also expressed ongoing concern about DEQ's ability to implement CAO given the current staffing and workload challenges in the air quality program, including the backlog of permits.

Because the initiative supplements existing air quality permitting, it adds to the workload of current air quality staff and permit writers. In 2016, the legislature provided DEQ with $2.5 million in funding for DEQ to increase air toxics monitoring and develop rules for CAO. However, fee increases on permitted businesses to support CAO implementation, including additional staff, were not approved during the 2017 legislative session. This places additional burden on existing staff.

Responding to emergencies adds to workload

Another major challenge permit writers told us about is dealing with emergencies and high profile or controversial facilities. Some facilities receive a significant amount of public attention, whether due to a permit

action or complaint, which takes permit writers' time and decreases time they have for permitting activities.

One type of emergency is wildfires. Wildfires significantly impact air quality and often lead to increased work for permit writers. During times of elevated smoke levels from wildfires, DEQ is heavily involved, as they monitor air quality in the state, determine if health standards are being exceeded, identify areas at greatest risk, and coordinate public and media outreach with other federal, state, and local officials.

Smoke billows from the Rowena Fire, 2014. Oregon Department of Forestry (CC BY)

Historically, wildfires have impacted the Eastern and Western Regions more dramatically than the Northwest Region. Staff in regions impacted by wildfire smoke spend time responding to air quality issues caused by wildfires. During the summer of 2017, permitting staff were pulled away from permit writing and inspection duties to address air quality issues created by multiple wildfires. This year, the northern part of the Western Region experienced heavy smoke impacts from wildfires for the first time and staff in the Northwest Region stepped away from permitting work to help answer questions from the community about air quality issues throughout the state. Major fires such as the Eagle Creek fire in the Columbia River Gorge, the Chetco Bar fire in Southern Oregon's Siskiyou National Forest, and the Whitewater Fire in the Mount Jefferson Wilderness prevented writers from engaging in their normal duties.

In addition, staff spend time investigating illegal open burning — the illegal burning of prohibited materials, like tires, or burning in prohibited areas or during certain times of year.[12] Permit writers in the Western Region in particular spend significant time investigating open burning, more than 1,300 hours in both 2015 and 2016.

Outdated permits and late inspections increase risks to human and environmental health, and impact businesses

Outdated permits increase the risk that permitted facilities are not operating according to the latest air quality standards and rules. When inspections are not completed on time, the risk increases that violations go undetected. In addition to these risks, the permit and inspection backlog has increased tensions with businesses and eroded their confidence in DEQ's ability to effectively manage air quality permits.

[12] DEQ has the authority to prohibit open burning anywhere in the state on a day-to-day basis depending on air quality and weather conditions.

State-of-the-art pollution and odor control technology at a batch asphalt plant.

Facilities may be operating outside latest air quality standards

Air quality permits set conditions for facility operations and pollution control measures. Rules for air quality permitting have historically set emission limits based on environmental risk and the best available pollution control technology. Since the CAA amendments were passed in 1990, the EPA has issued numerous new regulations, based on new understanding of environmental risk and best available control technology.

When permits are not renewed on time, they do not include the most up-to-date federal and state rules, or information on how facilities are to comply with them. Facilities rely on permit information to help them understand and interpret these new rules. Due to the permitting backlog, new rules are not getting incorporated into permits in a timely manner.

We spoke to representatives at one facility who told us their permit was issued before a host of state rules changed. Because of this, the permit has irrelevant rule references and requirements they would not have to follow if their permit were renewed and updated. According to facility staff, this makes required semiannual reporting more difficult. In a similar example, a representative of another business reported operating under outdated permit conditions other businesses whose permits have been renewed do not have to meet.

Facilities must comply with new EPA rules when they go into effect, and state rules when they are adopted by the Environmental Quality Commission. Enforcement of some federal rules and state rules is based on DEQ's discretion. DEQ leadership has reported they consider this a "gray area" and one that is hard to enforce should a facility violate a new standard not yet incorporated into their permit. Also, as noted above, permitted facilities may not be responsible for reporting monitoring results for new rules.

Past due inspections increase likelihood violations go undetected

Reliance on self-reporting without timely inspections increases the risk that facilities are not complying with permit conditions.

Along with the permitting backlog, inspection backlogs increase the risk of additional emissions, which could harm human and environmental health. Because inspections help DEQ ensure permitted facilities comply with their permits, when they are not completed on time, the risk that violations go undetected increases.

