

Date: March 19, 2021

To: Environmental Quality Commission

From: Richard Whitman, Director

Subject: Item D: Cleaner Air Oregon Two-Year Update (Informational)
March 25-26, 2021, EQC meeting

Purpose of Item Cleaner Air Oregon regulations were first adopted by the commission on Nov. 15, 2018, and is Oregon’s health risk-based air quality program to regulate industrial sources of toxic air contaminants. This report provides a two-year update on the ongoing implementation and development of the CAO program. It fulfills a commitment made to the commission during rule adoption to report back on program progress.

This report includes updates and plans for future progress related to program implementation and development, including:

- Facilities that have conducted or are conducting risk assessments for CAO;
- Development of technical and training resources;
- Stakeholder engagement;
- Community engagement; and
- Program operations

Background Governor Kate Brown launched Cleaner Air Oregon as a joint effort between DEQ and the Oregon Health Authority in April 2016 in response to overwhelming community concerns about exposure to potentially harmful heavy metals, chemicals and other pollutant emissions from industrial and commercial facilities. Between 2016 and 2018, DEQ met with national experts, and stakeholders across the state to develop and refine proposed CAO rules. In 2018 the Oregon legislature enacted Senate Bill 1541, which established funding and positions for the program, and set key parameters for the program with additional details to be worked out in rules. CAO program rules were adopted by the Environmental Quality Commission on Nov. 15, 2018.

As outlined in the 2018 rules, the objectives of CAO are to:

- Prioritize and protect the health and well-being of all Oregonians with a special focus on sensitive populations such as children;
- Analyze public health risks from toxic air contaminant emissions from industrial and commercial sources based on verified science and data;

- Consider similar regulations in other states and jurisdictions and use a science-based, consistent and transparent process for communicating and addressing risks from industrial and commercial emissions of toxic air contaminants, provide regulatory predictability to businesses and the communities they are a part of; and
- Reduce exposure to industrial and commercial toxic air contaminant emissions while supporting an environment where businesses and communities can thrive.

CAO builds upon DEQ's existing air quality permitting framework and closes regulatory gaps that allowed facilities to operate legally but still emit potentially harmful amounts of toxic air contaminants. The adoption of CAO brings community health to the forefront of DEQ's work to address potential health effects from toxic air contaminants, with a specific focus on vulnerable communities and populations that may be disproportionately affected by air pollution from neighboring facilities. By requiring facilities to submit detailed emissions and technical data, the program sets health risk limits on emissions from industrial sources so that neighbors and vulnerable people (such as children) are protected from potentially harmful levels of exposure.

DEQ is now gathering detailed information on toxic air contaminant emissions, much of which was never previously known or quantified. Using this data, DEQ can assess facility emissions; and work with facilities to reduce risk, if needed; and engage and educate communities with information that was not available prior to rule adoption.

**Program
Milestones
and
Successes**

In the first two years of program implementation, CAO is overseeing the completion of more detailed health-based air toxics risk assessments for the highest priority facilities and issuing permits that include new requirements.

CAO has achieved notable milestones including:

- Establishing and implementing a prioritization process for bringing existing facilities into the program to complete risk assessments, factoring in both estimated risk, uncertainties related to projected emissions, and demographic factors for environmental justice considerations;
- Issuing new permits to larger facilities that quantify risks and meet health-based standards for surrounding communities. So far, DEQ has approved 17 new facility health risk assessments, resulting in the issuance of 10 new health-protective facility permits;
- Developing community engagement best practices as outlined in the draft Community Engagement Guide and Toolkit, which was released for public review in December 2020;

- Publishing detailed technical guidance for facilities and consultants, including recommended procedures for conducting CAO modeling and risk assessments; and
- EQC adoption of more protective health standards for certain pollutants through the Hazard Index rulemaking.

Challenges, Key Observations and Lessons Learned

Significant work remains to fully implement this new program. The challenges, key observations and lessons learned from the first two years of Cleaner Air Oregon include:

- Existing facility risk assessments are complex and take longer than anticipated, with delays due to completing new testing, incomplete submittals and extensive revisions of technical documents. DEQ and facilities are also encountering unexpected data needs that require additional time for analysis and review.
- New facility risk assessment review and approval times are much faster than existing facilities, and DEQ has reduced these times since program implementation began.
- DEQ must balance the need to bring additional existing facilities into CAO with its capacity to review new facilities seeking permits.
- Collaborating with sources upfront during all phases of the assessment greatly helps to streamline the CAO risk assessment process.
- As anticipated, rather than waiting for the results of completed risk assessments, some existing facilities are taking proactive steps, in advance of completed assessments, to reduce toxic air contaminant emissions and associated risks.
- The CAO rules are complex, and experience to date has indicated the desirability of clarifications that would avoid unintended outcomes, and reduce ambiguity and uncertainty. Rule clarifications should decrease the future time to approve assessments, and associated resources to complete them.
- External and internal stakeholder engagement continues to be critical for successful program implementation and development.
- Program vacancies and associated resource limitations have hampered the speed of program implementation; however, progress is being made to fill remaining vacancies and we expect these limitations to diminish over the next year.
- Early experience in community engagement underscores the importance of evaluating the specific needs and interests of each community and, when there is high interest, engaging early in the risk assessment process.

