



LRAPA
Lane Regional Air Protection Agency

Lane Regional Air Protection Agency (LRAPA)
 Rulemaking Hearing and Proposed Adoption
 March 14, 2019
 Board of Director’s meeting
 Agency Staff Report
 Staff Report - Rulemaking Action Item
 LRAPA Cleaner Air Oregon

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Attachment

- [Draft Changes to LRAPA RuleTitles - With Changes Highlighted](#)

Overview

Short summary

LRAPA proposes to implement the Cleaner Air Oregon (CAO) program and rules under the authority provided to the Agency in OAR 340 division 245, with proposed amendments for related rules, to add public health-based protection from emissions of industrial toxic air contaminants to the Lane County's existing air permitting regulatory framework. In April 2016, Governor Brown directed the DEQ and the Oregon Health Authority (OHA) to develop a health risk-based toxic air contaminant permitting program. The goal of the Cleaner Air Oregon program is to evaluate potential health risks to people near commercial and industrial facilities that emit regulated toxic air contaminants, communicate those results to affected communities, and ultimately reduce those risks below health-based standards. Affected facilities could include some that are not currently permitted for their air contaminant emissions, in addition to those that already have air quality permits. But, only facilities that are required to have an air permit due to other regulations would potentially have to reduce their risk under Cleaner Air Oregon.

Cleaner Air Oregon regulations were adopted by the Environmental Quality Commission (EQC) on November 15, 2018, and LRAPA is required to apply the requirements and procedures contained in the state rules, within Lane County. LRAPA may apply any LRAPA rule in lieu of the state rule(s), provided that the LRAPA rule is at least as strict as the state rule(s) as determined by EQC (see [OAR 340-200-0010\(3\)](#)). For a variety of reasons, including the scope, technical detail and expertise that went into the creation of the rules in division 245, LRAPA plans to rely on the authority provided to the Agency in OAR 340 division 245 – Cleaner Air Oregon to implement the rules in Lane County without any changes (see [OAR 340-245-0010\(3\)](#)). DEQ has reviewed the draft rules, determined they were at least as stringent as state rules, and authorized LRAPA to hold a hearing on behalf of the EQC. EPA has also reviewed the draft rules and provided comments.

LRAPA is proposing several changes to existing rules to integrate Cleaner Air Oregon rules with existing program rules. Some of the proposed changes to existing rules would amend the LRAPA's part of the Oregon Clean Air Act State Implementation Plan. Please see the Rules affected, authorities, and supporting documents section of this report for more detail on these proposed changes.

The Cleaner Air Oregon program will use facility toxic air contaminant risk assessments for the implementation of the program. Facility toxic air contaminant risk assessments will rely on emissions data specific to, and provided by, each facility. Facilities will be required to calculate and report estimated risks posed by their emissions where people are exposed. Regulatory actions are triggered when the risk posed by a facility's emissions exceed specified Risk Action Levels. Risk Action Levels are proposed for new, reconstructed, and existing facilities. Different Risk Action Levels trigger different actions: requirements for community engagement, measures

to reduce risk, or a demonstration that the facility has already incorporated all feasible measures to reduce risk.

If risk reductions are required under the Cleaner Air Oregon proposed rules, facilities have flexibility in how they reduce emissions. Options include installing emission controls, incorporating pollution prevention, substituting less-hazardous materials for more-hazardous materials, or altering work practices. If risk from a facility's emissions is already below defined Risk Action Levels, the facility generally will only be required to report periodically on its emissions. If a facility has demonstrated it uses all the feasible emission reduction measures it can, the proposed regulations would allow LRAPA to approve continued operation at higher Risk Action Levels with periodic review for newly available technology or controls. The proposed regulations would prohibit operation of facilities whose emissions pose risks that exceed an upper risk limit.

Outreach efforts and public and stakeholder involvement

DEQ began developing the proposed Cleaner Air Oregon rules in 2016 with support from OHA, along with participation by LRAPA, and held a public comment period on an earlier draft of the proposed rules in fall/winter 2017. In March 2018 the Oregon Legislature passed Senate Bill 1541, a law that provided funding for completing the rulemaking and beginning program implementation through fees on industrial permit holders. The bill also established certain program requirements that must be reflected in the rules. The rules were updated as a result of the earlier public comments and SB 1541, and DEQ held a second public comment period in summer 2018, including a hearing in Eugene on August 1, 2018.

The adopted DEQ rule considered comments received in both 2017 and 2018 public comment periods, including eleven in-person hearings statewide. During the 2017 and 2018 comment periods, DEQ received 931 comments from 4,243 commenters on a total of 410 discrete comment categories. In addition to public comment, DEQ considered extensive input from a Technical Work Group, and a Rules Advisory Committee that also served as a Fiscal Advisory Committee.

LRAPA's Board, Citizen's Advisory Committee, and interested parties received periodic updates on the DEQ rulemaking throughout the process. Much of this staff report includes information about the already-adopted Cleaner Air Oregon rules, but also includes information about the rules LRAPA proposes as part of changes to existing titles to integrate the new toxics program.

Regulated parties

The Cleaner Air Oregon program and rules apply to all commercial and industrial facilities that emit toxic air contaminants. These sources are required to submit toxic air contaminant facility risk assessments if requested by LRAPA. In compliance with SB 1541, only sources that are otherwise required to have an air permit will be required to obtain a Toxic Air Contaminant

Permit Addendum if LRAPA requests their emissions data and determines that the facility poses risk above the Source Permit Level.

The new air toxics program and rules are designed to evaluate potential risks to people near facilities that emit regulated toxic air contaminants, and ultimately reduce those risks to health protective levels. In developing the program, DEQ and OHA considered numerous options that were informed by other states' risk-based toxic air contaminant permitting programs. In addition, the agencies discussed options with a Technical Work Group and Rules Advisory Committee and considered comments and recommendations from committee members. Several members of the Rules Advisory Committee were representing, at least in part, Lane County view points and interests. LRAPA staff regularly participated in the DEQ and OHA rule team meetings. During the public comment period, DEQ requested input on the broad scope of the rules as well as lists of specific options for particular policy issues. Lane County residents, advocacy groups, businesses and their representatives commented on the rules.

Terms used in this document

- “Toxic Air Contaminants” are air pollutants that have been determined by the commission to cause or reasonably be anticipated to cause adverse effects to human health.
- “Existing source” means a source that commenced construction or submitted complete applications for a permit before the date the rules become effective.
- “New source” means a source that is proposed or constructed on or after the date the rules become effective.
- “Reconstructed source” means a source where an individual project is constructed that, once constructed, increases the hourly capacity of any changed equipment to emit and where the fixed capital cost of new components exceeds 50 percent of the fixed capital cost that would have been required to construct a comparable entirely new source.
- “Risk Action Level” means cancer and noncancer health risk levels that trigger regulatory requirements.
- “Risk Assessment” refers to the process of calculating the health risk created by the toxic air contaminant emissions from a source. The rules include four “levels” of risk assessment in OAR 340-245-0050 that progress from simple to complex. Lower levels of risk assessment are easier to perform but rely on assumptions that are likely to overestimate the risk. More complex levels are harder to calculate because they include more site-specific details. Each source may use the lowest risk assessment level that shows compliance with the rules.
- “Risk Based Concentration” or RBC means the concentration of a toxic air contaminant listed in OAR 340-245-8040 Table 4 that, for the designated exposure scenario, results in an excess cancer risk of one in one million, or a noncancer hazard quotient of one for either chronic exposure or acute 24-hour exposure.
- “Source” means a facility that emits air pollutants. A source may consist of one or more toxics emissions units. Examples of sources that may only have one toxics emissions unit are dry cleaners and schools or commercial facilities that have a single boiler to provide heat. Sources that may consist of multiple toxics emissions units include commercial bakeries, paint shops with drying ovens, electric power generating plants and plywood mills.
- “Toxics emissions unit” or TEU refers to a piece of equipment or an operation that emits air pollutants. Occasionally, a toxics emissions unit may include multiple pieces of equipment that all do the same thing. Examples include: a boiler, a rock crusher, a pulp mill lime kiln, and a painting line that may comprise one to several paint stations.

Statement of need

Prior to adoption of OAR 340 division 245, DEQ and LRAPA air quality rules did not limit toxic air contaminant emissions based on health risks for people near industrial and commercial facilities. As a result there may have been regulatory gaps that resulted in significant localized health risks from facilities.

The draft rules would revise several existing titles in LRAPA's Rules and Regulations to integrate the new toxics rules into the existing LRAPA air permitting program. The draft rules clarify changes to LRAPA's definitions, enforcement procedures, public participation requirements, and permitting requirements and fees for ACDPs as they all relate to the newly-adopted OAR 340 division 245.

LRAPA is not proposing any changes to OAR 340 division 245, and plans to rely on the authority provided in the EQC-adopted rules to implement that main part of the new health-based air toxics program in Lane County. Similarly, LRAPA is not proposing any changes to the Oregon Title V Operating Permit program rules or fees in OAR 340 division 218 and 220, respectively. LRAPA will continue to rely on the authority provided to the Agency in OAR 340 division 218 and 220 to implement the Title V program in Lane County.

The rules that are proposed in this rulemaking are intended to clarify requirements as they relate to existing LRAPA air quality permitting rules.

Proposed rule or topic	Discussion
Suite of changes to LRAPA titles to allow local implementation of state-adopted Cleaner Air Oregon air toxics rules.	
What need does the proposed rule address?	LRAPA is directed by state statute and rule to implement the Cleaner Air Oregon toxics rules that have been adopted in OAR 340 division 245. Changes are needed to existing LRAPA rules to integrate similar changes DEQ made to other affected divisions including definitions, enforcement provisions and fee tables.
How does the proposed rule address the need?	The proposed rules would revise LRAPA's existing titles to allow LRAPA to control the amount of fees applied to sources affected by the new air toxics rules, add and revise some key definitions, modify enforcement rules, and include specific permitting and public participation requirements.
How will LRAPA know the rule addresses the need?	Permit conditions would be added to facilities' air permits, and fees would be assessed for and collected from affected sources in Lane County.

Rules affected, authorities, supporting documents

Lead division

Operations

Program or activity

Permitting and Toxic Air Contaminants

Adopt LRAPA 37-0069 and 37-8030
Section:

Amend LRAPA 12-005, 12-025, 15-005, 15-018, 15-020, 15-025, 15-045, 15-055, 15-060,
Section: 31-0020, 31-0030, 31-0040, 31-0050, 37-0020, 37-0030, 37-0040, 37-0090,
and 37-8020

Statutory authority - ORS

ORS 192, 468, and 468A

Statutes implemented - ORS

ORS 183, 192, 468, 468A, 477

Fee analysis

New fees are required to implement Cleaner Air Oregon. Some of these fees would be paid by all currently permitted air quality sources and others only by sources that are called in to demonstrate compliance with Cleaner Air Oregon rules.

Affected party involvement in fee-setting process

DEQ and OHA worked with a rules advisory committee, including representatives from Lane County, that also served as the fiscal advisory committee for the Cleaner Air Oregon rules, including making recommendations about the proposed fees. Representatives of both large and small businesses were on the fiscal advisory committee.

The proposed fees are designed to generate the revenue necessary to support staffing resources authorized by the Legislature in SB 1541 for five years. These fee-funded positions would supplement existing LRAPA staff resources. Even though LRAPA has the authority to assess ACDP fees under DEQ's division 216, LRAPA prefers to adopt a revised fee schedule for clarity and consistency. LRAPA will continue to rely on DEQ's division 220 for the assessment of fees for Lane County sources subject to the Oregon Title V Operating Permit Program.

The budget report accompanying SB 1541 authorized eleven new DEQ positions, outlined in Table 1 below, within DEQ to implement the Cleaner Air Oregon rules and program. The budget report also authorizes a fee revenue transfer to OHA to support 2.56 FTE. Based upon the relative number of DEQ and LRAPA-permitted sources, LRAPA estimates that the Agency will need positions and funding equivalent to approximately 14% of the DEQ positions to implement the program in Lane County.

Table 1: Comparison of DEQ and LRAPA positions for CAO

DEQ Position	DEQ Positions	DEQ FTE	LRAPA Position	LRAPA FTE*	LRAPA Position Description
Environmental Engineer 3	1	1.0	Environmental Engineer 3 (Permit Section Manager & Lead Permit Writer)	0.14	Lead technical staff and permit writer: Leads TBACT analyses, coordinates permitting activities, reviews and approves permit attachments, and develops internal training plans.
Natural Resource Specialist 4 (Permit Writers)	3	3.0	Environmental Engineer 2 or Environmental Engineering Specialist 2 (Permit Writers)	0.42	Develops permit attachment in coordination with EE3 permitting staff and conducts other Cleaner Air Oregon permitting functions as required.
Natural Resource Specialist 4 (Risk Assessment Reviews)	1	1.0	Environmental Engineer 2 or Environmental Engineering Specialist 2 (Risk Assessors)	0.14	Provides technical assistance to sources on health risk assessment protocol development, reviews and approves health risk assessments.
Natural Resource Specialist 4 (Modeling Reviewer)	1	1.0	Environmental Engineer 2 or Environmental Engineering Specialist 2 (Modeling Reviewers)**	0.14	Provides technical assistance to sources on risk assessment modeling protocol development, reviews and approves risk assessment modeling protocols, reviews and approves risk assessment modeling results.
Natural Resource Specialist 4 (Stack Monitoring)	1	0.5	Environmental Engineer 2 and Data Quality Coordinator (Stack Monitoring)	0.07	Provides technical assistance to sources on source test plan development, and reviews and approves air monitoring results.
Program Analyst 2 (Technical Assistance/Community Outreach Coordinator)	2	2.0	Public Affairs, Enviro Tech 2, 3, 4 (Technical Assistance/Community Outreach Coordinator)	0.28	Provide specialized technical assistance to impacted parties (regulated entities and citizens) on Cleaner Air Oregon regulations, and coordinates community engagement and notification functions.
NA	--	--	Environmental Specialist 2, 3 or 4 (Compliance and Enforcement)	0.1	Compliance and Enforcement staff time to coordinate/lead Cleaner Air Oregon enforcement activities.
Program Analyst 3 (Lead staff on area risk program)	1	1.0	NA - SB1541 Precludes Area Risk Program in Lane Co.	--	SB 1541 only authorized the area risk program to the Portland area.
Information Systems Specialist 6 (database and IT)	1	0.5	Environmental Technician 2 (Database Mgmt)	0.07	Information technology (IT) support: permit database updates, integration and maintenance.
TOTAL	11	10.0	TOTAL	1.4	
OHA Position		FTE	LRAPA Position	FTE	
FTE Natural Resource Specialist 4 (Toxicologist)		0.75	Contract	0.105	
FTE Public Health Toxicologist		0.75	Contract	0.105	
Public Health Educator		0.5	Contract	0.07	

DEQ Position	DEQ Positions	DEQ FTE	LRAPA Position	LRAPA FTE*	LRAPA Position Description
Principal / Executive Manager D		0.1	Contract	0.014	
2017 CAO Draft Fiscal TOTAL		2.1	TOTAL	0.3	
SBI541 TOTAL		2.56	LRAPA SBI541 TOTAL	0.4	
			LRAPA TOTAL	1.7	

*14% of DEQ or OHA FTE

**May involve contract work with DEQ for the most complex modeling projects

Proposed fees

DEQ, in consultation with OHA, adopted a fee structure with two elements; base and activity fees. The two elements are responsive to input received from fee-paying stakeholders that the fees be predictable on a year-to-year basis *and* that the fees reflect that certain facilities (i.e., those actively working through the compliance requirements) are receiving a higher level of service from the agencies. LRAPA proposes to adopt the same fee amounts and types that have been adopted by the EQC.

In addition to proposed fees that are part of this rulemaking, the 2018 Legislature, through SB 1541, authorized DEQ and LRAPA to collect a one-time Supplemental Fee to cover expenses in developing and implementing Cleaner Air Oregon. The one-time Supplemental Fee applies to any source required to obtain an air permit and is set in statute, with the amount varying based on a facility's existing permit type. LRAPA permittees were invoiced for this fee in fall of 2018. SB 1541 also placed certain parameters on how DEQ and LRAPA may modify the proposed fees detailed below in the future. Because of the SB 1541 fee provisions, LRAPA has excluded the CAO fees from the annual 4% increase in ACDP fees that occurs on July 1st each year.