One kind of violation that could go undetected if an inspection is delayed is operating equipment not included in the permit. A DEQ inspector encountered this situation during an inspection our audit team observed, which was five years past due. On this inspection, a cement mixing facility had decommissioned one cement plant and added another shortly after their last inspection in 2007, leaving both erected. They had not notified DEQ about the additional equipment, despite a permit condition requiring them to do so.

Though the new equipment does not have the potential to emit above the threshold for their current permit, DEQ was unaware of the change for several years, during which time the company could have been operating both pieces of equipment. Although the company reported they had not, DEQ was unable to verify. DEQ relies on companies to self-report on an annual basis any changes to processes, production levels, and operating equipment. Because of the company's failure to do so correctly, they were issued a violation. Reliance on self-reporting without timely inspections increases the risk that facilities are not complying with permit conditions.

In an extreme example, an asphalt company has incorrectly operated under a General ACDP for years. Because of numerous compliance violations, including emitting more than their permit allowed, the company was required to apply for a Standard ACDP, which they submitted in 2012. Standard ACDPs are the highest level of state permit.

As of November 2017, DEQ had still not issued a Standard ACDP for a company that submitted an initial application in 2012.

Though the company has continued to operate under a General ACDP, DEQ staff reported they continued to be out of compliance with certain conditions of that permit in the years after they submitted the Standard ACDP application. As of November 2017, five years after the company submitted their application and an entire permit term, DEQ had still not issued the Standard ACDP. As a result, the facility does not have to follow the more stringent reporting requirements required of Standard ACDP holders. Despite this, the company has paid yearly fees associated with a Standard ACDP.

According to air quality staff, the permit has yet to be issued due to retirements, vacancies, and higher priority work taking precedence. Were the company to have received their Standard ACDP within established timeframes, it would have been issued in spring of 2013 and inspections would have been scheduled for 2013 and 2016. However, because the permitting process was delayed, the company has not been inspected since 2011.

Backlogs frustrate permitted businesses, putting DEQ's credibility at risk

According to business leaders, robust and rigorous permitting is not only good for the environment — it can be good for business. Some business representatives we interviewed thought that an uncertain regulatory environment, created in part from permitting backlogs, could deter businesses from moving to Oregon or expanding in the state, as businesses need regulatory certainty in order to plan for the future. One company with facilities in both Oregon and Washington thought Washington's permitting agencies were better funded and staffed, with better guidance documents and technical support for applicants and permitted facilities.

Some business leaders and permit holders expressed frustration and decreasing confidence in DEQ's ability to effectively manage the permit program. Many of those we spoke with expressed concern about

retirements, loss of institutional knowledge, and DEQ not having enough staff or funding to do this work.

Leading practices offer strategies to improve permitting process and reduce permit backlog

Best practice literature and leading practices identified at other air agencies indicates that permitting agencies must be appropriately staffed and provide high quality resources and guidance for employees who perform permitting duties. In addition, the permitting processes should be clearly documented, permit application and guidance should be user-friendly, and the process should undergo continuous improvement.

Permitting agencies must be appropriately resourced

Federal legislation[13] passed in 2015 created the Federal Permitting Improvement Steering Council to help improve federal infrastructure permitting. One of the Council's recommended permitting practices is that permitting agencies be appropriately resourced. Appropriate staffing would go a long way toward reducing permit backlogs in Oregon. For example, Alaska's Air Permits Program attributes part of their success in keeping a low backlog to having steady staff with low turnover.

When compared to other air agencies, Oregon DEQ air quality permit writers carry a heavier workload.

When compared to other air agencies, Oregon's air quality permit writers carry a heavier workload because they are both permit writer and inspector. Oregon permit writers conduct all inspection activities, and even work on enforcement actions.

Despite the heavier workload, some Oregon permit writers preferred the dual role and believed doing both allowed for better-written permits and superior inspections because they were more familiar with the facility and permit.

Permit writers should have high quality resources and guidance

We interviewed a number of air agencies in other states with low and declining permit renewal backlogs. These agencies provide permit writers with an up-to-date permitting manual or other detailed written guidance on how to consistently perform their work, a recommended best practice.

Some examples of written guidance for permit writing staff includes:

- completeness determination checklists,
- permit templates,
- detailed policies and procedures, and
- manuals.

[13] Fixing America's Surface Transportation (FAST) Act of 2015.