Annual Base Fee: The proposed annual base fee would be assessed on all sources who currently hold an air permit (local Air Contaminant Discharge Permit or federal Title V permit). Base fees differ based on a facility's existing permit type. DEQ and LRAPA estimate that in the early years of the Cleaner Air Oregon program, the majority of program funding will come from base rather than activity fees. Table 2 below shows the estimated percentage of annual revenue that would come from base fees during the first five years of program implementation. Funding during the first year of the program will come largely from the one-time supplemental fee authorized by SB 1541, which is not included below.

Table 2 Estimated Base Fee Percentages				
Year 1 Income 7/1/18-6/30/19	Year 2 Income 7/1/19-6/30/20	Year 3 Income 7/1/20-6/30/21	Year 4 Income 7/1/21-6/30/22	Year 5 Income 7/1/22-6/30/23
0%	85%	78%	71%	68%

The proposed base fees are listed in detail below in Tables 3 and 4. LRAPA is not proposing to adopt the fees for Title V sources listed in Table 4, but will continue to use the authority provided to LRAPA in division 220 to assess fees for sources subject to the Oregon Title V Operating Permit Program. While the dollar amount varies based on permit type, the Cleaner Air Oregon base fee would be proportionately equivalent (approximately 35% of existing fees in 2018) across permit categories. Note that Title V permit holders would pay a flat fee and an emissions-based (per-ton) fee. This is consistent with the existing approach to Title V permit fees.

Table 3 Cleaner Air Oregon Annual Fees for Air Contaminant Discharge Permittees		
a. Basic ACDP		\$151
b. General ACDP	(A) Fee Class One*	\$302
	(B) Fee Class Two	\$544
	(C) Fee Class Three	\$786
	(D) Fee Class Four	\$151
	(E) Fee Class Five	\$50
	(F) Fee Class Six	\$100
c. Simple ACDP	(A) Low Fee	\$806
	(B) High Fee	\$1,612
d. Standard ACDP		\$3,225

*The fee classes are defined in LRAPA 37-0060 for the different types of General Permits

Table 4 Cleaner Air Oregon Annual Fees for Title V Permittees
The specific activity fees under OAR 340-220-0050(4):
(a) The annual base fee of \$2,859; and
(b) The annual emission fee of \$21.61 per ton of each regulated pollutant for emissions during the previous calendar year, up to and including 7,000 tons of such emissions per year. The emission fee will be applied to emissions based on the elections made according to OAR 340-220-0090.

Activity Fees: Activity fees are contained in a schedule of one-time fees that correspond to elements of the proposed rules that require agency review and approval. A “call-in” fee is levied on all sources at the time they are called in to demonstrate compliance under the program and covers some of the agencies’ costs associated with orienting a source to the program, reviewing modeling and risk assessment protocols and providing technical assistance. Additional activity fees are collected at the time a facility submits their application for a CAO Permit Attachment, and depend on the level of risk assessment they have performed and other activities such as community engagement or LRAPA review of source tests, risk reduction plans, case-by-case TLAER or TBACT determinations, and air monitoring plans. Compared to draft fee structures previously shared with stakeholders, the current proposed version separates the risk assessment fees from the risk management fees. This separation has made the fees additive. For example, if an owner or operator must prepare a Level 4 risk assessment and must reduce risk, the owner or operator will pay the Level 4 risk assessment fee, the risk reduction plan fee, the community engagement fee and possibly the case-by-case TBACT fee. An owner or operator choosing to undertake air monitoring would be required to pay the monitoring plan fee as well. Community engagement fees have been updated in response to SB 1541, which stipulated that DEQ and/or LRAPA must hold any public meetings that are required.

Because the type of risk assessment method used is at the discretion of the facility and subsequent approvals needed are based on the results of those risk assessments, activity fee revenue forecasts have more uncertainty than base fee revenue forecasts. Assumptions used in forecasting activity fee revenue are described in the next section.

The risk assessment methods and other permit approvals each have activity fees that are based on a workload analysis performed by DEQ. The workload analysis estimates the number of work hours (by position classification) needed for the review and approval of each activity. The complete activity fee schedule can be found below in Table 5.

**Table 5
Cleaner Air Oregon Specific Activity Fees**

#	ACTIVITY	Permit Type			
		Title V	Standard	Simple	General/Basic
1	Existing Source Call-In Fee	\$10,000	\$10,000	\$1,000	\$500
2	New Source Consulting Fee	\$12,000	\$12,000	\$1,900	\$1,000
3	Document Modification Fee	\$2,500	\$2,500	\$500	\$250
Risk Below Risk Action Levels					
4	Level 1 Risk Assessment - de minimis (no permit addendum required)	\$1,500	\$1,500	\$1,000	\$800
5	Level 1 Risk Assessment - permit addendum required	\$2,000	\$2,000	\$1,500	\$1,100
6	Level 2 Risk Assessment - de minimis (no permit addendum required)	\$3,100	\$3,100	\$2,300	\$2,000
7	Level 2 Risk Assessment - permit addendum required	\$3,600	\$3,600	\$2,800	\$2,300
8	Level 3 Risk Assessment - de minimis (no permit addendum required)	\$8,800	\$8,200	\$5,300	\$4,500
9	Level 3 Risk Assessment - permit addendum required	\$19,900	\$11,300	\$7,700	\$6,300
10	Level 4 Risk Assessment - de minimis (no permit addendum required)	\$21,400	\$18,500	\$11,700	NA
11	Level 4 Risk Assessment - permit addendum required	\$34,600	\$25,800	\$15,500	NA
Risk Above Risk Action Levels					
12	Risk Reduction Plan Application Fee	\$6,700	\$6,700	\$2,600	\$2,600
13	Cleaner Air Oregon Monitoring Plan Fee	\$25,900	\$25,900	NA	NA
14	Postponement of Risk Reduction Application Fee	\$4,400	\$4,400	\$4,400	\$2,000
15	TBACT/TLAER Analysis (per Toxic Emissions Unit and type of toxic air contaminant)	\$3,000	\$3,000	\$1,500	\$1,500
Other Fees					
16	TEU Risk Assessment Fee (no permit addendum mod)	\$1,000	\$1,000	\$500	\$500
17	TEU Risk Assessment Fee (permit addendum mod)	\$4,000	\$4,000	\$2,000	\$1,000
18	Level 2 Modeling review (TEU approval)	\$1,900	\$1,300	\$800	\$700

**Table 5
Cleaner Air Oregon Specific Activity Fees**

#	ACTIVITY	Permit Type			
		Title V	Standard	Simple	General/Basic
19	Level 3 Modeling review (TEU approval)	\$3,800	\$3,800	\$3,500	\$3,500
20	Community Engagement Meeting Fee - high	\$8,000	\$8,000	\$8,000	\$8,000
21	Community Engagement Meeting Fee - medium	\$4,000	\$4,000	\$4,000	\$4,000
22	Community Engagement Meeting Fee - low	\$1,000	\$1,000	\$1,000	\$1,000
23	Source Test Review Fee (plan and data review) - complex	\$6,000	\$6,000	\$6,000	\$6,000
24	Source Test Review Fee (plan and data review) - moderate	\$4,200	\$4,200	\$4,200	\$4,200
25	Source Test Review Fee (plan and data review) - simple	\$1,400	\$1,400	\$1,400	\$1,400

Assumptions

- DEQ and LRAPA have assumed that the first sources called in would submit complex risk assessments because their risk is estimated to be high relative to other sources. The most complex risk assessments have the highest fees associated with their review.
- Agency staff, in consultation with staff from states who operate similar programs, have developed estimates of the number and types of activity fees that the first facilities will be required to pay. It is estimated that, in the first five years of LRAPA's version of the program (LRAPA applied 14% to the DEQ estimates to obtain these):
 - 5 facilities will meet their compliance obligation through a level 3 risk assessment.
 - 2 facilities will meet their compliance obligation through a level 4 risk assessment.
 - 2 facilities will meet their compliance obligation through a risk reduction plan.
 - 1 facility will meet their compliance obligation through a risk reduction plan and a TBACT plan.
 - Zero to 1 facility will meet their compliance obligation through air monitoring.

Considerations

In developing the proposed fee structure, DEQ recognized that risk-based air quality permitting is new in Oregon and as such there are uncertainties in implementation.

During the public comment period, DEQ sought additional feedback on funding proposals to implement Cleaner Air Oregon.

The EQC approval of this rule established new fees. EQC authority to adopt the fees is in ORS 468.020, 468.065, 468A.040, 468A.050, and 468A.315, and 2018 Or. Laws chapter 102, §§ 13 and 14 (SB 1541). The LRAPA Board may also establish fees under the authority provided to regional authorities in ORS 468A.100 through 468A.180.

Stakeholder engagement during the fee proposal development

DEQ staff discussed program implementation, staffing models and proposed fee structures with the Rules Advisory Committee in July and August 2017 and May 2018. As mentioned previously, the Rules Advisory Committee included several Lane County representatives including health, large business, county government, and public advocacy. LRAPA staff discussed the same with the LRAPA Board of Directors and Citizens Advisory Committee at several meetings throughout the process. Stakeholders provided DEQ the following verbal input during these meetings, which has been incorporated into the proposal:

- The program should be implemented in a tiered-approach, starting with facilities that have the potential to pose the most risk to the greatest number of people.
- DEQ should include a position in the staffing model responsible for providing technical assistance to individuals or organizations that would be impacted by the program. This

includes entities regulated by the program who are in the process of being called in and entities who are seeking to better understand their compliance obligations if/when they are called in. This also includes community groups and members of the public interested in learning about community outreach requirements.

- The fee structure should be predictable to fee-payers.
- The fee structure should acknowledge that the facilities actively working through the requirements will be receiving a higher level of service from the agencies.
- In addition to advisory committee meetings, the agencies have had direct conversations with fee paying stakeholders to further describe and discuss the fee proposal.

How long will the proposed fee sustain the program?

The proposed annual base fee, call-in fee, and specific activity fees would sustain the program in Lane County for five years, until the year 2023.

Table 6 shows estimated transactions and revenue for the proposed fees. LRAPA applied 14 % to DEQ estimates, based upon the relative number of fee payers.

Table 6 Transactions and Revenue				
Biennium	Number of transactions	Number of fee payers	Impact on revenue (+/-)	Total revenue (+/-)
Current (2017-19) biennium*	1	1	\$8,400	\$8,400
Next (2019-21) biennium	717	300	\$833,263	\$833,263

*Annual base fees proposed in this rulemaking would first be collected in the 2019 fiscal year. Facilities may begin being called-in by the program between rule adoption and the end of the 2017-19 biennium. The CAO one-time supplemental fee is not included above because it is mandated in statute in SB 1541.

Amended Statement of fiscal and economic impact

Background

DEQ held a public comment period on an earlier draft of the Cleaner Air Oregon rules between October 2017 and January 2018. In March 2018, the Oregon Legislature passed SB 1541, which provided fee authorization and set certain program requirements. The agencies updated the proposed rules as a result of the earlier public comments and SB 1541. This fiscal impact statement describes the fiscal and economic impacts of the Cleaner Air Oregon rules, and references input received during two fiscal impact review advisory committee processes and the 2017 and 2018 public comment periods.

SB 1541 set benchmarks for excess lifetime cancer risk and noncancer risk, defined as Risk Action Levels in the Cleaner Air Oregon proposed rules, in statute at levels higher than what DEQ and OHA originally proposed. Based on those higher risk levels, there would be potentially less fiscal impact on regulated businesses and potentially greater costs related to public health since not as much risk reduction would be realized. In addition, the SB 1541 requirement that a source complying with federal NESHAPs would presumptively meet TBACT requirements would be expected to further limit Cleaner Air Oregon fiscal impacts at many facilities. As stated below, DEQ used best available information to estimate potential fiscal impacts, but specifically quantifying fiscal impacts was not possible because of the lack of detailed facility-specific data and risk analyses, which have not been completed, and data on health effects in specific populations near specific facilities which is not available.

DEQ determined and most CAO rules advisory committee members believed that Cleaner Air Oregon could cause a significant fiscal impact for small businesses. LRAPA agrees with this determination. As is the case for businesses generally, the extent of the small business fiscal impact is unknown and cannot be accurately quantified because it depends on future analysis of source emissions and risk, and any required emission controls. In addition to the fiscal mitigation measures initially proposed in Cleaner Air Oregon, DEQ has proposed and/or the EQC has adopted additional significant small business fiscal impact mitigation measures to lower cost, streamline procedural requirements, and provide flexibility for both small and large businesses.

Methodology for this analysis

The following analysis describes fiscal impacts to business, government and the public. For regulated businesses, the analysis focuses on the fiscal impacts associated with performing risk assessments at different levels, reducing risk, and paying fees for Cleaner Air Oregon permitting. For government, the analysis describes potential impacts on government-owned facilities and fiscal impacts to the agencies administering the new regulations. For the public, the analysis describes potential benefits to the service and consulting sector and, using example pollutants and associated illnesses, potential general fiscal benefits from decreasing health risks. All estimates in this analysis are bounded by important caveats and limitations.

DEQ used EPA Air Pollution Control Technology Fact Sheets to estimate ranges of costs for pollution control equipment that facilities may need to install if required to control toxic air contaminant emissions under CAO. DEQ contacted several pollution control equipment suppliers but they were not able to provide more detailed cost estimates without site-specific data (i.e., toxic air contaminant emitted, exhaust airflow and temperature, and space availability). Throughout the rulemaking process, DEQ also requested specific information on fiscal impacts from regulated sources who have cost information relevant to the proposed rules. During the two fiscal impact review processes and public comment periods, DEQ received a limited amount of information from committee members and commenters on costs of purchasing, installing and operating specific pollution control equipment. DEQ incorporated those estimates in the fiscal impact statement.

In November 2016 DEQ and LRAPA sent a request to permitted facilities that may be subject to Cleaner Air Oregon rules to report on their toxic air contaminant emissions. Facilities have submitted emissions data and the Agencies worked with facilities to check the quality of their information. While this level of emissions inventory is sufficient to begin the prioritization and call-in process, the more detailed data and analysis necessary to calculate a facility's risk is not available yet. Each affected facility will need to go through the proposed risk screening and assessment process to gain accurate knowledge about risk posed and regulatory requirements. Some businesses will not be called in to demonstrate compliance and will experience little fiscal impact, some will "screen out" at more simple assessment levels and will experience relatively low fiscal impact, while others will be required to implement more complex and costly steps to assess and reduce risk from their toxic air contaminant emissions. Without a facility proceeding through the full steps of risk screening and assessment, it is not possible to predict with accuracy how much a particular business would have to spend to comply with risk reduction requirements, or how much benefit from reduction of associated toxic air contaminant risk could occur for people living nearby.

Because of the high level of uncertainty about precisely who will be affected and how, this fiscal analysis estimates potential ranges of impacts for business, government and the public, rather than developing speculative scenarios for hypothetical facilities or for each of the approximately 300 facilities that could be affected by Cleaner Air Oregon rules in Lane County. Generating scenarios for each potentially affected facility would have required additional research and modeling work for which resources were not available.

Who would experience fiscal and economic impacts?

The proposed rules would have fiscal and economic impacts on businesses, state and federal agencies, units of local governments and the public. Fiscal impacts can be positive or negative to those affected. As examples, reducing health costs to the public would be a positive impact, and increasing costs of regulatory compliance for businesses would be a negative impact.

Owners and operators of facilities that currently require an air quality permit would incur costs of program permit fees, described above, and be required to analyze whether emissions from their operations are below Risk Action Levels set under the

Cleaner Air Oregon rules. This includes public entities who manage facilities or operations requiring an air quality permit. Cost estimates for these analyses are included in Table 7 below, Cost to Facilities for Emissions Analysis and Risk Assessment. Some facilities with emissions resulting in health risks above Risk Action Levels would incur additional costs to participate in community engagement and/or to reduce emissions.

People who are exposed to toxic air contaminants at sufficient concentrations and durations have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental (e.g., birth defects), respiratory and other health problems. In addition to exposure from breathing toxic air contaminants, some toxic air contaminants, such as mercury, can deposit onto soils or surface waters, where they are taken up by plants or ingested by animals and are eventually magnified up through the food chain to human consumption. The proposed rules may result in reduced toxic air contaminant emissions and less exposure to toxic air contaminants for people who live and work in proximity to facilities that emit toxic air contaminants. Less exposure to toxic air contaminants will 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.