Completeness determination checklists in several states help writers determine application completeness, something Oregon DEQ management and staff said could be helpful. Like New Mexico and Maryland, Oregon DEQ uses permit templates. However, permit writers told us the templates were not always up-to-date.

Alaska's Division of Air Quality provides their permit writers with manuals for both Title V and minor source permits, along with a guidance specific to application processing.

Air quality permit writers in Maryland are guided in part by a thorough manual with:

- definitions,
- background information and purpose of each permit type,
- permit and application requirements,
- process and procedure steps for each part of the application, and
- public participation and technical completeness determination processes.

Maryland's manual also includes screenshots and instructions on how to use the permitting database. As noted previously, in contrast, Oregon DEQ has not updated its permitting manual since 1993 and permit writers we spoke with did not know it existed, or consider it too outdated to be of any use.

In addition, some agencies we spoke to have formalized training for writers, a recommended best practice. Agencies we talked to also consider mentoring and on-the-job training as important components of new permit writer training. However, for Oregon DEQ, this is the primary source of training for new staff, whereas other agencies provided more formal and extensive training.

Alaskan writers have training plans with training requirements for the first six months, one to two years, and beyond. Within each of the training topics, there are self-instructional courses along with online, classroom, and work in the field.

Permitting process should be clearly documented and permit application and guidance should be user-friendly

Research on improving permit timeliness shows that providing businesses with additional written guidance and support at the beginning of the permitting process can help improve applications, which can reduce the burden on the agency and shorten processing times. Best practice indicates permitting and review processes should be transparent, and that websites provide a useful tool for this purpose.

As a first step, the permit process and requirements should be clearly documented for applicants, including information on the permit process

steps, decision-making processes, and how long the process should take. Instructions for applying should be clear and concise, and explain the information applicants are required to submit. Clear instructions and processes can all help applicants produce complete applications that avoid the administrative burdens of repeated information requests, revisions and reviews. This can greatly reduce the time required for DEQ's review.

Permit applications and forms also should be user-friendly. They should be easy to understand, written in plain language, and contain clear information about requirements. What constitutes a complete application should be clearly defined, such as in an applicant checklist.

Other air agencies we spoke to provide permittees with pre-application guidance and checklists of information that must be included in permit applications. Checklists can help ensure applicants have a clear understanding of what they need to submit for their applications to be complete. Three of the air agencies we reviewed had checklists for Title V and minor source permits. Though Oregon DEQ has a checklist for Title V permit applicants, it is optional and there are two versions of it, without clear indication of which applicants should use.

In New Mexico, Air Quality Bureau management attributes permit writers' ability to meet permit timelines in part through external guidance documents that help ensure complete applications. In addition, their website is user-friendly. They group minor source applications by industry type to guide applicants towards which forms to complete, have an overview and guidance page for applicants, and have various guidance documents online.

Idaho DEQ goes a step further, and their website has a separate page on the pre-application process, including a standard pre-application meeting agenda. The agenda describes the permitting process, pitfalls to avoid, timeframes they can expect steps to be completed within, and tools to help the applicant.

Idaho, which has comprehensive pre-application guidance for applicants, also has a policy in place to reject incomplete applications.

Permitting process should undergo continuous improvement through Lean efforts and performance management

The EPA recommended DEQ's Title V program undergo a Lean process in 2016.

The Federal Permitting Improvement Steering Council recommends permitting agencies develop and track metrics on the time it takes to reach milestones, or phases, within the permitting processes. Performance metrics such as these establish a baseline for process timeframes and highlight processes that are working well and not working well, which helps to drive process improvement. Permitting agencies can help reduce timelines by developing performance measures and targets, and using that information to identify and address bottlenecks in the process.

Most of the air agencies we interviewed who had a low or declining permit backlog had undergone a Lean process improvement in the last decade. In 2016, the EPA suggested Oregon DEQ consider doing so to help identify opportunities to improve the Title V permitting process. However, DEQ has not done so.

In contrast, Idaho DEQ continues to make improvements in its permitting process using a Lean approach. They attribute reductions in their permitting backlog to ongoing process improvement efforts in 2016 and 2017, such as improved forms and applicant guidance, and additional guidance for permit writers.

In addition, to effectively reduce the air quality permit and inspection backlogs, the backlogs must first be tracked. Because DEQ does not track its permit or inspection backlog, it is difficult to gauge whether process changes are having the desired effect.