Table 7 Cost to Facilities for Emissions Analysis and Risk Assessment		
Task	Simple	Complex
Emissions inventory	\$0*-\$5,000	\$60,000
Level 1 Assessment – Lookup Table Calculation Using Stack Heights and Exposure Location Distance	\$100	\$5,000
Level 2 Assessment – Screening modeling	\$5,000	\$35,000
Level 3 Assessment – Refined modeling	\$5,000	\$100,000
Level 4 Assessment – Health Risk Assessment	\$5,000	\$500,000

*DEQ is calculating the emissions inventories for all of the approximately 2,200 sources that have Basic and General Air Contaminant Discharge Permits. LRAPA is calculating emission inventories for all of the approximately 230 sources that have Basic and General Air Contaminant Discharge Permits in Lane County.

Reporting

All currently permitted sources report to LRAPA annually, so their reporting requirements for Cleaner Air Oregon will be in addition to existing reporting requirements. Some facilities that aren't required to have air permits under current regulations may still be required to report, and in that case annual reporting would be new. Some facilities already report emissions of Hazardous Air Pollutants (187 pollutants out of approximately 600 toxic air contaminants) annually. Under the adopted regulations, all permitted facilities that emit toxic air contaminants must submit an emissions inventory to LRAPA every three years. Facilities that have permit

requirements to limit toxic air contaminant emissions must report compliance annually or semi-annually.

Since facilities with current air permits were already required to submit an initial toxic air contaminant emissions inventory, future updates of their emissions inventory should involve lower costs. DEQ anticipated that the additional reporting requirements for Cleaner Air Oregon would cost facilities approximately \$120 to \$1,200 per year.

Source testing

Source testing is currently not required as a part of Cleaner Air Oregon, but some facilities may choose to do source testing to more accurately estimate emissions. Source testing may be required to determine compliance with Cleaner Air Oregon permit conditions but DEQ and LRAPA anticipate that will not be the case for very many sources. Cost for source testing depends on the toxic air contaminant to be tested, the length of the test, and other factors. Source testing for some toxic air contaminants, such as hexavalent chromium, is relatively complex and therefore expensive. Source test costs range from \$7,500 for a single toxic air contaminant that is easy to test to \$35,000 for multiple toxic air contaminants that are more difficult to test. Businesses already required to perform periodic compliance source testing could limit some of these additional costs if toxic air contaminant and criteria pollutant tests could be aligned.

Monitoring

The adopted Cleaner Air Oregon regulations allow facilities to conduct ambient air monitoring and to use that data to supplement their risk assessments if they choose. DEQ and LRAPA expect that the cost of monitoring would vary based on equipment and analysis needed for different pollutants to be monitored and the number of monitors needed. Depending on the topography, meteorology, land use and exposure locations, a facility may need to run multiple monitor locations to accurately characterize concentrations resulting from its emissions.

DEQ estimated that the lower end cost for a year of monitoring including equipment, deployment and pollutant analysis could be \$50,000 per monitoring location. Assuming a site would require four monitor locations, this total lower end cost could be \$200,000. DEQ estimated that the higher end cost for more complex equipment, analysis or multiple pollutants could be \$200,000 per monitor. If a facility needed four such locations, the total upper end cost could be \$800,000. DEQ deleted an earlier proposal allowing it to require that a facility undertake monitoring and it is now a voluntary action that a facility may employ.

Community engagement

SB 1541 requires that LRAPA (rather than facilities, as proposed in an earlier draft of the rules), provide community engagement. This decreases direct community engagement costs for facilities, but fees assessed to facilities support this activity performed by LRAPA staff. If the risk from a facility is greater than the Community Engagement Risk Action Level, the Agency will provide Community Engagement and other outreach activities near that facility. As part of community engagement, LRAPA will notify the community within the area of impact when a

permit addendum application is submitted, and may hold one or more public meetings to describe the risks, and solicit input on ways to reduce the risks. If LRAPA holds a required public meeting, facilities would be required to attend and to pay a fee to LRAPA.

Statement of cost of compliance

State agencies

The majority of state agencies and local governments should be minimally or not directly impacted by the proposed rules because the rules predominantly regulate process emission sources that are not government owned. However, state agencies and local government facilities that emit toxic air contaminants may be required to reduce toxic air contaminant emissions if the predicted risk exceeds Risk Action Levels. If owners or operators choose to install pollution control equipment, Table 8 below shows what the range of estimated costs could be for both government-owned and business facilities. As of August 31, 2017 DEQ estimated that state agencies own 23 permitted facilities, federal agencies own five (5) permitted facilities, and local governments own 62 permitted facilities. In Lane County, as of December 31, 2018, state agencies own two (2) permitted facilities, federal agencies own zero (0) permitted facilities, and local governments own nine (9) permitted facilities. Currently there are no tribally owned permitted facilities. Cleaner Air Oregon base and activity fees affect these permit holders directly. Changes to fees could affect these agencies indirectly if businesses change the price of goods and services to offset any increased costs from paying a permit fee. Local government may also be consulted in land use issues related to commercial facilities emitting toxic air contaminants.

LRAPA will see an increase in workload as a result of the proposed rules. Implementation of program requirements will require additional resources. LRAPA has completed a workload analysis to estimate the cost of different levels of risk assessment and the additional resources needed. LRAPA will permit facilities subject to Cleaner Air Oregon with the aid of DEQ and possibly OHA staff in areas of health risk assessment, community engagement, and risk communication. LRAPA workloads would initially increase as staff become familiar with the proposed rules and a new program and could level off after the first years of implementation.

Having the Cleaner Air Oregon toxic air contaminant program in place may also reduce LRAPA and OHA's workload in some instances, by reducing the need for the agencies to respond on a facility by facility basis to public concerns about toxic air contaminant emissions and health effects that are not currently covered by a regulatory structure.

Table 8
Pollution Control Equipment for Toxic Air Contaminant Emissions

Control Device Type	Types of Pollutants it can reduce	Examples of facilities where this could be used	Initial costs ^{1, 2}		Annual Operating Costs	
			low	high	low	high
Fabric filter (baghouse)	Particulate matter (PM), hazardous air pollutant (HAP) PM	Asphalt batch plants, concrete batch kilns, steel mills, foundries, fertilizer plants, and other industrial processes. Colored art glass manufacturers.	\$360,000 - \$18,500,000		\$180,000 - \$6,200,000	
Electrostatic precipitator (ESP)	PM, HAP PM	Power plants, steel and paper mills, smelters, cement plants, oil refineries	\$320,000 - \$10,000,000		\$100,000 - \$7,600,000	
Enclosure	Fugitive PM or volatile organic compounds (VOCs)	Any process or operation where emissions capture is required, i.e., printing, coating, laminating	\$14,000 - \$420,000		\$400 - \$10,000	
HEPA filter	Chrome emissions	chrome plating	\$13,000 - \$240,000		Application specific	
Wet scrubber (packed towers, spray chambers, Venturi scrubbers)	Gases, vapors, sulfur oxides, corrosive acidic or basic gas streams, solid particles, liquid droplets	Asphalt and concrete batch plants; coal-burning power plants; facilities that emit sulfur oxides, hydrogen sulfide, hydrogen chloride, ammonia, and other	\$25,000 - \$750,000		\$19,000 - \$830,000	

¹ Costs are from examples in the EPA Air Pollution Control Cost Manual, Report No. 452/B-02-001, EPA Air Pollution Control Technology Fact Sheets, and information provided by permitted facilities and regulatory agencies.

² Costs are estimated based on best available information, but may be higher or lower than shown, depending on facility-specific conditions and business decisions.

**Table 8
Pollution Control Equipment for Toxic Air Contaminant Emissions**

Control Device Type	Types of Pollutants it can reduce	Examples of facilities where this could be used	Initial costs ^{1, 2}		Annual Operating Costs	
			low	high	low	high
		gases that can be absorbed into water and neutralized with the appropriate reagent.				
Wet scrubber with mercury controls (carbon injection or flue gas desulfurization)	Gases, vapors, sulfur oxides, corrosive acidic or basic gas streams, solid particles, liquid droplets, mercury	Coal-fired power generation	Low end cost not available	High end cost \$516,803,000	Not available	
Semi-dry scrubber with carbon injection mercury controls	Gases, vapors, sulfur oxides, corrosive acidic or basic gas streams, solid particles, liquid droplets, mercury	Coal-fired power generation	Ranges not available, estimated cost: \$470,803,000	Ranges not available, estimated cost: \$74,807,000		
Flue gas desulfurization with limestone injection	mercury	Coal-fired power generation	\$75,000,000-\$247,000,000	\$3,500,000		
Activated carbon injection	mercury	Coal-fired power generation	\$960,000-\$5,000,000	\$1,800,000		
Thermal oxidizer	VOCs, gases, fumes, hazardous	Landfills, crematories, inks from graphic arts production and printing, can and coil	\$17,000 - \$6,200,000	\$3,500 - \$5,200,000		

Table 8
Pollution Control Equipment for Toxic Air Contaminant Emissions

Control Device Type	Types of Pollutants it can reduce	Examples of facilities where this could be used	Initial costs ^{1, 2}		Annual Operating Costs	
			low	high	low	high
	organics, odors, PM	plants, hazardous waste disposal, semiconductor manufacturing				
Regenerative thermal oxidizer	VOCs	Paint booths, printing, paper mills, municipal waste treatment facilities	\$940,000 - \$7,700,000		\$110,000 - \$550,000	
Catalytic reactor	VOCs, gases	Landfills, oil refineries, printing or paint shops	\$21,000 - \$6,200,000		\$3,900 - \$1,700,000	
Carbon adsorber	Vapor-phase VOCs, hazardous air pollutants (HAPs)	Soil remediation facilities, oil refineries, steel mills, printers, wastewater treatment plants	\$360,000 - \$2,500,000		Not available	
Biofilter	VOCs, odors, hydrogen sulfide (H ₂ S), mercaptans (organic sulfides)	Wastewater treatment plants, wood products facilities, industrial processes	\$360,000 - \$3,600,000		Not available	
Fume suppressants	Chromic acid mist, chromium, cadmium and other plating metals	Chromic acid anodizing and chrome plating operations	Up to \$122,000		Not available	

As an alternative to or in addition to the controls above, facilities may be able to use pollution prevention to meet CAO risk reduction requirements. In EPA's, DEQ's, and LRAPA's hierarchy of pollution management strategies (acceptable ways to reduce pollution), pollution prevention, also known as source reduction, is preferred over the addition of pollution controls and treatment whenever feasible (see Pollution Prevention Act of 1990, <https://www.epa.gov/p2/pollution-prevention-act-1990>).³ Pollution prevention has been implemented successfully for cleaning operations (e.g., metal parts), coating and painting (e.g., marine anti-fouling, wood preservation), lubricants and process fluids (e.g., loss lubrication, mold release agents), and dry cleaning of clothes. In evaluating the costs of pollution prevention, DEQ considered not only the cost of replacing one production method with another, but also capital costs, energy differences, labor costs, waste disposal and quality control considerations. In many instances involving both large and small businesses, DEQ found that pollution prevention can decrease costs for a facility owner, rather than increase them. Short-term investments in pollution prevention measures can result in savings that may pay for the initial investments over time.

Local governments

As noted above, local governments own or operate 9 facilities currently requiring an air quality permit in Lane County. Minimally, those local government agencies would be impacted by the proposed fee structure for Cleaner Air Oregon which includes an annual base fee assessed on all current air quality permit holders. In addition, local governments who operate facilities that are called in to Cleaner Air Oregon would be required to assess the risk that the facility's emissions pose and in some cases may be required to reduce that risk.

Local government representatives, such as city or county health or planning staff and elected officials may also be impacted by the need to participate in public meetings, including time to research and understand potential toxic air contaminant health concerns and risk assessment and permitting issues, and time spent preparing communications and attending meetings. DEQ and LRAPA are not able to quantify the time and fiscal impact on public process participants, but recognizes that time spent may impact local government budgets for travel or other expenses.

Large businesses

LRAPA anticipates the proposed rules, when fully implemented, could have fiscal and economic impacts on approximately 150 existing large businesses holding air quality permits and an unknown number of new large businesses and businesses that do not have air permits. If the cancer or noncancer risk from a facility exceeds the Risk Action Levels, the facility would be required to take action to reduce toxic air contaminant emissions or show that TLAER or TBACT is already being achieved. The proposed rules would allow facilities

³ Pollution prevention is generally preferred because it results in less pollution to control, treat, or dispose of. Pollution controls can generate wastes or contaminated equipment that require end-of-life management. Reducing pollution at the source means fewer hazards posed to the public and the environment. In addition, pollution controls can fail and toxic substances can be used in unintended ways. Reducing the use of those toxic substances at the source avoids those potential risks.

flexibility in choosing a method to reduce emissions through the application of pollution prevention or pollution control equipment. If owners or operators choose to install pollution control equipment, Table 8 above shows what the range of estimated costs could be. Small businesses may also incur these costs if required to install pollution control equipment.

As required by SB 1541, the draft proposed rules allow that existing facilities (major sources of hazardous air pollutants that emit 10 tons/year of one hazardous air pollutant or 25 tons/year of combined hazardous air pollutants) complying with federal toxic air contaminant standards known as National Emission Standards for Hazardous Air Pollutants (NESHAPs) will under certain conditions be presumed to meet TBACT requirements. Although specific numbers will not be known until sources proceed through the screening and analysis process, this requirement will likely decrease fiscal and economic impacts for many sources of toxic air contaminants. Many facilities already complying with a NESHAP would not need to reduce their risk unless they exceed a risk level of 200 in a million excess cancer risk or an HI of 10. This is higher than the originally proposed levels of 25 in a million and an HI of 1, and is expected to result in a lower fiscal impact than the October 2017 proposed rules.

Included in public comments DEQ received was a cost benefit analysis performed by Maul Foster Alongi (MFA) on behalf of Oregonians for Fair Air Regulations (OFAR), a business interest group. The MFA analysis submitted by OFAR during the first public comment period concluded that CAO would cost facilities between \$44 million and \$8.4 billion over the first 20 years of the program. An updated analysis submitted during the second public comment period concluded that CAO would cost facilities between \$44 million and \$34 billion over the first 20 years of the program.

DEQ reviewed MFA's analysis, but the information submitted with the public comment was not sufficient to fully reconstruct it. However, DEQ can comment on the assumptions that were listed.

The MFA analysis was designed to "bracket" potential CAO compliance costs between a low and high scenario, with a medium scenario in between. The low scenario is based on an assumption that all facilities will screen out of CAO requirements with a Level 1 risk assessment, which does appear to represent a lower bound to what CAO compliance costs could be for facilities. DEQ analyzed the medium and high scenarios proposed by MFA and believes that they include several factors that tend to significantly overestimate the total costs.

MFA assumed that all facilities with air permits will be called in to CAO during the first 20 years of the program, which would overestimate costs because DEQ will likely not call in facilities that screen out as de minimis based on emissions inventory data.

MFA also appeared to assume that all facilities that are above the TBACT level after a Level 3 risk assessment will proceed to Level 4, though DEQ anticipates that few facilities will have the unusual exposure scenarios under which it would benefit them to perform a Level 4 risk assessment.

MFA also assumed that all facilities that proceed to Level 4 will ultimately install pollution controls. This is likely an overestimate because many facilities above the TBACT level may qualify as having presumptive TBACT, based on the new rule provisions brought in from SB 1541. Also, the increase in the RALs between the first and second public comment periods

should reduce the number of facilities that will be required to install pollution controls, but did not reduce MFA's estimate of that parameter.

MFA's estimate of the cost of installing and operating pollution controls for CAO is also likely to be an overestimate, particularly for their most recent submittal, because they used an average of installation and operation costs from a list of pollution controls that included controls that would be necessary only for a coal-fired power plant, which are very high cost. That is likely to be an overestimate because Oregon's only coal-fired power plant is mandated by rule to close in 2020, and Oregon statutes phasing out coal-fired power mean that new coal-fired power plants in Oregon (with attendant high pollution control costs) are unlikely.

Finally, MFA acknowledged that their analysis, "does not reflect any specific Oregon facility, and the information available to MFA is insufficient to allow estimation of whether any specific facility will incur increased costs or the value of those costs." DEQ concluded that the MFA medium- and high-cost scenarios both likely significantly overstate the fiscal impacts on businesses.

The ultimate compliance costs of the program would depend on many factors, including facility risk assessments and TBACT analyses that are not yet complete. DEQ has concluded that the overall cost to business over a 20 year period is likely at least \$44 million, and will likely be higher than that. LRAPA estimates based upon relative numbers of permitted facilities that the overall cost to business over a 20 year period is likely at least \$6 million. But any determination of how much higher would be purely speculative. That said, DEQ provided, in Tables 7 and 8 above, the ranges of costs that individual facilities will encounter when they are "called in" and are required to demonstrate compliance with the CAO rules.