DEQ regions can learn from each other

There are promising practices throughout the DEQ regions, but the practices are not necessarily shared across the regions. Doing so could help improve the permitting process.

Draft permit review procedures vary by region. In the Western Region, a lead worker reviews draft permits. We heard that one of the benefits of lead work review is consistency, especially as permits increase in complexity. A lead worker can also shoulder some of the work of managers and reduce bottlenecks. In the Northwest Region, there is peer review of draft permits. This can add to an already heavy workload and create bottlenecks. Some permit writers in the Northwest Region were also concerned that not all staff have a sufficient knowledge base to do the peer review, especially as experienced staff retire.

Generally, permit writers have an assigned group of facilities for which they inspect and write permits. When a renewal for an assigned facility comes in, it is added to their list of tasks. In the Eastern Region, however, the manager may assign renewals to other staff, based on workload. This can help reduce the workload for a writer with several permits renewing around the same time. In the same vein, this manager also may assign an inspection to another writer, based on workload.

Occasionally, writers may do peer review across regions, especially staff experienced with similar facilities. When asked what was working well in the permitting process, a writer in the Northwest Region thought peer review did work well, and wanted to expand the peer review process to include writers in other regions. Some writers thought that these reviews, as well as more communication and collaboration across regions in general, could help with consistency across the state.

Like Oregon, Alaska's Division of Air Quality is split into regions, with geographical distance between offices making in-person meetings a challenge. When asked what they attributed their ability to reduce their Title V backlog to, management from Alaska's Division of Air Quality stated one factor was increased and regular communication across the regions, which allowed writers to discuss challenges with their peers. Oregon DEQ permit writers come together about once a year for a training on inspections, but there are few other opportunities for team building and collaboration across regions.

Recommendations: DEQ Should Reduce Its Air Quality Permit Backlog by Improving the Permitting Process and Addressing Workload Challenges

The following recommendations are intended to help DEQ management with their efforts to improve the air quality permitting process and to reduce the backlog of administratively extended permit renewals.

1. Conduct a Lean process improvement initiative to identify areas in need of improvement, as suggested by the EPA in 2016.
    a) As a first step, improve tracking of the permit backlog.
2. Centralize and improve inspection tracking to ensure compliance inspections are completed timely.
3. Implement the Basic Air Contaminant Discharge Permit for auto body repair facilities in the Northwest Region.
4. Determine staffing levels needed to provide support to permit writers to issue air quality permits and complete inspections within established timeframes, based on current and projected workloads.
    a) Based on the results of the analysis, work with the legislature to identify potential sources of funding for additional staff, to better align workload demands with appropriate staffing levels.
5. Fill vacancies in as timely a manner as possible given the highly technical nature of permitting positions and the potential difficulty finding qualified applicants.
6. Work with the Chief Human Resources Office within the Department of Administrative Services to begin the succession planning process.
7. The DEQ headquarters team should provide consistent guidance and support for regional permit writing staff, including:
    a) Current and ongoing guidance on new rule interpretation and implementation;
    b) Checklists to help determine application completeness;
    c) Documentation of up-to-date permit writing policies, procedures, and processes stored in a centralized and accessible location;
    d) Update the permit writers' manual and store it in a centralized and accessible location; and
    e) Update relevant permitting forms and templates and store in a centralized and accessible location.

8. Improve pre-application guidance for applicants, including development of such documents as:

    a) permitting process overview;

    b) completeness determination checklist for applicants; and

    c) guidance written in plain language.

9. Improve the Title V and ACDP permitting webpages to enhance usability for permit applicants, especially as it relates to content, navigation, and organization.

10. Provide clear information to the public on the purpose of public comment and participation in the issuance phase of the permitting process, including what DEQ can and cannot do as a result.

Oregon

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December 28, 2017

Kip Memmott, Director
Secretary of State, Audits Division
255 Capitol St. NE, Suite 500
Salem, OR 97310

Dear Director Memmott:

This letter serves as the Oregon Department of Environmental Quality's written response to the Audit Division's final draft audit entitled "Department of Environmental Quality Should Improve the Permitting Process to Reduce Its Backlog and Better Safeguard Air Quality."