Small businesses

Similar to the requirements for large businesses, the proposed rules would require that the facility owner or operator of a small business demonstrate that the risk posed by the facility's air emissions would not exceed the proposed Risk Action Levels. This compliance demonstration can be accomplished using any of the levels of risk assessment, 1 through 4.

In addition to the fiscal and economic impact described in the large business section above, the proposed rules could have the following impacts on small business:

Estimated number of small businesses and types of businesses and industries with small businesses subject to proposed rule

The proposed rules could affect approximately 130 small businesses in Lane County. These businesses include asphalt plants, auto body shops, chromium electroplaters, ethylene oxide sterilizers, grain elevators, lumber mills, metal fabricators, metal foundries, and surface coaters. If any of these businesses are called in to Cleaner Air Oregon and receive CAO permit conditions, they would have additional compliance requirements in addition to existing permit requirements. In addition there may be an unknown number of additional facilities that are currently not required to get permits under the existing air quality permitting program but may be required to submit emissions inventories, perform risk assessment and pay fees because of the Cleaner Air Oregon rules. Facilities

that are not required to get air permits under existing rules could not be required to reduce risk under Cleaner Air Oregon.

Many of the small businesses subject to the Cleaner Air Oregon rules would only be required to submit triennial reports of toxic air contaminant emissions. Some small businesses may be required to reduce toxic air contaminant emissions through either permit limits, pollution prevention or pollution control equipment if cancer risk, chronic noncancer risk or acute noncancer risk is above Risk Action Levels.

Projected reporting, recordkeeping and other administrative activities, including costs of professional services, required for small businesses to comply with the proposed rule

Small businesses that must meet Cleaner Air Oregon permit requirements would have increased recordkeeping and reporting requirements. Administrative activities, including costs of professional services, required for small businesses to comply with the proposed rule may increase in a range from \$100 to \$500,000 above current costs if the small business is required to perform computer modeling or a health risk assessment if cancer risk, chronic noncancer risk or acute noncancer risk is above Risk Action Levels.

Projected equipment, supplies, labor and increased administration required for small businesses to comply with the proposed rule

Depending on the size and nature of a small business's operation, pollution control costs could be much less than, or in some cases the same as, the cost ranges for different types of control equipment found in Table 8, above. Summarizing from Table 8, if a small business's cancer risk, chronic noncancer risk or acute noncancer risk were above Risk Action Levels, the proposed rules could result in additional costs ranging from approximately \$13,000 to \$18,500,000 for initial equipment including purchase and labor, and ranging from approximately \$400 to \$7,600,000 in annual operating costs⁴. The same decrease in costs that apply to large businesses resulting from higher risk action levels required in SB 1541 will apply to smaller businesses. Smaller businesses are even more likely to screen out of more costly Cleaner Air Oregon requirements at risk levels of 50 in a million and an HI of 5.

Because of existing regulatory coverage and generally low risk estimates for gas stations and dry cleaners, DEQ proposed not to require these facilities to perform risk assessments. If DEQ and LRAPA determine that risk may need to be reduced from these types of facilities, DEQ would change the existing rules that would apply to all gas stations and dry cleaners. These facilities would need to pay small fees to be tracked and evaluated by DEQ and LRAPA, but generally would not bear the costs of risk analysis or emission reductions.

Mitigation measures for small businesses

DEQ determined and most fiscal advisory committee members indicated that Cleaner Air Oregon could cause a significant fiscal impact for small businesses. LRAPA agrees with that

⁴ Costs in Table 8 for a wet scrubber with mercury controls, semi-dry scrubber with carbon injection mercury controls, and flue gas desulfurization with limestone injection are most often used at coal-fired power plants, which are unlikely to meet small business criteria.

determination. As is the case for businesses in general, the extent of the small business fiscal impact is unknown and cannot be accurately quantified because it depends on future analysis of source emissions and risk, and any required emission controls. As a result of public comment and discussion with the fiscal advisory committee in two meetings, DEQ developed a final proposal of small business fiscal impact mitigation measures in Cleaner Air Oregon to lower cost, streamline procedural requirements, and provide flexibility for small business. DEQ lacked specific information to provide estimates of cost decreased from these measures. Mitigation measures include:

- Cleaner Air Oregon base fees are a percentage of existing permit base fees. Many smaller facilities are on General or Basic Air Contaminant Discharge Permits, which have lower base fees and whose CAO base fees would also be low. This is consistent with fiscal advisory committee small business mitigation recommendations on providing lower fees for small businesses.
- Smaller sources on General and Basic Air Contaminant Discharge Permits (approximately 250 Lane County sources, including gas stations and dry cleaners) are not be required to prepare and submit an emissions inventory, as was required for all other permitted sources. These businesses are not required to perform Level 1 risk assessment either. LRAPA will do both the emissions inventory and the Level 1 risk assessment for these sources. Only sources on General and Basic Air Contaminant Discharge Permits that calculate emissions using material balance methods (less than 11 sources) would be required to prepare and submit their own emissions inventories. This is consistent with fiscal advisory committee small business mitigation recommendations on providing technical assistance.
- Given the lower potential for higher risk emissions, smaller businesses are likely to be called in later in program implementation, after the higher risk facilities, delaying regulatory costs for some smaller businesses. These businesses would be able to use screening tools to determine whether they could undertake emission reductions or process changes to avoid more costly assessment measures like modeling or monitoring.
- Fiscal impacts to businesses, including small businesses, generally decreased between the 2017 and 2018 draft regulations because risk action levels became less stringent or allowed more risk as required by SB 1541.
- The SB 1541 requirement that sources, including small businesses, complying with federal NESHAPs would presumptively meet TBACT requirements would be expected to further limit Cleaner Air Oregon fiscal impacts for many sources.
- Sources that are de minimis or exempt would not need to take action to obtain a permit or reduce risk under Cleaner Air Oregon. DEQ proposed an increase to the Source Permit Level for existing facility cancer risk, which will raise the de minimis risk level for facilities. This should further mitigate impacts on small businesses, by lessening the burdens associated with permitting for facilities that pose low risk.
- The adopted change to the significant TEU level would reduce the burden on businesses that exceed the TBACT or TLAER levels, by ensuring that they don't have to conduct

TBACT/TLAER analyses or install TBACT/TLAER on TEUs that only pose a very small part of their total risk.

- Businesses, including small businesses, can apply to delay or postpone risk reduction based on financial hardship.
- Air monitoring, which can be very expensive, would be optional for all sources including small businesses. No source would be required to undertake air monitoring.
- The program would include a technical assistance staff person to help sources explore and analyze emission reduction options if they are required. DEQ and LRAPA anticipate that technical assistance to small businesses will be prioritized, consistent with fiscal advisory committee small business mitigation recommendations on providing technical assistance.

How DEQ and LRAPA involved small businesses in developing this proposed rule

DEQ notified Lane County small businesses during rule development by email, announcements on the DEQ and LRAPA website, advisory committee meetings, and through Twitter and Facebook. Small business representatives were on the Rules Advisory Committee during rule development. At the onset of the first public comment period, DEQ notified small businesses, including those in Lane County, by email, and notices in the Secretary of State Bulletin.

Impacts on the public

The adopted Cleaner Air Oregon rules are intended to assess and decrease risk above Risk Action Levels for people living near industrial and commercial facilities that emit toxic air contaminants. Risk analyses will be based on many factors, including the best available science regarding toxicity of regulated toxic air contaminants, as in the Risk-Based Concentrations. Cleaner Air Oregon toxic air contaminant reductions that decrease cancer risk, chronic noncancer risk or acute noncancer risk could create positive economic benefits and improvements in public health and welfare statewide. The rules could also have negative economic effects on the public. In analyzing potential positive and negative effects on the public of the proposed Cleaner Air Oregon rules, DEQ consulted with OHA staff and relied upon information provided by them.

Positive impacts on the public

The adopted Cleaner Air Oregon rules have the potential to meaningfully impact public health in the state by reducing toxic air contaminant emissions. The toxic air contaminants that would be regulated by Cleaner Air Oregon rules are known to increase risk of a wide range of health outcomes including cardiovascular and respiratory illness, lung disease, cancers, birth defects, premature births, developmental disorders, central nervous system damage, intellectual disability, and premature death.

Based on a preliminary analysis of a subset of emissions inventory data using proposed screening tools and Risk Action Levels, DEQ and OHA have determined that a number of toxic air contaminants are most likely emitted at concentrations whose risk exceeds the

proposed Risk Action Levels. Information from EPA's National Air Toxics Assessment supports this initial analysis. The impact of toxic air contaminants on health depends on people's exposure. DEQ, OHA and LRAPA do not currently have enough information about how many people are exposed to specific concentrations of industrial and commercial toxic air contaminant emissions or about the relative actual contribution of toxic air contaminants to disease to know how reducing emissions will translate to improved public health in quantitative terms. As Cleaner Air Oregon regulations are implemented, the emissions inventory and the permitting process will improve LRAPA, DEQ and OHA's understanding of Oregonians' toxic air contaminant exposures. This is especially true for public health risk from toxic air contaminants in neighborhoods close to industrial facilities, where risk may never have been specifically or accurately assessed.

National and local air toxics models and other states' estimates show that an array of emissions sources contribute significantly to public health risk. These include non-industrial emissions from vehicle engines, wood burning and atmospheric formation of toxic air contaminants, as well as industrial emissions. However this information cannot be used to estimate risk for people living nearby industrial facilities because the data are on too large a geographic scale, do not factor in where people are actually exposed, do not include all facilities, do not assess the number of pollutants proposed for Cleaner Air Oregon, and do not include risk from acute exposures. At the geographic level of neighborhoods that could be impacted by industrial toxic air contaminant emissions, the relative proportions of sources causing toxic air contaminant risk can be very different from those on a larger spatial scale, for example at the census tract, county or state level. In other air quality programs, DEQ and LRAPA continue to work on the larger scale exposure risks from ubiquitous non industrial sources. Cleaner Air Oregon gave LRAPA a regulatory tool to address localized health risks from toxic air contaminants, and industrial emissions reductions will also contribute to area-wide reductions in air toxics.

In this analysis it is not possible to predict the total reduced medical costs that would result from the proposed rules for the reasons noted above. However, it is possible to describe the range of health outcomes associated with toxic air contaminants currently emitted in Oregon and to describe the economic burden of medical treatment for a subset of those health effects. This section also points to national analyses that estimate the fraction of certain diseases that are due to environmental exposures.

Health effects caused by toxic air contaminants commonly emitted by facilities in Oregon

DEQ and OHA summarized the health effects associated with 15 of the toxic air contaminants to be regulated under Cleaner Air Oregon. This information is summarized in Table 9 below. This summary illustrates the range of health effects that may be caused by this small subset of 15 toxic air contaminants. Many more of the toxic air contaminants to be regulated under Cleaner Air Oregon are associated with these and other health effects.

Table 9	
Examples of health effects associated with a subset of 15 toxic air contaminants	
Type of Toxicity	Toxic air contaminants associated with these health outcomes
Respiratory Effects Includes asthma and asthma symptoms (difficulty breathing, shortness of breath, coughing, wheezing, chest pain), reduced lung function, respiratory irritation, and other respiratory conditions	formaldehyde*, cobalt*, hexavalent chromium*, cadmium*, chlorine*, acrolein*, hydrogen fluoride*, naphthalene*, PAHs, manganese, arsenic
Cancer includes lung, respiratory, leukemia, lymphoma, liver, kidney and gastrointestinal cancers	arsenic*, hexavalent chromium*, cadmium*, formaldehyde*, PAHs*, benzene*, trichloroethylene*, lead*, dioxins*, naphthalene*
Heart Disease includes hypertension, arrhythmia, heart attack	arsenic, PAHs, lead, acrolein, hydrogen fluoride
Kidney Function includes reduced kidney function, kidney stones	cadmium*, lead, trichloroethylene, hydrogen fluoride
Liver Disease includes reduced liver function, fatty liver disease	dioxin*, trichloroethylene, hydrogen fluoride
Neurological Effects includes effects on motor function, balance, vision, hearing, cognition, memory, anxiety, focus or behavior following exposure as an adult or during brain development	lead*, arsenic*, manganese*, cadmium, PAHs, benzene, trichloroethylene, formaldehyde, cobalt
Fetal Development includes low birth weight, pre-term birth, miscarriage, and birth defects following exposure to mothers during pregnancy	arsenic*, PAHs*, trichloroethylene*, formaldehyde, cadmium, benzene, trichloroethylene, lead, dioxins
Impaired Fertility includes damage to male or female reproductive organs, reduced sperm counts, altered sex hormones, and infertility	manganese, PAHs, hexavalent chromium, dioxins, trichloroethylene
Blood Regulation includes impaired bone marrow function, anemia	benzene*, lead, naphthalene, cobalt

Table 9	
Examples of health effects associated with a subset of 15 toxic air contaminants	
Type of Toxicity	Toxic air contaminants associated with these health outcomes
Immune Function includes allergic responses, reduced immune function	trichloroethylene*, benzene*, dioxins, PAHs

*For these chemicals, the associated health effect serves as the basis for Risk Action Levels proposed in Cleaner Air Oregon. Inclusion of all other chemicals is based on studies referenced in EPA, ATSDR, or OEHHA documents. The magnitude of and certainty around these associations varies.⁵

Information needed to quantify economic impact of health improvements

Oregon currently lacks the data necessary to quantify total potential health cost savings from Cleaner Air Oregon because of the lack of information about how many people are exposed to specific concentrations of industrial and commercial toxic air contaminant emissions and the relative actual contribution of toxic air contaminants to disease. Just as a lack of information about individual facility risk assessment and emission reduction outcomes prevents LRAPA, DEQ and OHA from quantifying specific fiscal impacts to businesses, a lack of health information also prevents LRAPA and DEQ from quantifying specific positive fiscal impacts from potential Cleaner Air Oregon emission reductions. The health impact of reducing emissions depends on the specific chemicals that are being reduced, the health risks those chemicals influence, the relationship between exposure and health, and the extent to which emissions are reduced. Defining the economic impact of improved health further requires knowledge of the portion of cases that are related to toxic air contaminant exposures, prevalence of health outcomes in the state, and the cost of medical treatment for each case.

Included with the compliance cost analysis submitted by Oregonians for Fair Air Regulations was an analysis of the health benefits of CAO. The submittal during the first public comment period, prepared for OFAR by Maul Foster Alongi, attempted to quantify an upper bound for potential health benefits of CAO, using information about asthma, cancer and cardiovascular disease and assumptions about the proportion of those diseases caused by pollution from emissions sources that would be subject to CAO. DEQ and OHA reviewed and considered the

⁵ EPA Integrated Risk Information System. <https://www.epa.gov/iris>
 ATSDR Toxic Substances Portal. <https://www.atsdr.cdc.gov/toxprofiles/index.asp>
 California Office of Environmental Health Hazard Assessment. Air Toxics Hot Spots Program Technical Support Document for the Derivation of Noncancer Reference Exposure Levels. Dec, 2008
<https://oehha.ca.gov/air/crn/notice-adoption-air-toxics-hot-spots-program-technical-support-document-derivationadoption-air-toxics-hot-spots-program-technical-support-document-derivation>

methods and conclusions of their analysis. The agencies concluded that there was not sufficient evidence to support several of the fundamental assumptions of MFA's calculations. More information can be found in the response to the public comment category "Fiscal impacts – Sufficiency of fiscal impact statement". The updated MFA analysis submitted during the second public comment period did not attempt to quantify the potential health benefits.

As described above, DEQ and OHA believe that multiple data gaps would need to be filled in order to accurately quantify potential health benefits of CAO at this time. However, we have presented information about what is known, including known data gaps, in the sections below.

Table 10 summarizes data limitations for the different types of information that would be necessary to assess health effects.