First, I'd like to express my sincere appreciation and gratitude to the Audit Division staff who assessed our air quality permitting program. They invested an incredible amount of time and energy to understand complex state and federal regulatory frameworks and to identify ways that the department can better protect Oregon's air quality. The findings described in this audit report illuminate and validate challenges that the agency has increasingly experienced over the last decade. The final report clearly identifies steps that needed to deliver the level of environmental protection that Oregonians expect and deserve.

The audit explores factors impeding DEQ's ability to meet timeliness targets for issuing and renewing air quality permits, as well as for inspecting facilities, both core functions of the agency. In addition to the detailed responses outlined below, I would like to highlight agency-wide challenges and opportunities that I, along with the DEQ Leadership Team, will be paying close attention to in 2018.

Organizational changes at Oregon DEQ

In 2014 Oregon DEQ eliminated its air, water and land quality divisions and transitioned to an organizational structure designed around functions (i.e. permitting, policy and planning, etc.). It was hoped that the new model would create opportunities for cross-media environmental management strategies. Although the model did promote programmatic integration, it obscured responsibilities for performance. As a result, DEQ's Leadership Team is directing a return to a structure with clearly identified authorities and responsibilities, including air, water and land quality divisions. Another change being implemented to improve performance is direction to each of the divisions to develop annual permitting and compliance inspection plans. An Implementation Administrator will have the authority and responsibility to allocate resources among the agency's regional offices as needed to assure that these plans are met. It is my belief that these changes will facilitate efficient and strategic decision-making and enhance the agency's ability to implement key program-wide improvements, including those recommended in this report. These changes are part of a comprehensive effort to put the agency on track to deliver a level of environmental protection that is predictable for businesses, and that makes the best use of the limited resources available to the department. However, as the audit report states, process and organizational improvements are only one part of what is needed to deliver a level of environmental protection that Oregonians expect and deserve.

Quantifying resource needs and filling vacancies

As the audit report illustrates, DEQ's air quality program has experienced a long-term decline in resources. Most recently, in the agency's 2017-2019 budget, six positions were eliminated from the Title V and Air Contaminant Discharge Permit (ACDP) programs because of inadequate funding. The agency requested a fee increase to restore four of these positions (for the ACDP program). That fee increase was not approved by the legislature. The consequences of the decline in funding are clear; permit writers have unmanageable workloads and the program cannot meet timeliness targets and address compliance obligations. As described in more detail, below, the department will work with the Governor and the legislature to document what resources are necessary for a fully-functional program during 2018.

One part of the resource shortfall identified by the audit report was a result of Oregon's hiring freeze in the spring and early summer of 2017. At this time, the department had six vacant permitting positions (two in the Northwest Region Office and four in the Western Region Office). I can report that since the statewide hiring freezes was lifted all six vacant positions have either been filled or are in active recruitment.

Modernizing data systems and analyzing business practices

Finally, as part of the agency's work to modernize our data systems and implement an Environmental Data Management System, the Air Quality Program has been working to assess its data management needs and to document its current and desired future business processes. This detailed account of the agency's current permitting processes, which involved staff from around the state, will serve as the precursor to the Lean process improvements recommended in this audit. DEQ is determined to continue its efforts to identify and address opportunities for system improvements.

This audit report has helped to crystalize key steps needed to reduce and ultimately eliminate our permitting and inspection backlogs. Below, are our detailed responses to each of the audit report's recommendations.

Recommendation 1

Conduct a Lean process improvement initiative to identify areas in need of improvement, as suggested by the EPA in 2016. **a) As a first step, improve tracking of the permit backlog.**		
Agree or Disagree with Recommendation	**Target date to complete implementation activities**	**Name and phone number of specific point of contact for implementation**
DEQ agrees with this recommendation	DEQ will conduct a Lean Kaizen event in 2018 and begin implementation of process improvements in 2018.	Jaclyn Palermo Air Programs Operations Manager 503-229-6491

DEQ will begin a workload analysis to better assess resource needs and identify opportunities for improvements. The initial workload analysis, which will incorporate a time tracking element, will be performed from January to March 2018. A Lean mapping tool called Swim Lanes will be utilized to illustrate and document current workflow and processes. The swim lane mapping will occur in parallel to the workload analysis and will be completed by May 2018. The agency will leverage existing resources when mapping processes, including documentation from the NW region office and the EDMS scoping project.

Once the baseline workload analysis is completed and the permit process is mapped, the Lean process improvement will be scoped out. A business case will be developed and DEQ will work with stakeholders to participate in the process. Lean scoping will occur in spring of 2018.

A week-long process improvement work session, referred to as a Kaizen event, will occur once the business plan and stakeholders are identified. The Kaizen event identifies improvement tasks and a roadmap for implementing those improvements that are documented in a work implementation plan at the end of the event. Depending on the size and scale of the identified projects, the implementation will occur between May and December 2018. The workload analysis will be reevaluated based on the improvements made. The agency will document gradual improvements and expects to continue implementing improvement tasks through May 2019.

DEQ has already begun work that will support implementation of a Lean process. DEQ works closely with Environmental Protection Agency (EPA), Region 10 office on air quality regulations and permitting implementation, including the federal Title V program, which has largely been delegated to DEQ. As part of a routine audit process, EPA Region 10 identified similar improvement opportunities and provided feedback in an EPA permitting audit to DEQ in 2016. DEQ will continue implementing improvements based on EPA findings in tandem with conducting the Lean process improvement recommended by this audit.

EPA Region 10 also works closely with neighboring states and is aware of permitting improvement efforts that could benefit Oregon. DEQ has been in contact with EPA to see how they can provide technical assistance to DEQ to help achieve the goals set out in both the EPA and the Secretary of State audit report's recommendations. Specifically, DEQ will be seeking EPA's permitting process expertise and knowledge of statewide permitting improvement processes. In addition to consultation with EPA, DEQ intends to reach out directly to state programs, including those interviewed by Audit Division staff, to learn about their efforts to successfully eliminate permit backlogs.

Recommendation 2

Centralize and improve inspection tracking to ensure compliance inspections are completed timely.		
Agree or Disagree with Recommendation	**Target date to complete implementation activities**	**Name and phone number of specific point of contact for implementation**
Agree	A new interim tracking tool already is in place. A more sophisticated tracking tool will be developed as part of the new Environmental Data Management System (EDMS).	Jaclyn Palermo

DEQ has begun using a centralized inspection-tracking tool that allows for all of the regions monitor compliance inspections deadlines to ensure inspections are completed within DEQ's inspection frequency goals. This spreadsheet tool is an interim solution pending inclusion of inspection tracking in DEQ's design of a comprehensive Electronic Data Management System (EDMS). The EDMS is currently in the scoping phase, and inspection tracking has been identified by Air permitting managers as a priority need. The scoping phase identified the need to support inspections planning and management, including entry of inspections notes and attaching supporting materials. The timing of when a full inspection tracking system will be implemented as part of EDMS will be determined by the fourth quarter of 2018.

Recommendation 3

Implement the Basic Air Contaminant Discharge permit for Auto body Repair Facilities in the Northwest Region.		
Agree or Disagree with Recommendation	**Target date to complete implementation activities**	**Name and phone number of specific point of contact for implementation**
Agree	July 1, 2018	Michael Orman Air Quality Manager, NW Region (503) 229-5160

The Northwest Region Air Quality Section has created an implementation plan for the Basic ACDP for Auto body Repair Facilities. NW Region staff will reach out to stakeholders in Feb 2018, to explain the purpose for the permit, which business are subject to the permit, and the timeframes for implementation. DEQ will use information from the stakeholder discussions to provide guidance and technical assistance to regulated facilities throughout the implementation process. NW region staff will use a list of facilities that met the exemption for the General ACDP for Surface Coaters as a starting point for identifying facilities that require coverage under the Basic ACDP. The agency will send applications and guidance information to those on the list that fall within the Portland Air Quality Management Area in March 2018. Facilities that receive applications must submit completed applications and fees, or submit information demonstrating that the facilities do not meet the applicability criteria for coverage under the Basic ACDP, within 60 days of receiving the request from DEQ. NW region will then issue permits to those on the list that meet the criteria for coverage by June 30, 2018. Moving forward, the agency will use complaint information and inspector data to identify additional facilities that may require coverage under the Basic ACDP and make an applicability determination on a case-by-case basis.

Recommendation 4

Determine staffing levels needed to issue air quality permits and complete inspections within established timeframes, based on current and projected workloads. Based on the results of the analysis, work with the legislature to identify potential sources of funding for additional staff, to better align workload demands with appropriate staffing levels.		
Agree or Disagree with Recommendation	**Target date to complete implementation activities**	**Name and phone number of specific point of contact for implementation**
Agree	DEQ will have a workload analysis completed by July 1, 2018.	Jaclyn Palermo Matt Davis Senior Legislative Analyst 503-229-5687

As described in the response to Recommendation 1, the agency will be conducting a workload analysis in the winter and spring of 2018. The results of this analysis will become the foundation for future work to better align staffing levels with workload demands.