Table 10	
Availability of Data Needed to Quantify Economic Impact of Health Improvements	
Information Type	Current availability of data
Health risks associated with each chemical	Some chemicals are well characterized, while toxicity data is missing or incomplete for others. There is some information about toxicity for all chemicals with proposed RBCs. The amount of information and level of certainty around the association with health effects varies.
Relationship between exposure and health	Even when health effects are identified, it can be difficult to quantify the amount of risk expected at a specific level of exposure; This relationship is well characterized for some chemicals and not available for others. While there is evidence that multiple chemicals may interact to affect health, there is little information to quantify these effects. This makes it difficult to evaluate the cumulative health impact of reducing exposure to multiple toxic air contaminants.
Level of current exposure	Information from existing LRAPA air permits and EPA's National Air Toxics Assessment provide some information on potential exposures, but these do not cover all sources of industrial toxic air contaminants. The emissions inventory will help provide a clearer picture of current potential exposures once it is complete. As CAO is implemented and facilities perform risk assessments in the course of the new permitting process, we will have a more accurate picture of emissions.
Percent of each health outcome that is attributable to toxic air contaminants	This is determined based on what we know about the relationship between exposure and effect, the extent to which exposure to each chemical occurs, and the extent to which other factors are known to contribute to health risk. Previous analyses of the environmental contribution to disease have weighed these factors to identify the percent of each health outcome that is due to an environmental exposure. This is referred to as the "environmentally attributable fraction". Typically, this is presented as a range rather than a specific percentage to demonstrate the extent of uncertainty around each estimate. Existing estimates for "environmentally attributable fractions" of specific diseases have been designed for smog-producing chemicals and are generally not directly applicable to the set of chemicals covered in Cleaner Air Oregon

Table 10	
Availability of Data Needed to Quantify Economic Impact of Health Improvements	
Information Type	Current availability of data
Prevalence of each health outcome in Oregon	OHA tracks incidence of several health outcomes that may be impacted by toxic air contaminants, including cancer, adverse birth outcomes, asthma, and heart disease. Baseline data is not as readily available for conditions related to brain development, neurological outcomes, infertility, allergy, immunity, and other health outcomes that may be impacted by toxic air contaminants but are not conditions health care providers must report under current public health rules.
Economic burden of each case of illness	Economic costs can be measured in different ways. Some estimates focus on direct medical costs of disease. Others account for indirect costs such as missed days of work and school. For some health outcomes metrics of different types have been established by the CDC or in published literature, while for other health outcomes data on economic burden is less easily accessible. In addition, social costs of illness such as social isolation, time spent by unpaid caretakers, and emotional burden of premature death are important to consider but difficult to quantify.
Predicted reduction in exposure	This will depend on which facilities are included in the first tier of implementation and which toxic air contaminants they emit. Without complete information on current emissions, it is difficult to know how much emissions of each air toxic will be reduced in order to bring facilities into compliance

Costs of chronic diseases in Oregon

Toxic air contaminants included in Cleaner Air Oregon are associated with increased risk of four of the top five leading causes of death in Oregon (heart disease, stroke, respiratory disease, and cancer).⁶ LRAPA, DEQ and OHA don't know what portion of these may be attributable to industrial and commercial toxic air contaminants, but data clearly show that chronic diseases have a substantial social and economic impact in Oregon. OHA uses Center for Disease Control and Prevention data to estimate the cost of certain chronic diseases in Oregon. If even a small fraction of these chronic health outcomes is attributable to toxic air contaminants, reducing emissions could prevent substantial health costs in addition to human suffering. The total estimated costs of chronic diseases tracked in Oregon are summarized in Table 11.

⁶ OHA. 2016. Leading Causes of Death
<http://public.health.oregon.gov/ProviderPartnerResources/PublicHealthAccreditation/Documents/indicators/leading-causesofdeath.pdf>)

<p style="text-align: center;">Table 11</p> <p style="text-align: center;">Total Estimated Cost of Chronic Diseases that are Tracked in Oregon</p>				
Health Outcome	Description	Average Annual Cost of Each Case	Estimated Annual Medical Costs in Oregon ^A	Examples of toxic air contaminants that may contribute to health risk
Asthma	Estimates include adults and children	\$2,740	\$411 million	formaldehyde, cobalt, hexavalent chromium, cadmium, PAHs, manganese, arsenic
Cancer	Estimates are based on adult cancer treatment only	\$11,410	\$1.9 billion	arsenic, hexavalent chromium, cadmium, formaldehyde, PAHs, benzene, trichloroethylene, lead, dioxins, naphthalene
Cardiovascular disease	Estimates are for adults only and include hypertension, stroke, coronary heart disease, congestive heart failure, and other heart disease	\$2,220-\$16,760 (disease-specific)	\$3.6 billion ^B	arsenic, PAHs, lead, acrolein, hydrogen fluoride

^A Calculated using the CDC Chronic Disease Cost Calculator ⁷ based on 2008 prevalence and cost statistics and 2010 census data. Estimates are limited to medical expenditures and do not include indirect costs such as missed days of work and school.

^B This cost estimate integrates costs of all cardiovascular disease without double counting costs of treatments for comorbid cardiovascular conditions.

⁷ OHA, 2010. Estimated medical treatment costs of chronic diseases, Oregon 2010. http://www.oregon.gov/oha/PH/DISEASES/CONDITIONS/CHRONICDISEASE/DATAREPORTS/Documents/datatables/CDCC_2010.pdf

Oregon Health Authority also tracks cases of pre-term birth, low birth weight, miscarriage, and some birth defects. There are no existing estimates of the direct medical costs associated with these adverse birth outcomes in Oregon, but there is potential for substantial economic and social impact. The total incidence of selected adverse birth outcomes in Oregon are summarized in Table 12. While several toxic air contaminants are associated with increased risk for these adverse birth outcomes, the portion of cases attributable to exposure to toxic air contaminants is unknown.

Table 12			
Adverse Birth Outcomes in Oregon			
Health outcome	Total number of pregnancies impacted by each health outcome in OR 2009-2013 ^A	Potential Economic and Social Costs	Examples of toxic air contaminants that may contribute to health risk
Low birth weight ^B	14,239	Costs depend on degree of prematurity/weight but can include direct medical costs associated with neonatal ICU treatment, increased risk of neonatal infections, increased risk of developmental disabilities, predisposition to disease later in life, parental stress, and costs of parents' missed days of work.	arsenic, PAHs, formaldehyde, cadmium, benzene, trichloroethylene
Pre-term birth ^C	17,442	Costs depend on degree of prematurity/weight but can include direct medical costs associated with neonatal ICU treatment, increased risk of neonatal infections, increased risk of developmental disabilities, predisposition to disease later in life, parental stress, and costs of parents' missed days of work.	lead, formaldehyde
Miscarriage ^D	978	Costs include direct medical costs, genetic testing/placental virus testing to determine the cause, parents' missed days of work, and emotional trauma to parents.	PAHs, lead, formaldehyde, arsenic, dioxins, trichloroethylene

<p align="center">Table 12</p> <p align="center">Adverse Birth Outcomes in Oregon</p>			
Health outcome	Total number of pregnancies impacted by each health outcome in OR 2009-2013 ^A	Potential Economic and Social Costs	Examples of toxic air contaminants that may contribute to health risk
Birth anomalies ^E	2,831	Costs are highly variable depending on the type and severity of the anomaly, but may include neonatal surgery, follow-up surgeries and medical costs throughout childhood and into adulthood, long-term disability, parents' missed days of work, and stress to families	dioxins, arsenic, trichloroethylene, benzene

^A There were 228,115 total live births in Oregon 2009-2013.

^B <2500 grams birth weight. Source: Vital records

^C <36 weeks' gestation at birth. Source: Vital records

^D Fetal deaths at or after 20 weeks of gestation. Any spontaneous pregnancy losses earlier in gestation are not recorded. Source: Oregon Vital Records

<http://www.oregon.gov/oha/PH/BIRTHDEATHCERTIFICATES/VITALSTATISTICS/Pages/index.aspx>

^E Birth anomaly numbers are limited to cases of 12 "core" birth anomalies that have been tracked historically in the Oregon Birth Anomalies Surveillance System (anencephalus, cleft lip alone, cleft palate, gastroschisis, hypoplastic left heart syndrome, hypospadias, limb deficiencies, spina bifida, tetralogy of fallot, transposition of the great arteries, and trisomy 21). Oregon has recently started tracking a broader set of birth anomalies but data are not yet available. National Birth Defects Prevention Network, 2016 https://www.nbdpn.org/docs/bdra23587-sup-0001-supinfo01_2016DEC16.pdf

Estimates of the portion of health effects caused by pollution

Several analyses have estimated the portion of a given disease that is attributable to environmental exposures. Because there is often uncertainty around the complex ways that genes, nutrition, social factors, behavior, and chemical exposures interact to influence health, the environmentally attributable fraction is often presented as a range rather than a specific number.

These estimates of the environmentally attributable fraction are not specific to the set of toxic air contaminants included in Cleaner Air Oregon. Therefore, these numbers cannot be directly applied to estimate the contribution of toxic air contaminants to health risks in

Oregon. Rather, they provide an indication of the potential magnitude of the contribution of pollution to disease. The most comprehensive assessment of the contribution of pollution to disease is a 2002 study drawing on 1997 data (dollar figures are 1997 dollars). The findings are summarized below.

- Asthma. Researchers estimate that 10-30% of asthma is attributable to outdoor air pollution (including both industrial and non-industrial sources). The yearly fraction of asthma cases that could be attributed to environmental factors cost the US between \$0.7 and \$2.3 billion. These cost estimates account for direct medical costs and lost productivity due to asthma-related premature deaths.⁸
- Cancer. Researchers estimate that between 2-10% of childhood cancer is attributable to environmental factors, accounting for nationwide costs ranging from \$132-663 million a year. These cost estimates account for direct medical costs, costs associated with secondary cancers, lost productivity associated with treatments and premature death.⁵
- Neurodevelopmental disorders. Researchers estimate that 5-20% of neurodevelopmental disorders such as ADHD, autism, and mental retardation may be attributable to environmental factors (excluding lead which was considered separately), costing the US between \$4.6-18.4 billion a year. Cost estimates in this study were based on direct costs of medical care, long-term care, and lost productivity.⁵ Another study estimated that developmental delays caused by exposure to polycyclic aromatic hydrocarbons in New York City alone cost \$13.7 million.⁹
- Lead Poisoning. Researchers estimated that the total cost of childhood lead poisoning in the US was 43.4 billion yearly. All cases of lead poisoning are attributed to lead exposure, but the relative contribution of different sources of exposure to lead is not well established.

Living near industrial and commercial sites is associated with increased risk of illness

Several national studies, most published in the past five years, have found that living near industrial and commercial sites increases risk for several health conditions that are common in Oregon. The specific health impacts that are observed depend on the kinds of chemicals industries are using. Taken together, these studies suggest that reducing industrial and commercial exposure to toxic air contaminants could improve health.

- Mortality. A national study found that counties with higher rates of toxic air and water emissions also had increased rates of adjusted mortality.¹⁰

⁸ Landrigan PJ, Schechter CB, Lipton JM, Fahs MC, Schwartz J. Environmental pollutants and disease in American children: estimates of morbidity, mortality, and costs for lead poisoning, asthma, cancer, and developmental disabilities. *Environ Health Perspect.* 2002 Jul;110(7):721-8

⁹ Weiland K, Neidell M, Rauh V, Perera F. Cost of developmental delay from prenatal exposure to airborne polycyclic aromatic hydrocarbons. *J Health Care Poor Underserved.* 2011 Feb;22(1):320-9. doi: 10.1353/hpu.2011.0012

¹⁰ Hendryx M, Fedorko E. The relationship between toxics release inventory discharges and mortality rates in rural and urban areas of the United States. *J Rural Health.* 2011 Winter;27(4):358-66. doi: 10.1111/j.1748-0361.2011.00367.x

- Cardiovascular disease. A national study found that counties with higher emissions of carcinogens, metals, or hazardous air pollutants saw significantly higher rates of mortality from cardiovascular disease.¹¹
- Autism. A national study found that children living close to industrial and commercial facilities releasing arsenic, lead or mercury into the air are significantly more likely to be diagnosed with autism spectrum disorder.¹²
- Asthma. A nationwide evaluation of National Air Toxics Assessment data performed by CDC scientists found a correlation between modeled acrolein exposure and prevalence of asthma attacks in census tracts across the US.¹³
- Cancer. A national study found that living close to industrial and commercial facilities releasing chemicals known to cause cancer is associated with significantly higher rates of cancer hospitalizations. The authors estimated that in 2009, excess cancer risk associated with these industrial and commercial exposures cost an estimated \$902.8 million in treatment costs.¹⁴

Improved air quality can improve public health

There are several examples of clear public health improvements observed in response to improvements in air quality:

- In Southern California, air pollution control efforts were accompanied by meaningful improvements in children's respiratory health. As air quality improved, the percent of children with decreased lung function was cut in half,¹⁵ and children with asthma were 30% less likely to experience symptoms of bronchitis.¹⁶
- The temporary closure of a steel mill in Utah Valley was linked to temporary improvements in birth outcomes and respiratory health. One study found that rates of premature birth were significantly lower among women who were pregnant while the mill was closed than among women who were pregnant before or after the closure.¹⁷ Another study found that children's

¹¹ Hendryx M, Luo J, Chen BC. Total and cardiovascular mortality rates in relation to discharges from Toxics Release Inventory sites in the United States. *Environ Res.* 2014 Aug;133:36-41. doi: 10.1016/j.envres.2014.05.010.

¹² Dickerson AS, Rahbar MH, Han I, Bakian AV, Bilder DA, Harrington RA, Pettygrove S, Durkin M, Kirby RS, Wingate MS, Tian LH, Zahorodny WM, Pearson DA, Moyé LA 3rd, Baio J. Autism spectrum disorder prevalence and proximity to industrial facilities releasing arsenic, lead or mercury. *Sci Total Environ.* 2015 Dec 1;536:245- 51. doi: 10.1016/j.scitotenv.2015.07.024.

¹³ deCastro BR. Acrolein and asthma attack prevalence in a representative sample of the United States adult population 2000-2009. *PLoS One.* 2014 May 9;9(5):e96926. doi: 10.1371/journal.pone.0096926. eCollection 2014.

¹⁴ Hendryx M, Luo J. Cancer hospitalizations in rural-urban areas in relation to carcinogenic discharges from Toxics Release Inventory facilities. *Int J Environ Health Res.* 2013;23(2):155-69. doi: 10.1080/09603123.2012.708919

¹⁵ Gauderman WJ, Urman R, Avol E, Berhane K, McConnell R, Rappaport E, Chang R, Lurmann F, Gilliland F. Association of improved air quality with lung development in children. *N Engl J Med.* 2015 Mar 5;372(10):905-13. doi: 10.1056/NEJMoa1414123

¹⁶ Berhane K, Chang CC, McConnell R, Gauderman WJ, Avol E, Rapaport E, Urman R, Lurmann F, Gilliland F. Association of Changes in Air Quality With Bronchitic Symptoms in Children in California, 1993-2012. *JAMA.* 2016 Apr 12;315(14):1491-501. doi: 10.1001/jama.2016.3444.

¹⁷ Parker JD, Mendola P, Woodruff TJ. Preterm birth after the Utah Valley Steel Mill closure: a natural experiment. *Epidemiology.* 2008 Nov;19(6):820-3. doi: 10.1097/EDE.0b013e3181883d5d.

hospital admissions for pneumonia, bronchitis and asthma were two to three times higher when the mill was opened than when it was closed.¹⁸

- Federal regulations on leaded gasoline resulted in a dramatic decrease in blood lead levels in children across the country.¹⁹ The Center for Disease Control and Prevention has concluded that there is no safe level of lead exposure due to its impacts on brain development. Because lead exposure comes from many sources, scientists were not sure of the extent to which lead from paint and gasoline were responsible for high blood lead levels in children until they were able to observe the effect of these regulations.

Other considerations

In attempting to estimate the economic and health burden of toxic air contaminant emissions in Oregon, there are several additional points worth considering:

- A portion of the health costs of toxic air contaminant emissions are currently externalized. People who are not employed by a facility, but who live, go to school, or work near a facility emitting pollutants above proposed Risk Action Levels may bear the health burden of pollution exposure without experiencing the economic benefit a facility may have from exceeding Risk Action Levels.
- Many of the broader social costs of disease are particularly difficult to quantify. For example, indirect costs of asthma hospitalization include missed days of work and school; indirect costs of neurodevelopmental delays include lost lifetime earning potential, social isolation, and caregiver time; indirect costs of fetal heart malformation often include increased risk of secondary health effects.
- Risk-based toxic air contaminant permitting regulations could also significantly improve the health of workers, resulting in lower health care costs and more productive workers. Workplace exposure standards are typically not entirely health-based.

Negative impacts on the public

The proposed rules could have negative economic effects on the public if facilities providing jobs and contributing to local economies were to curtail production or close in response to regulatory requirements. LRAPA, DEQ and OHA recognize that employment plays a key role in public health, and that negative economic impacts through job loss could occur despite proposed provisions to allow business flexibility and decrease the chances of business closures or employee layoffs in direct response to regulations.

Some of the same provisions that mitigate impacts on small businesses can potentially mitigate public impacts from lower employment. Under the draft rules, facilities above Risk Action

¹⁸ Pope CA 3rd. Respiratory disease associated with community air pollution and a steel mill, Utah Valley. Am J Public Health. 1989 May;79(5):623-8.