Audit staff identified that DEQ permit writers carry a heavier workload than many "like" agencies and noted that "appropriate staffing would go a long way toward reducing permit backlogs in Oregon." The workload analysis mentioned above will include an analysis of related work that decrease the time available for permit writing, this includes rule writing, inspections and enforcement, and responding to emergencies. The management team will be assess current workloads, projected workloads and permit workloads in neighboring states.

DEQ will share the results of our workload analysis with stakeholders as part of the agency's development of an Agency Request Budget for the 2019-2021 biennium. Based on the workload analysis and stakeholder input, the agency will work with the Governor and the legislature to identify the resources necessary to "right-size" the program. The agency will also work with the Governor and the legislature and stakeholders to explore approaches to funding the program at levels comparable to other similarly-situated states.

Recommendation 5

Fill vacancies in as timely a manner as possible given the highly technical nature of permitting positions and the potential difficulty finding qualified applicants.		
Agree or Disagree with Recommendation	**Target date to complete implementation activities**	**Name and phone number of specific point of contact for implementation**
Agree	DEQ has already filled some of the positions, and will have all seven positions filled no later than July 1, 2018.	Jaclyn Palermo

In implementing the 2017-19 Legislative Adopted Budget, DEQ has prioritized filling vacant permitting positions. Of the seven vacant positions identified by Audit Division staff in the summer of 2017, two have been filled and the remaining positions are all in recruitment and are expected to be filled shortly. DEQ will have all seven positions filled no later than July 1, 2018. DEQ will continue to prioritize the filling of vacant permitting positons to ensure all available resources in the permitting program are deployed. DEQ will also explore additional recruitment outlets and methods to attract a larger qualifying candidate pool.

Recommendation 6

Work with the Chief Human Resources Office within the Department of Administrative Services to begin the succession planning process.		
Agree or Disagree with Recommendation	**Target date to complete implementation activities**	**Name and phone number of specific point of contact for implementation**
Agree	By July 1, 2018.	Scott Brewen Central Services Division Administrator 503) 229-5045

Succession planning is a priority across DEQ and many state agencies. DEQ is working with the Department of Administrative Services (DAS) as part of a statewide project on this issue, and will implement succession planning projects that are consistent with that effort. The initial succession planning tools for the DAS project

are scheduled to be completed by February 2018, with the full website resource available by July 2018. The full DAS website implementation is scheduled for September 2018, and DEQ is committed to work with DAS to be an early implementer of the succession planning process.

In addition to DEQ's succession planning work and interaction with DAS, the air permitting managers will identify at least one position in each of their respective regions where only one staff-person has the knowledge, skills, and ability to do the work. The managers will begin capturing processes that are not already documented for this position. Additionally, this analysis will serve as a precursor to a broader needs assessment for the air quality program with respect to succession planning.

Recommendation 7

The DEQ headquarters team should provide consistent guidance and support for regional permit writing staff, including: **Current and ongoing guidance on new rule interpretation and implementation;** **Checklists to help determine application completeness;** **Documentation of up-to-date permit writing policies, procedures, and processes stored in a centralized and accessible location;** **Update the permit writers' manual and store it in a centralized and accessible location; and** **Update relevant permitting forms and templates and store in a centralized and accessible location.**		
Agree or Disagree with Recommendation	**Target date to complete implementation activities**	**Name and phone number of specific point of contact for implementation**
Agree	DEQ will document the current state of permitting forms, templates, and the permit writers' manual by July 1, 2018 to improve consistency between regions. A second phase of updated and centralized forms, templates and manuals will be carried out in connection with the Lean Kaizen work that the program carries out in 2018.	Jaclyn Palermo

DEQ will first assure that the current permit writers' manual, relevant permitting forms and templates, and current guidance on rules are consistent between regions. DEQ will then work on updated guidance and tools later in 2018, coming out of the Lean Kaizen work described in the response to Recommendation # 1. Additionally, DEQ will develop new guidance and tools to help permitting staff determine application completeness. Since both current guidance and new documents will be discussed in the May 2018 Kaizen and work plan, the tools and guidance documents will be evaluated and updated as part of the continuous improvement efforts. The guidance will remain consistent statewide and will be updated as the needs of the permitting program evolve.