¹⁹ EPA, History of Reducing Air Pollution from Transportation in the United States <https://www.epa.gov/air-pollution-transportation/accomplishments-and-success-air-pollution-transportation>

Levels may wait for effective control technologies to develop if none are available at the time of permitting, unless their risk is above the Risk Reduction Level. Facilities demonstrating a lack of financial ability to install the needed controls at the time required could postpone installation of controls to reduce risk. The proposed tiered implementation will delay potential impacts to many facilities. However, business decisions are influenced by many factors, and LRAPA therefore lacks information to predict specific potential impacts to employment that would adversely affect the public.

The proposed rules could affect the public indirectly if businesses alter the price of goods and services in response to increased base or activity permit fees or the cost to comply with Cleaner Air Oregon rules. DEQ and LRAPA expect any such price increases to be small, but lacks available information to estimate potential increases accurately.

Citizens may also be impacted by the need to participate in public meetings, including time to research and understand potential toxic air contaminant health concerns and risk assessment and permitting issues, and time spent preparing communications and attending meetings. LRAPA is not able to quantify the time and fiscal impact on public process participants, but recognizes that time spent may impact members of the public and require time away from work, childcare, travel or other expenses.

Impacts on the environmental services sector

The direct cost of complying with regulations can result in increased employment in the environmental services sector. For example, an environmental regulation could mean more jobs for those engaged in environmental consulting and pollution abatement. Further, it is possible that regulations may produce more labor-intensive production processes. Studies of national air quality regulations have shown positive effects on overall economic health. The Clean Air Act's public health safeguards encourage technology investments that can have positive economic effects on the public.

General impacts to businesses from environmental regulations

Although in the short term new environmental regulations can have some positive and negative impacts on employment in different sectors, studies indicate that those impacts are limited and that the overall effect of environmental regulations on reported job shift events are extremely minor compared to other factors, such as overall economic growth, business cycles, and changes in technology.²⁰

A peer-reviewed study by economists at Resources for the Future, a nonpartisan Washington, D.C. think tank, examined the impact of environmental compliance costs on employment in four regulated industries (pulp and paper, refining, iron and steel, and plastics). They concluded that increased environmental spending generally does not cause a significant change in employment.²¹ Another peer-reviewed study published in the Journal of Public Economics found no evidence that stringent

²⁰ http://econweb.ucsd.edu/~elib/berman_bui2001

²¹ https://www.epa.gov/clean-air-act-overview/clean-air-act-and-economy#_edn10

local air quality regulation substantially reduced employment in the Los Angeles basin over a 13-year period of “sharply increased” regulation.

Fiscal Advisory Committee

DEQ appointed a fiscal advisory committee for help with the development of the Cleaner Air Oregon toxic air contaminant permitting program and review of this fiscal impact statement, which describes the fiscal and economic impacts of the May 2018 second draft of the Cleaner Air Oregon proposed rules. The committee included representatives from Lane County, including health, business, county government and public representatives. DEQ convened the fiscal advisory committee on May 9, 2018 to ask for the committee's input and recommendations on fiscal impact issues stated in ORS 183.333:

- Whether the proposed rules would have a fiscal impact,
- The extent of the impact, and
- Whether the proposed rules would have a significant adverse impact on small businesses; if so, then how DEQ can comply with ORS 183.540 to reduce that impact.

DEQ sought comments and discussion on the entire fiscal impact analysis, not just the changes made since the first fiscal impact analysis was reviewed in August 2017. However, much of the May 9, 2018 discussion focused on changes, since most members had familiarity with and a previous opportunity to comment on the first fiscal analysis. Advisory committee members had the opportunity to submit additional written comments on the draft fiscal statement until May 30, 2018.

Would the draft rule have a fiscal impact?

The committee reviewed the draft fiscal and economic impact statement and no committee members objected to DEQ's finding that there would be a fiscal impact to businesses. One member stated that there would be significant costs to large businesses and businesses of any size.

What would the extent of the impact be?

Pollution Control Costs

Some committee members noted that DEQ had improved the detail in the pollution control equipment cost table but indicated that costs to business could be larger than the ranges included in the draft fiscal impact statement.

One member recommended inclusion of costs that DEQ estimated between 2006 and 2009 for mercury and regional haze control at Oregon's one coal-fired power plant in Boardman, Oregon. A description of pollution control equipment costs for wet and semi dry scrubbers with mercury controls for that facility is now included in Table 8. However, the Boardman coal-fired power plant is mandated by rule to close in 2020, and Oregon statutes phasing out coal-fired power mean that new coal-fired power plants in Oregon (with attendant high pollution control costs) are unlikely.

Fees

Committee members discussed the then-proposed Cleaner Air Oregon base and activity fees. Fees would be a significant part of the cost of the program from an industry perspective.

Members asked whether, if a facility submitted TBACT determinations for multiple identical units, DEQ (and LRAPA) would charge multiple TBACT determination activity fees. In response, DEQ has added language to the proposed rules to allow one TBACT/TLAER activity fee to be charged if there were multiple similar emission units with the same pollution control device. The draft rules also state that if one emission unit required two different pollution control devices because it emitted different types of toxic air contaminants, then two TBACT/TLAER fees could be charged.

Members also asked whether DEQ had analyzed the differences between fees proposed for the first public comment period and those in the currently proposed rules. DEQ added and removed several fees. Table 13 below illustrates the LRAPA currently proposed fees, compared to those proposed during the first public comment period, for several hypothetical facility scenarios. These are identical to the fees adopted by the EQC. The committee was also interested in what percentages of program costs are covered by base vs. activity fees. DEQ added that information to the fee analysis section of the public notice.

Members discussed the then-proposed source test review fee of \$5,900, asking if it would be the same for Title V facilities and smaller facilities, and whether it would be a one-time charge for one test or multiple charges for multiple tests. In written comments, one member requested that if a source is conducting multiple source tests that it only be charged one fee. Some felt that this fee level would be a very large burden for a small facility. DEQ explained that in the current permitting program there is no source test fee and there is a backlog of source tests to review for the 1.5 FTE assigned to this task. LRAPA also has a current backlog of source tests to review for the approximately 0.4 FTE assigned to this task. To ensure adequate resources for source test review in Cleaner Air Oregon, DEQ proposed a separate fee that was included in the rules adopted by the EQC.

To mitigate impacts to both large and small businesses, DEQ created separate tiers for the source test fee, for complex (\$6,000) reviews of multiple emission units and toxic air contaminants, moderate (\$4,200) reviews for a single emission unit with multiple toxic air contaminant test methods, and simple (\$1,400) source tests for single emission units with a single toxic air contaminant test method. Smaller facilities may have less complex source testing, and if so, this change would reduce the economic burden from this fee. LRAPA proposes to adopt these same tiers.

A member also stated that it would be clearer to call this fee a stack test fee rather than a source test fee. DEQ and LRAPA opted to maintain the language “source test fee” because while many facilities would be source testing emission stacks, some would be source testing other emission points within their processes.

Members asked about the potential extent of community engagement, especially in areas with fewer public participants where costs could be lower. Some stated that the community engagement fee should be lower because it should only cover the cost of notifying people of a meeting and holding the meeting. Others commented that the \$10,800 community engagement fee is appropriate for all levels of permit, as it will serve as an incentive for pollution reduction. In setting public meeting fees DEQ sought to arrive at an average amount estimated to run public meetings. Some will likely require more resources and others will likely require less. Another member commented that the proposed 1.5 kilometer distance for public notification is unnecessarily large and a less costly process would be to limit notification to areas impacted by a facility’s emissions. DEQ and LRAPA have

declined to make this change in regulations because source modeling generally shows that 1.5 km is the distance from facilities at which the concentrations fall off sharply. In addition, community notification on a scale smaller than 1.5 kilometers may be ineffective to engage members of the community who may be impacted and interested.

**Table 13
Cleaner Air Oregon Specific Activity Fee Examples**

Example	Call-In Fee	Risk Assessment Fee	Risk Reduction or Ambient Monitoring Fee	TBACT Fee	Community Engagement Fee	Incomplete Application or Postponement of Risk Reduction Fee	Total
Examples for Facilities Applying for CAO Toxic Air Contaminant Permit Addendums							
An existing facility with a General ACDP permit performs a Level 2 Risk Assessment using AERSCREEN and can screen out below Risk Action Levels as de minimis	\$500	\$2,000	NA	NA	NA	NA	\$2,250
An existing facility with a Title V permit performs a Level 3 Risk Assessment using AERMOD and can screen out below Source Permit Levels as de minimis	\$10,000	\$8,800	NA	NA	NA	NA	\$18,800
An existing facility with a Title V permit performs a Level 3 Risk Assessment using AERMOD, is above de minimis and is permitted to stay below the TBACT Level	\$10,000	\$19,900	NA	NA	\$8,000	NA	\$37,900
An existing facility with a Standard ACDP permit performs a Level 4 Risk Assessment and applies for a Risk Reduction Plan that requires 1 TBACT determination, but submits an incomplete application and LRAPA must modify application	\$10,000	\$25,800	\$6,700	\$3,000	\$8,000	\$2,500	\$56,000
An existing facility with a Title V permit performs a Level 4 Risk Assessment and has TBACT on 3 TEUs but requests postponement of risk reduction on 1 TEU	\$10,000	\$34,600	NA	\$12,000	\$8,000	\$4,400	\$69,000

**Table 13
Cleaner Air Oregon Specific Activity Fee Examples**

Example	Call-In Fee	Risk Assessment Fee	Risk Reduction or Ambient Monitoring Fee	TBACT Fee	Community Engagement Fee	Incomplete Application or Postponement of Risk Reduction Fee	Total
Examples for Facilities Applying for CAO Toxic Air Contaminant Permit Addendums							
An existing facility with a Standard ACDP permit requests ambient monitoring plan option at Level 4	\$10,000	\$25,800	\$25,900	NA	\$8,000	NA	\$69,700
Examples for Facilities with Existing CAO Toxic Air Contaminant Permit Addendums							
An existing facility with a Simple ACDP requests approval of one new de minimis TEU. Potential risk stays below Risk Action Level. Already has Toxic Air Contaminant Permit Addendum (no modeling required).	NA	\$500	NA	NA	NA	NA	\$500
An existing facility with a Standard ACDP requests approval of two new TEUs that require a permit modification but potential risk stays below Risk Action Level. Already has Toxic Air Contaminant Permit Addendum (no modeling required).	NA	\$8,000	NA	NA	NA	NA	\$8,000

Would the draft rules have a significant adverse impact on small businesses, and if so, what are recommendations for potential mitigation?

After discussing potential economic impacts to small businesses and the process of reviewing DEQ's fiscal impact statement, the facilitator polled the committee to determine how many members thought that Cleaner Air Oregon could cause a significant adverse economic impact on small businesses. Out of the 17 members and 2 co-chairs present, eleven indicated that the draft rules could cause a significant impact on small business, seven abstained, and one did not indicate a significant impact. Several members commented on the difficulty of answering fiscal impact questions.

The committee proceeded to discuss the types of economic impacts and potential mitigation measures. One member stated in their written comments that economic mitigation measures and off ramps should not be available to small businesses posing significant health risk. Others noted that innovative ideas for mitigation of small business impacts could help more facilities move past the need for the financial hardship or postponement of risk reduction process. DEQ noted the challenges of determining economic impacts because levels of risk and response actions are not yet known.

DEQ summarized the then-proposed rule options for the mitigation of economic impact on small businesses. At the time of the August 2018 fiscal committee meeting these included:

- Higher risk action levels that would cause more facilities to screen out or have less stringent requirements to reduce emissions
- Tiered implementation of the program which would delay regulatory costs for most smaller businesses
- Additional time for compliance with risk levels through extensions and postponement proposals
- DEQ doing level 1 risk assessments for sources on General and Basic Air Contaminant Discharge Permits
- Process to allow postponement of risk reduction requirements based on financial hardship
- DEQ and OHA staff positions for technical assistance

A member commented that since there is no indication that fees can be waived or reduced for small businesses, there would be a logical assumption that fees would impact smaller businesses more greatly than they would impact larger businesses. Several members agreed that there could be a significant economic impact on small businesses operating on low profit margins. Another member said that the state is now proposing to require that people who put toxics in the environment assume some of the externalized costs for those actions.

A member with experience managing a colored art glass manufacturer noted that compliance with the colored art glass rules caused very significant impacts on those small businesses. They wanted to do everything right and it almost put them out of business. The cost of engineering and consultants was less than what it took to operate the pollution control equipment. Capital cost recovery will take over ten years with an aggressive payback schedule for the loan necessary to buy and install the

equipment. Normally the business would budget between 5 and 8 percent for maintenance of equipment, but for pollution control equipment, that should be increased to 20 to 22 percent annually of the cost of the original equipment.

The committee-generated options for small business mitigation followed by DEQ and LRAPA evaluation were as follows:

- Lower base fees for small business.
 - Cleaner Air Oregon base fees are a percentage of existing permit base fees. Smaller facilities with few emissions units are on General or Basic Air Contaminant Discharge Permits, with lower base fees so their CAO base fee would also be low.
- Include options for fee payment flexibility or installment payments.
 - LRAPA determined that there is existing authority and guidance available for sources who want to request a fee installment payment plan.
- Allowing small businesses of equal risk with large businesses to come later in the call in schedule.
 - General permittees are highly unlikely to pose significant health risk from emissions of air toxics, and if they do, LRAPA would propose changes to the overall general permits, rather than to each source to mitigate risk. However, DEQ and LRAPA have declined to categorically delay call in for other permitted small businesses that could pose significant health risk because this would prevent DEQ and/or LRAPA from achieving the intended public health protection purpose of these rules.
- Stage fees for small businesses to come at the most convenient times, earlier in the fiscal year is better (avoid the last fiscal quarter, line up with tax year.)
 - LRAPA plans to further consider implementation of this recommendation, which would not require any changes to Cleaner Air Oregon rules.
- Develop a mitigation program to directly assist small businesses. Set up small business assistance centers at universities. They could form a consortium and small businesses could pay a reduced fee and have their situation evaluated by students and professors.
 - In addition to providing technical assistance, DEQ and LRAPA plan to explore options for considering and involving universities and forming a consortium to assist small businesses with technical analysis and emission reduction actions.
- DEQ and LRAPA could help coordinate engineering and risk assessment support. Similar industries may be able to reuse each other's work. This would reduce time and cost for subsequent sources. Similar types of businesses will use similar types of designs. There could be leveraging of expertise and information by process components or source categories. To handle concerns about proprietary information and competition use non-disclosure agreements.
 - Similar to the recommendation on involving universities, DEQ and LRAPA plan to further explore this option to facilitate coordination and sharing of engineering and risk assessment information. In Lane County, this work would be led by the LRAPA Cleaner Air Oregon technical assistance position(s).

- Look into how loan programs or consolidation of loan opportunities could work for small businesses in Cleaner Air Oregon.
 - Through technical assistance and other resources, DEQ plans to further explore this recommendation for development of loan programs to small businesses impacted by Cleaner Air Oregon. LRAPA will evaluate a similar program or sources may be able to use DEQ's program.

- Use a model like the small business association to coordinate financing and funding. This could get some facilities off of the inability to pay list.
 - Through technical assistance and other resources, DEQ plans to further explore this recommendation for coordination of financing and funding for small businesses impacted by Cleaner Air Oregon. LRAPA will evaluate a similar program or sources may be able to use DEQ's program.

- Call in businesses at least 6 months in advance so they can work on their budgets and chart out their resources to get ready.
 - LRAPA will consider providing all businesses as much time as possible to respond to Cleaner Air Oregon requirements.

- Consider mitigation measures for new small businesses that will have the more stringent CAO new business risk action levels.
 - New small businesses will have the opportunity to design processes that meet the more stringent new source risk action levels, and LRAPA plans to provide technical assistance to these sources. However, DEQ and LRAPA have declined to categorically exempt small businesses from new source risk action levels because this would prevent DEQ and/or LRAPA from achieving the intended public health protection purpose of these rules.

Impacts on the Public

A member commented that proposed Cleaner Air Oregon regulations would have a positive economic impact on the public, providing more information, more certainty of conditions that could affect health, and a better assurance of health. It is important to measure health outcomes to make a real assessment of health impacts. Another member commented that the section on negative impacts on public health including potential effects on jobs appeared defensive because the description of impacts was followed directly by a description of factors that would mitigate economic impacts on business. A member asked whether employment is the only indicator of public health and DEQ clarified that it was not, the fiscal analysis contains a section discussing the potential relationships between reducing toxic air contaminants and disease. DEQ also noted that uncertainty exists in both impacts to businesses and impacts on the public.

Advisory committee members' comments are further summarized in written meeting minutes, and an audio recording of the meeting when they discussed the program's fiscal impact is also available upon request.

Housing cost

To comply with ORS 183.534, DEQ and LRAPA determined the then-proposed rules may have an effect on the development cost of a 6,000-square-foot parcel and construction of a 1,200-square-foot detached, single-family dwelling on that parcel. The costs of additional permits, pollution control or process equipment, and compliance could be passed through by businesses providing products and services for such development and construction. The possible impact of these proposed changes appears to be minimal. LRAPA cannot quantify the impact at this time because the available information does not indicate whether the costs would be passed on to consumers and any such estimate would be speculative.

Documents relied on for fiscal and economic impact

Document title	Document location
DEQ Air Contaminant Discharge Permits – OAR 340-216-8010 Table 1	https://secure.sos.state.or.us/oard/view.action?ruleNumber=340-216-8010
DEQ Staff Report to the EQC for the Cleaner Air Oregon rulemaking dated November 15, 2018	https://www.oregon.gov/deq/EQCdocs/11152018_ItemG_CAORreport.pdf
LRAPA Air Contaminant Discharge Permits – Title 37, Section 37-8010 Table 1: Activities and Sources	http://or-lanerapa.civicplus.com/DocumentCenter/View/264/Title-37---Table-1-PDF?bidId=
Air & Waste Management Association Fact Sheet: Air Pollution Emission Control Devices for Stationary Sources, April 2007	http://events.awma.org/files_original/ControlDevicesFactSheet07.pdf
EPA Air Pollution Control Cost Manual, Report No. 452/B-02-001, December 1995, Section 5, Chapter 1, SO ₂ and Acid Gas Controls	http://www.epa.gov/ttn/catc/dir1/cost_toc.pdf
EPA Air Pollution Control Cost Manual, Report No. 452/B-02-001, January 2002, Section 6, Chapter 1, Baghouses and Filters	http://www.epa.gov/ttn/catc/dir1/cost_toc.pdf
EPA Air Pollution Control Cost Manual, Report No. 452/B-02-001, September 1999, Section 6, Chapter 3, Electrostatic Precipitators	https://www3.epa.gov/ttn/ecas/docs/cs6ch3.pdf
EPA Health and Environmental Effects of Hazardous Air Pollutants	https://www.epa.gov/haps/health-and-environmental-effects-hazardous-air-pollutants
EPA Technical Bulletin Choosing an Adsorption System for VOC: Carbon, Zeolite, or Polymers? May 1999	https://www3.epa.gov/ttnecat1/cica/files/fadsorb.pdf
EPA Pollution Control Technology Fact Sheet Spray-Chamber/Spray-Tower Wet Scrubber, EPA-452/F-03-016	https://www3.epa.gov/ttnecat1/cica/files/fsprytwr.pdf
EPA Air Pollution Control Technology Fact Sheet Catalytic Incinerator, EPA-452/F-03-018	https://www3.epa.gov/ttnecat1/cica/files/fcataly.pdf
EPA Air Pollution Control Technology Fact Sheet Regenerative Incinerator, EPA-452/F-03-021	https://www3.epa.gov/ttnecat1/cica/files/fregen.pdf
EPA Air Pollution Control Technology Fact Sheet Thermal Incinerator, EPA-452/F-03-022	https://www3.epa.gov/ttnecat1/cica/files/ffthermal.pdf
EPA Air Pollution Control Technology Fact Sheet, Paper/Nonwoven Filter – High Efficiency Particle Air (HEPA) Filter, EPA-452/F-03-023	https://www3.epa.gov/ttnecat1/cica/files/ff-hepa.pdf
EPA Pollution Control Technology Fact Sheet Fabric Filter – Mechanical Shaker Cleaned Type, EPA-452/F-03-024	https://www3.epa.gov/ttnecat1/cica/files/ff-shaker.pdf

Document title	Document location
EPA Air Pollution Control Technology Fact Sheet Dry Electrostatic Precipitator (ESP) – Wire-Plate Type, EPA-452/F-03-028	https://www3.epa.gov/ttnecat1/cica/files/fdespwpl.pdf
EPA Air Pollution Control Technology Fact Sheet Permanent Total Enclosures (PTEs), EPA-452/F-03-033	https://www3.epa.gov/ttnecat1/cica/files/fpte.pdf
EPA The Clean Air Act and the Economy	https://www.epa.gov/clean-air-act-overview/clean-air-act-and-economy#economy
Analytical Components of the Benefits and Costs of the Clean Air Act 1990-2020, the Second Prospective Study	https://www.epa.gov/clean-air-act-overview/analytical-components-benefits-and-costs-clean-air-act-1990-2020-second
Air Toxics Case Study – Health Benefits of Benzene Reduction in Houston, 1990-2020	https://www.epa.gov/sites/production/files/2015-07/documents/812caaa_benzene_houston_final_report_july_2009.pdf
EPA AP-42, Chapter 12.20 Electroplating 07/1996	https://www3.epa.gov/ttnchie1/ap42/ch12/final/c12s20.pdf
EPA Integrated Risk Information System	https://www.epa.gov/iris
ATSDR Toxics Substances Portal	https://www.atsdr.cdc.gov/toxprofiles/index.asp
California Office of Environmental Health Hazard Assessment. Air Toxics Hot Spots Program Technical Support Document for the Derivation of Noncancer Reference Exposure Levels. Dec, 2008	https://oehha.ca.gov/air/crn/notice-adoption-air-toxics-hot-spots-program-technical-support-document-derivation
OHA. 2016. Leading Causes of Death	http://public.health.oregon.gov/ProviderPartnerResources/PublicHealthAccreditation/Documents/indicators/leadingcausesofdeath.pdf
OHA, 2010. Estimated medical treatment costs of chronic diseases, Oregon 2010.	http://www.oregon.gov/oha/PH/DISEASES/CONDITIONS/CHRONICDISEASE/DATAREPORTS/Documents/datatables/CDCC_2010.pdf
Oregon Vital Records	http://www.oregon.gov/oha/PH/BIRTHDEATHCERTIFICATES/VITALSTATISTICS/Pages/index.aspx
National Birth Defects Prevention Network, 2016	https://www.nbdpn.org/ar.php
Landrigan PJ, Schechter CB, Lipton JM, Fahs MC, Schwartz J. Environmental pollutants and disease in American children: estimates of morbidity, mortality, and costs for lead poisoning, asthma, cancer, and developmental disabilities.	Environ Health Perspect. 2002 Jul;110(7):721-8
Weiland K, Neidell M, Rauh V, Perera F. Cost of developmental delay from prenatal exposure to airborne polycyclic aromatic hydrocarbons.	J Health Care Poor Underserved. 2011 Feb;22(1):320-9. doi: 10.1353/hpu.2011.0012

Document title	Document location
Hendryx M, Fedorko E. The relationship between toxics release inventory discharges and mortality rates in rural and urban areas of the United States	J Rural Health. 2011 Winter;27(4):358-66. doi: 10.1111/j.1748-0361.2011.00367.x
Hendryx M, Luo J, Chen BC. Total and cardiovascular mortality rates in relation to discharges from Toxics Release Inventory sites in the United States.	Environ Res. 2014 Aug;133:36-41. doi: 10.1016/j.envres.2014.05.010.
Dickerson AS, Rahbar MH, Han I, Bakian AV, Bilder DA, Harrington RA, Pettygrove S, Durkin M, Kirby RS, Wingate MS, Tian LH, Zahorodny WM, Pearson DA, Moyé LA 3rd, Baio J. Autism spectrum disorder prevalence and proximity to industrial facilities releasing arsenic, lead or mercury.	Sci Total Environ. 2015 Dec 1;536:245- 51. doi: 10.1016/j.scitotenv.2015.07.024.
deCastro BR. Acrolein and asthma attack prevalence in a representative sample of the United States adult population 2000-2009.	PLoS One. 2014 May 9;9(5):e96926. doi: 10.1371/journal.pone.0096926. eCollection 2014.
Hendryx M, Luo J. Cancer hospitalizations in rural-urban areas in relation to carcinogenic discharges from Toxics Release Inventory facilities.	Int J Environ Health Res. 2013;23(2):155-69. doi: 10.1080/09603123.2012.708919
Gauderman WJ, Urman R, Avol E, Berhane K, McConnell R, Rappaport E, Chang R, Lurmann F, Gilliland F. Association of improved air quality with lung development in children.	N Engl J Med. 2015 Mar 5;372(10):905-13. doi: 10.1056/NEJMoa1414123
Berhane K, Chang CC, McConnell R, Gauderman WJ, Avol E, Rapapport E, Urman R, Lurmann F, Gilliland F. Association of Changes in Air Quality With Bronchitic Symptoms in Children in California, 1993-2012.	JAMA. 2016 Apr 12;315(14):1491-501. doi: 10.1001/jama.2016.3444.
Parker JD, Mendola P, Woodruff TJ. Preterm birth after the Utah Valley Steel Mill closure: a natural experiment.	Epidemiology. 2008 Nov;19(6):820-3. doi: 10.1097/EDE.0b013e3181883d5d.
Pope CA 3rd. Respiratory disease associated with community air pollution and a steel mill, Utah Valley.	Am J Public Health. 1989 May;79(5):623-8.
EPA, History of Reducing Air Pollution from Transportation in the United States	https://www.epa.gov/transportation-air-pollution-and-climate-change/accomplishments-and-success-air-pollution-transportation
Berman E, T.M. Bui L, Environmental regulation and labor demand: evidence from the South Coast Air Basin	http://econweb.ucsd.edu/~elib/berman_bui2001

Document title	Document location
The Clean Air Act and the Economy	https://www.epa.gov/clean-air-act-overview/clean-air-act-and-economy

Federal Relationship

ORS 183.332, 468A.327 and OAR 340-011-0029 require LRAPA to attempt to adopt rules that correspond with existing equivalent federal laws and rules unless there are reasons not to do so.

LRAPA is proposing fees for EQC-adopted rules that are in addition to federal requirements because regulatory gaps exist in the current rules. This has allowed for significant localized health risks from exposure to industrial and commercial emissions, and made clear the need to both improve the level of scientific knowledge about exposure and develop a systematic way to reduce risk from exposure. The rules adopted under Cleaner Air Oregon will allow LRAPA to continue to improve its knowledge and DEQ and OHA's knowledge about toxic air contaminant emissions from facilities. The EQC-adopted rules provide a predictable and science-based framework to better control toxic air contaminants with a focus on areas and facilities that may pose the highest risk to human health.

What alternatives did LRAPA consider if any?

In designing LRAPA's rule revisions to address the newly-adopted Cleaner Air Oregon rules, LRAPA is proposing to make changes identical to those adopted by the EQC so businesses can expect definitions, fees, enforcement procedures, and public participation requirements in LRAPA rules that are consistent with DEQ rules.

(<http://www.oregon.gov/deq/Regulations/rulemaking/Pages/Rcleanerair2017.aspx>)

Land Use

In adopting new or amended rules, ORS 197.180 and OAR 340-018-0070 require LRAPA to determine whether the proposed rules would significantly affect land use. If so, LRAPA must explain how the proposed rules would comply with statewide land use planning goals and local acknowledged comprehensive plans.

Under OAR 660-030-0005 and OAR 340 Division 18, DEQ considers rules to affect land use if:

- The statewide land use planning goals specifically refer to the rule or program, or
- The rule or program is reasonably expected to have significant effects on:
 - Resources, objectives or areas identified in the statewide planning goals, or
 - Present or future land uses identified in acknowledged comprehensive plans

To determine whether the proposed rules involve programs or actions that affect land use, DEQ reviewed its Statewide Agency Coordination plan, which describes the DEQ programs that have been determined to significantly affect land use. DEQ considers its programs to specifically relate to the following statewide goals:

Goal	Title
5	Open Spaces, Scenic and Historic Areas, and Natural Resources
6	Air, Water and Land Resources Quality
9	Ocean Resources
11	Public Facilities and Services
16	Estuarial Resources

Statewide goals also specifically reference the following DEQ programs:

- Nonpoint source discharge water quality program – Goal 16
- Water quality and sewage disposal systems – Goal 16
- Water quality permits and oil spill regulations – Goal 19

For this proposed rulemaking, LRAPA uses the same DEQ review and considerations as were in the staff report for Cleaner Air Oregon.

Determination

LRAPA determined that the following proposed rules, listed under the Rules affected, authorities, supporting documents section above, are existing rules that affect programs or activities that the DEQ State Agency Coordination Program considers a land use program:

- LRAPA Title 37 – Air Contaminant Discharge Permits
- OAR 340-218 – Oregon Title V Operating Permits

This rule proposal does not include any changes to land use procedures in the air quality permitting program. The proposed regulations would be consistent with state land use law because any facility

that has received a Cleaner Air Oregon permit addendum will already have demonstrated land use compliance when they obtained or will obtain their underlying Air Quality permit. The air quality permit programs require that a new business provide a Land Use Compatibility Statement from local government when applying for a permit. This assures that the business has an approved use for the property where it is located. Existing permittees have provided Land Use Compatibility Statements, which are on file with LRAPA. There may be businesses that would be required to get air quality permits only as a result of Cleaner Air Oregon. These businesses would also be required to submit a Land Use Compatibility Statement from local government when applying for an Air Contaminant Discharge Permit.

DEQ's statewide goal compliance and local plan compatibility procedures adequately cover the proposed rules.

- OAR 340-018-0040(1) - compliance with statewide planning goals achieved by ensuring compatibility with acknowledged comprehensive plans
- OAR 340-018-0050(2)(a) - ensuring compatibility with acknowledged comprehensive plans may be accomplished through a Land Use Compatibility Statement.

Advisory Committee

Background

DEQ convened the Cleaner Air Oregon Rules Advisory Committee. The committee included representatives from Lane County, including health, business, county government and public representatives. The committee met eight times. Advisory committee members are listed in the table below and additional information is available on the committee's web page, located at: <http://www.oregon.gov/deq/Regulations/rulemaking/Pages/Rcleanerair2017.aspx>. Highlighted names are those committee members from Lane County.

CAO Rulemaking Advisory Committee	
Name	Representing
Jackie Dingfelder, Co-chair	Cleaner Air Oregon Rules Advisory Committee
Claudia Powers, Co-chair	Cleaner Air Oregon Rules Advisory Committee
Akash Singh (alternates: Jo Ann Hardesty, Tony DeFalco)	National Association for the Advancement of Colored People/Neighbors for Clean Air
Al Hooton	Glass Alchemy
Diana Rohlman (alternate: Susan Katz)	Oregon Public Health Association
Gordon Zimmerman (alternate: Tracy Rutten)	City of Cascade Locks
Huy Ong (alternates: Dayna Jones, Shawn Fleek)	Organizing People/Activating Leaders
Jay Bozevich (alternate: Kelly Minty Morris)	Lane County
Jessica Applegate (alternate: Katharine Saltzmann)	Eastside Portland Air Coalition
Joel Fischer (alternate: Larry Burke, Ellen Porter)	Oregon Business Association
Josh Hall	United Steelworkers
Kathryn VanNatta	Northwest Pulp and Paper Association
Laura Seyler (alternate: Glenn Rives)	International Paper Springfield Mill
Lee Fortier (alternate: Laura Leebrick)	Dry Creek Landfill, Inc.
Linda George (alternate: Dean Atkinson)	Portland State University
Lisa Arkin (alternates: Krystal Abrams, Ana Molina, Joel Iboa)	Beyond Toxics
Mark Riskedahl (alternates: Joel Nigg, Maura Fahey, Licia Sahagun)	Northwest Environmental Defense Center
Mary Peveto (alternate: Tori Cole)	Neighbors for Clean Air
Michael Freese (alternates: Gary Rehnberg, Abbie Laugtug)	Associated Oregon Industries
Patrick Luedtke (alternate: Donna Garner)	Community Health Centers of Lane County
Paul Lewis (alternate: Jae Douglas)	Multnomah County
Ramona Quinn	Klamath County
Steven Anderson (alternates: Courtney Vanbragt, Evan Sorce)	City of Salem Neighborhood Associations

Susan Anderson (alternates: Christine Kendrick, Elizabeth Edwards)	City of Portland Bureau of Planning and Sustainability
Thomas Wood	Oregon Business and Industry

Meeting notifications

To notify people about the advisory committee’s activities, DEQ:

- Sent email notification via GovDelivery, a free e-mail subscription service, to the following lists:
 - Rulemaking
 - News Releases
 - Toxics Reduction Strategy
 - Air Toxics Statewide
 - Portland Air Toxics Solutions
 - Air Quality 2016 Permanent Rulemaking
 - DEQ Public Notices
 - Cleaner Air Oregon Regulatory Overhaul
 - LRAPA interested parties list
 - People who signed up for the advisory committee email list.
- Beginning in April, 2016, DEQ sent approximately 49 notices to subscribers informing them of advisory committee meetings and other rule development information.
- Added advisory committee announcements to DEQ’s calendar of public meetings at <https://www.oregon.gov/deq/Get-Involved/Pages/Calendar.aspx>.