The agency expects the Lean process improvement activities described in our response to Recommendation # 1 will lead to the identification of specific tools and guidance documents to support permit writing. DEQ will also contact states that have effective tools in place and evaluate if those tools are applicable and easily

adaptable to Oregon's program. DEQ will dedicate staff time, specifically staff from the Lead Permit Writers group and the Project Management pool to complete the tasks identified in this recommendation. Depending on the size and scale of the identified projects, the implementation will occur in 2018 and 2019. The agency expects some of the more comprehensive improvements will require more time, extending into 2019.

Recommendation 8

Improve pre-application guidance for applicants, including development of such documents as: permitting process overview; completeness determination checklist for applicants; and guidance written in plain language.		
Agree or Disagree with Recommendation	**Target date to complete implementation activities**	**Name and phone number of specific point of contact for implementation**
Agree	Current guidance will be evaluated and additional tools identified in a Lean Kaizen event in May 2018. Implementation will be completed by December 2018.	Jaclyn Palermo

DEQ is hiring two new communications staff. A Communications Manager working across the agency, and an Air Quality Communications Coordinator. The people in these positions will be instrumental to the agency's ability to improve the readability and usability of externally-facing guidance documents. The air program will identify a team of subject matter experts and communications staff to review and, as necessary, update tools available to the public and regulated entities.

As part of the Lean process improvement efforts, DEQ will work with stakeholders to assess the needs of the facilities that submit air quality permit applications, and to inform the development of permitting processes checklist and guidance documents. DEQ will complete the revision of guidance documents in 2018.

Recommendation 9

Improve the Title V and ACDP permitting webpages to enhance usability for permit applicants, especially as it relates to content, navigation, and organization.		
Agree or Disagree with Recommendation	**Target date to complete implementation activities**	**Name and phone number of specific point of contact for implementation**
Agree	By July 1, 2018.	Jaclyn Palermo

DEQ recently underwent a website integration project to ensure it is compatible and consistent with State requirements, which was completed in the spring of 2017. The website conversion has caused some confusion for stakeholder groups familiar with our previous website layout. DEQ will work with stakeholders, industry associations and community groups to make the Title V and ACDP permitting webpages more user friendly, while still maintaining adherence with state agency website requirements.

Specifically, the agency will use website analytics and stakeholder feedback to identify the most frequently accessed pages and tools and explore options for making those resources more prominent and easy to find.

Recommendation 10

Provide clear information to the public on the purpose of public comment and participation in the issuance phase in the permitting process, including what DEQ can and cannot do as a result.		
Agree or Disagree with Recommendation	**Target date to complete implementation activities**	**Name and phone number of specific point of contact for implementation**
Agree	By the end of 2018.	Jaclyn Palermo

Better describing the role of, and opportunities for, public comment in decisions about air quality permits is an important long-term effort. As noted in the audit report, communities often perceive public engagement around environmental permits as an opportunity to revisit whether a particular facility should be located at its current site. In fact, DEQ is required by law to issue permits for a facility if that facility has shown that it will meet the applicable environmental standards. Public engagement often can be more productive if it is focused on land use planning – largely a local government function, or on environmental standards – largely a state and federal function. DEQ will undertake the following activities to help make public engagement more productive:

- DEQ permit writing staff and communications staff will review template public notice communications, and assess opportunities to better communicate what decision is being made, and the types of information the agency can and cannot consider in making permitting decisions. Changes to these communications will be completed by July 1, 2018.
- DEQ leadership will engage local and state agencies responsible for planning where particular types of land uses should be located, to discuss whether potential environmental conflicts between types of land uses can and should be more expressly included as part of long-range planning for communities.
- DEQ is currently recruiting for an Air Quality Administrator. The administrator will be responsible for creating opportunities for the public to engage with DEQ on air quality issues not germane to a specific permit action, including changes to environmental standards. Creating these opportunities, while clarifying the purpose of permit public hearings, will make public engagement more constructive and effective. The agency views this work as a longer-term and ongoing strategy.

Once again, please thank your staff for their thorough and balanced evaluation of the department's air permitting and compliance inspection activities. If you have any questions about our response or would like an update on our progress to implement the recommendations outlined above, please do not hesitate to contact me.

Sincerely,

Richard Whitman, Director
Oregon Department of Environmental Quality