Committee discussions

In addition to the recommendations described under the Amended Statement of Fiscal and Economic Impact section above, the committee provided input and discussion on a regulatory framework for the proposed Cleaner Air Oregon program and discussion draft rules. Agendas and meeting summaries are available on the committee’s webpage at:

<http://www.oregon.gov/deq/Regulations/rulemaking/Pages/Rcleanerair2017.aspx>.

EQC prior involvement

DEQ shares general rulemaking information with EQC through the monthly Director’s Report.

DEQ shared information about this rulemaking with the EQC through an informational item on the EQC agenda in June 2016, April 2017, July 2017, September 2017, November 2017, March 2018, and September 2018.

LRAPA Citizens Advisory Committee

Background

LRAPA has a standing advisory committee that meets most months. This volunteer committee is made up of local Lane County residents from various backgrounds including: public health, planning, industry, agricultural, fire suppression, and general interest. These individuals meet monthly to discuss air quality topics and help guide the agency and Board of Directors.

Throughout the Cleaner Air Oregon rulemaking process the committee discussed the rulemaking at several meetings, either as a specific agenda item, as part of roundtable, or as part of an update on LRAPA Board meetings. Advisory committee members are listed in the table below and

additional information is available on the committee's web page, located at:
<http://www.lrapa.org/157/Advisory-Committee>.

Members

- **Maurie Denner**, Chair
Representing General Public
- **Chuck Gottfried**, Vice-Chair
Representing Agriculture
- **Jim Daniels**
Representing Large Industry
- **Kelly Wood**
Representing General Public
- **Vacant**
Representing Public Health
- **Paul Engelking**
Representing General Public
- **Loren Later**
Representing General Industry
- **Terry S. Richardson**
Representing General Public
- **Laura Seyler**
Representing Large Industry
- **Link Smith**
Representing Fire Suppression
- **Gary Vander Meer**
Representing General Public
- **Kathleen Lamberg**
Representing General Public

DEQ Public Comment Period and Hearings

The following section is information about the public comment period and hearings DEQ held as part of the Cleaner Air Oregon rulemaking. LRAPA will provide opportunity for public comment and a hearing(s) for the changes proposed to existing LRAPA rules to address changes to definitions, enforcement procedures, public participation requirements, ACDP fees and permitting.

DEQ held a public comment period on an earlier draft of the Cleaner Air Oregon rules between October 2017 and January 2018. In March 2018, the Oregon Legislature passed SB 1541, a law that provides funding for completing the rulemaking and beginning program implementation through fees on industry. The bill also set certain program requirements that must be reflected in the rules. The proposed rules were updated as a result of the earlier public comments and SB 1541, and DEQ held a second public comment period between June and August 2018.

During the two public comment periods, DEQ, with OHA and LRAPA, conducted a total of eleven public hearings on the proposed rulemaking that were preceded by informational presentations from DEQ and OHA. In 2017, DEQ accepted public comment on the proposed rulemaking from October 20, 2017 until 4:00 p.m. on January 22, 2018. In 2018, DEQ accepted public comment on the proposed rulemaking from June 25, 2018 until 4:00 p.m. on August 6, 2018. During the 2017 comment period, DEQ received 806 comments from 4,117 people. (Some people submitted identical comments, or submitted letters signed by multiple people.) During the 2018 comment period DEQ received 125 comments from 126 people. In all, DEQ received 931 comments from 4,243 commenters and grouped the suggestions made in those comments into 410 comment categories. DEQ and OHA prepared more than 200 pages of responses to comments.

Presiding Officers' Record

For all of the hearings listed below, the presiding officer convened the hearing, summarized procedures for the hearing, and explained that DEQ was recording the hearing. LRAPA staff acted as the presiding officer for the two hearings held in Eugene. The presiding officer asked people who wanted to present verbal comments to sign the registration list, or if attending by phone, to indicate their intent to present comments. The presiding officer advised all attending parties interested in receiving future information about the rulemaking to sign up for GovDelivery email notices. As Oregon Administrative Rule 137-001-0030 requires, the presiding officer summarized the content of the rulemaking notice.

The Cleaner Air Oregon 2017 hearings occurred as follows:

Hearing 1 - Medford

Date: Wednesday Nov. 15, 2017, 5:30 p.m. - 7:30 p.m.

Location: Ramada Medford Hotel and Conference Center, 2250 Biddle Road, Medford, OR 97504

Attendance and comments: 18 people attended the hearing in person and an unknown number of people attended by webinar. 5 people commented orally and no one submitted written comments at the hearing.

Hearing 2 – Coos Bay

Date: Thursday Nov. 16, 2017, 5:30 p.m. - 7:30 p.m.

Location: Coos Bay Library, 525 Anderson Avenue, Coos Bay, Oregon 97420

Attendance and comments: 47 people attended the hearing in person and an unknown number of people attended by webinar. 6 people commented orally and no one submitted written comments at the hearing.

Hearing 3 - Corvallis

Date: Monday Nov. 20, 2017, 5:30 p.m. - 8 p.m.

Location: Walnut Community Room, 4950 NW Fair Oaks Dr., Corvallis, OR 97330

Attendance and comments: 40 people attended the hearing in person and an unknown number of people attended by webinar. 9 people commented orally and no one submitted written comments at the hearing.

Hearing 4 - Pendleton

Date: Tuesday Nov. 28, 2017, 5:30 p.m. - 7:30 p.m.

Location: Pendleton Library, 502 SW Dorion Ave, Pendleton, OR 97801

Attendance and comments: 8 people attended the hearing in person. 1 person commented orally and no one submitted written comments at the hearing. (There was no webinar)

Hearing 5 - Portland

Date: Wednesday Nov. 29, 2017, 5:30 p.m. - 9:30 p.m.

Location: PCC SE Campus, Community Hall, 2305 SE 82nd, Portland, OR 97216

Attendance and comments: 83 people attended the hearing in person and an unknown number of people attended by webinar. 10 people commented orally and no one submitted written comments at the hearing.

Hearing 6 - Portland

Date: Saturday Dec. 2, 2017, 10 a.m. - 3 p.m.

Location: Oregon Convention Center, Public hearing room C124, 777 NE Martin Luther King Jr Blvd, Portland, OR 97232

Attendance and comments: 48 number of people attended the hearing in person and an unknown number of people attended by webinar. 24 people commented orally and no one submitted written comments at the hearing.

Hearing 7 - Eugene

Date: Thursday Dec. 7, 2017, 5:30 p.m. - 7:30 p.m.,

Location: Oregon Department of Environmental Quality, Willamette Conference Room, 165 E. 7th Ave.

Attendance and comments: 155 people attended the hearing in person and an unknown number of people attended by webinar. 24 people commented orally and no one submitted written comments at the hearing.

Hearing 8 - Salem, in conjunction with the Environmental Justice Task Force

Date: Friday, Dec. 8, 2017, 9 a.m. - 11 a.m.

Location: Department of State Lands Building, 775 Summer Street, NE, Suite 100, Salem, OR 97301

Attendance and comments: 17 people attended the hearing in person and an unknown number of people attended by webinar. 9 people commented orally and no one submitted written comments at the hearing.

Hearing 9 - The Dalles

Date: Thursday, Dec. 14, 2017, 5:30 to 7:30 p.m.

Location: Columbia Gorge Community College Lecture Hall, Building 2, Third floor, 400 East Scenic Drive The Dalles, OR 97058

Attendance and comments: 21 people attended the hearing in person and an unknown number of people attended by webinar. 7 people commented orally and 1 person submitted written comments at the hearing.

The Cleaner Air Oregon 2018 hearings occurred as follows:

Hearing 1 – Portland, in conjunction with the Environmental Quality Commission meeting

Date: Thursday, July 12, 2018, 5 p.m. - 7 p.m.

Location: TaborSpace -5441 SE Belmont Street, Portland, Oregon, 97215

Attendance and comments: 20 people attended the hearing in person and an unknown number of people attended by webinar. 10 people commented orally and no one submitted written comments at the hearing.

Hearing 2 – Eugene

Date: Wednesday, Aug. 1, 2018, 5:30 p.m. – 7:30 p.m.

Location: Lane Community College - Mary Spilde Downtown Center, Rooms 112 through 114, 101 W. 10th Avenue, Eugene, Oregon 97401

Attendance and comments: 34 people attended the hearing in person and an unknown number of people attended by webinar. 9 people commented orally and 1 person submitted written comments at the hearing.

Request for other options

During the public comment periods, DEQ requested public comment on whether to consider other options for achieving the rules' substantive goals while reducing the rules' negative economic impact on business. This document includes a summary of comments and DEQ responses.

LRAPA Notice for March 14, 2019 Hearing

At the January 10, 2019 meeting LRAPA received Board approval to hold a hearing on the proposed rules.

Public notice

LRAPA plans to provide notice of the Notice of Proposed Rulemaking with Hearing on February 1, 2019 to:

- Secretary of State for publication in the [Oregon Bulletin](#) to be published in the February 1, 2019 edition;
- The LRAPA Web page notice: <http://www.lrapa.org/calendar.aspx?CID=22>
- interested parties on the Agency Rulemaking List;

Public hearings

LRAPA plans to hold one public hearing. The table below explains how to participate in the hearing.

Before taking public comment and according to [Oregon Administrative Rule 137-001-0030](#), the presiding officer staff presenter will summarize the content of the notice given under [Oregon Revised Statute 183.335](#) and respond to any questions about the rulemaking.

LRAPA will add the names, addresses and affiliations of all hearing attendees to the interested parties list for this rule if provided on a registration form or the attendee list. LRAPA will consider all oral and written comments received at the hearing listed below before completing the proposed rule. LRAPA will summarize all comments and respond to comments on the staff report.

Hearing	
Date	March 14, 2019
Time	12:30 p.m.
Address line 1	EWEB Building - Meeting Room in the North Building
Address line 2	500 East 4th Avenue
City	Eugene, OR 97401
Presiding officer	Merlyn Hough, Agency Director
Staff presenter	Max Hueflte, Permitting
Conference number	NA

Close of public comment period

The LRAPA comment period will close on Thursday, March 14, 2019 at 12:30 p.m.

If the LRAPA Board adopts the proposed rules after considering public comments, LRAPA would submit the rules to the EQC for inclusion into Oregon's State Implementation Plan (SIP). If approved by the EQC, the rules would be submitted to the EPA for publishing the changes in the Federal Register and include the changes into the SIP. LRAPA would know the goals of this rulemaking have been addressed when the EQC and EPA review and approve the State Implementation Plan revision.

DEQ Summary of comments and agency responses

Comments received by close of public comment period

DEQ, with OHA, held two public comment periods for Cleaner Air Oregon, from Oct. 20, 2017, to Jan. 22, 2018, and from June 25 to Aug. 6, 2018. During both public comment periods, DEQ received comments via an online form, by email, on paper, and in the form of oral statements at public hearings. DEQ and OHA reviewed each comment and grouped the ideas proposed by each commenter into one or more categories.

Public comments that were received during the two public comment periods in any of these formats are included in Attachment F (starting on page 453 of 1403 in the PDF document [here](#)), which provides information about comments, including the name and organization of people who submitted them, the text of the comment, a link to the attachment if the commenter submitted one, and a list of the categories that the agencies linked to that comment. Since there were two public comment periods, Attachment F also indicates in which comment period the comment was received.

Attachment G (starting on page 1115 of 1403 in the PDF document [here](#)) provides information about each category, including the category name, a description, whether or not DEQ made changes to the rules to incorporate that suggestion, and a text response from the agencies explaining why we did or did not change the rules to incorporate that suggestion.

LRAPA will summarize and respond to any comments received during the comment period.

Implementation

DEQ Notification

The Cleaner Air Oregon rules in OAR 340 division 245 became effective upon filing on Nov. 16, 2018. DEQ notified affected parties by:

- Posting a notice on the web page for this rulemaking, located at: <http://www.oregon.gov/deq/Regulations/rulemaking/Pages/Rcleanerair2017.aspx>;
- Emailing approximately 11,320 interested parties on the following DEQ lists through GovDelivery:
 - Rulemaking
 - DEQ Public Notices
 - Cleaner Air Oregon Regulatory Overhaul
 - Air Toxics Statewide
 - Air Quality Permits
 - Title V Permit Program
- Emailing stakeholders on the DEQ's and Lane Regional Air Protection Agency's permitted sources lists.

Compliance and enforcement

DEQ and OHA have developed several supporting documents with information that will assist affected parties in complying with Cleaner Air Oregon. Assistance documents include:

- Draft Recommended Procedures for Conducting Toxic Air Contaminant Health Risk Assessment
- Recommended Procedures for Pollution Prevention
- CAO Air Monitoring Plan Protocol
- Draft Cleaner Air Oregon Initial Facility Call-in Prioritization Protocol
- Toxicity Reference Values and Risk-Based Concentrations- Explanation of Authoritative Sources of Toxicity Reference Values Used in Cleaner Air Oregon
- Toxicity Reference Values and Risk-Based Concentrations in Excel format

In addition, fees under the proposed rules will fund a position that will provide technical assistance to affected parties.

Compliance with permit limits resulting from the implementation of Cleaner Air Oregon is critical to reduce risk to human health from toxic air contaminants. LRAPA will continue to ensure compliance with current practices of inspections, reporting, source testing, parametric monitoring, etc. LRAPA has proposed to update Title 15, Enforcement Procedure and Civil Penalties, to include Cleaner Air Oregon violations.

LRAPA and DEQ are in the process of developing training, business processes, and information technology systems to implement Cleaner Air Oregon.

LRAPA Notification

The LRAPA rules to address the newly-adopted Cleaner Air Oregon rules in OAR 340 division 245 will become effective upon approval by EQC at a meeting yet to be determined. LRAPA and DEQ will notify affected parties by:

- Posting a notice on the DEQ web page for this rulemaking, located at: [\[link\]](#)
- Posting a notice on the LRAPA web page, located at: [\[link\]](#)
- Emailing stakeholders on the DEQ's and Lane Regional Air Protection Agency's permitted sources lists.

Supporting Documents

Documents Relied on for Rulemaking

Document title	Document location
Oregon Administrative Rules	https://www.oregon.gov/deq/Regulations/Pages/Administrative-Rules.aspx
Cleaner Air Oregon Rulemaking Documents	https://www.oregon.gov/deq/Regulations/rulemaking/Pages/Rcleanerair2017.aspx
LRAPA Rules and Regulations	http://www.lrapa.org/205/Rules-Regulations
Portland Air Toxics Study	http://www.oregon.gov/deq/aq/air-toxics/Pages/PATS.aspx
EPA National Air Toxics Assessment	https://www.epa.gov/national-air-toxics-assessment/2011-nata-assessment-results#state
State of Oregon Environmental Justice Task Force Environmental Justice: Best Practices for Oregon's Natural Resource Agencies	http://www.oregon.gov/gov/policy/environment/environmental_justice/Documents/2016%20Oregon%20EJTF%20Handbook%20Final.pdf
EPA EJSCREEN: Environmental Justice Screening and Mapping Tool	https://www.epa.gov/ejscreen
40 CFR Appendix W to Part 51, Guideline on Air Quality Models	https://www3.epa.gov/ttn/scram/appendix_w-2016.htm
EPA, Integrated Risk Information System (IRIS) Reference Concentrations (RfC) and Inhalation Unit Risk (IUR)	www.epa.gov/iris
EPA, Office of Superfund Remediation and Technology Innovation (OSRTI) provisional peer reviewed toxicity value (PPRTV) program (Reference Concentrations (RfCs) and Inhalation Unit Risks (IURs))	https://hhpprtv.ornl.gov/
United States Agency for Toxic Substances and Disease Registry (ATSDR), chronic inhalation Minimal Risk Level (MRL)	www.atsdr.cdc.gov
California's Office of Environmental Health Hazard Assessment (OEHHA), chronic Reference Exposure Level (REL) and Inhalation Unit Risk (IUR)	www.oehha.ca.gov