Program **Facilities Applying or Called in to Cleaner Air Oregon**

**Implementa-
tion** In 2019, DEQ established a prioritization process for determining which existing facilities to first bring into CAO, also referred to as being “called in.” DEQ cannot work with all existing facilities at once, and prioritization provides DEQ with a tool to appropriately allocate resources and also provides some certainty to facilities regarding their call in schedule, which allows them to plan appropriate resources towards completing a future assessment for CAO.

DEQ retains discretion, however, to call in any existing facility as needed. This allows DEQ to re-prioritize facilities that become known to the agency as potentially posing health risks to communities, and call them in sooner if warranted.

To complete the initial prioritization process, DEQ reviewed initial emissions and demographic data from over 360 facilities that were permitted at the time of rule adoption, either as Title V sources or Standard or Simple Air Contaminant Discharge Permit sources. Facilities were then assigned to one of three priority groups: groups one and two represent those facilities presenting potentially higher risk and more complex cases, each consisting of 20 sources; and group three, containing the remaining approximately 320 sources. The protocol for scoring facilities and results of the prioritization process are publicly available on DEQ’s website, the summary report is linked in Supporting Material Item C. Attachment A, Figure 1 includes a map of all existing facilities from the prioritization process with all three groups and those in group one that have currently been called in to complete a risk assessment.

In addition to existing facilities called into the program, businesses constructing new facilities and applying for certain types of DEQ air permits are now required to complete a health risk assessment as part of the permit application process. As part of DEQ’s commitment to helping businesses and communities thrive, the agency makes the review and approval of these new facility assessments a priority so that permits can be issued quickly.

Overall Status of Facility Assessments

To date, 14 out of the 20 existing facilities in the first priority group have been called in to complete a risk assessment for CAO.

Despite appreciable challenges due to COVID-19, new businesses are continuing to apply for air permits and complete the required CAO assessments. As of February 2021, 31 new facilities have applied to CAO. To help new businesses navigate the risk assessment process, DEQ staff provide technical support and resources to help them minimize the impact of the program on construction and permitting of new facilities.

Figure 2 in Attachment A includes a map of facilities that have gone through CAO or are currently under review. The map includes both new and existing facilities.

Accounting for Toxic Air Contaminants in the Emissions Inventory

The emissions inventory is an accounting of all toxic air contaminant emissions-producing activities at a source and is critical for the development of all subsequent steps in the risk assessment process. Therefore, it is essential to ensure that DEQ obtains the most representative emissions data available for over 630 toxic air contaminants from a facility.

Emissions Inventory Update

For existing facilities, collecting accurate emissions information has proven to take a substantial amount of time. The reasons that this step in the process requires more time and resources than previously anticipated are:

- Information is often not readily available and it may be difficult to determine if emissions data presented are representative;
- Current emissions data available in a facilities' permit may require reassessment to verify accuracy for use in CAO;
- Incomplete submittals lacking the background assumptions and calculations used to estimate emissions slow the review process;
- In some instances a facility must conduct source testing when no representative data is available; and
- Many of the group one facilities are large, complex facilities and reviewing the calculations and estimation methodologies is an iterative process with facilities that is both time and resource intensive.

As noted above, source testing is an option for facilities to provide representative emissions data that allows direct analysis of emissions from the facility. Performing the testing can result in substantial delays to completing the risk assessment, however, this new and accurate testing is greatly augmenting our knowledge of toxic air contaminant emissions for a variety of operations in Oregon. Using information from source tests also greatly improves the accuracy of the risk assessment.

Modeling and Risk Assessments

Risk assessments are completed using emissions inventory data, and are guided by a modeling protocol and risk assessment work plan. These documents describe how a facility will translate toxic air contaminant emissions into concentrations that people may be exposed to and includes various information, such as stack characteristics and meteorological and land use data. The proximity of a facility to residences, schools, and other exposure locations where individuals could be exposed to chemicals emitted by the facility is taken into account during this stage.

Status of Risk Assessment Work

To date, DEQ has received modeling protocols and risk assessment work plans for three of the 14 existing facilities. New facilities are submitting the risk assessment work plan and modeling protocol together when applying. Compared to new facilities, existing facilities, which are generally larger and require more complex assessments, have utilized the full time allotted in rule for submission of these two documents, and have longer review and approval times.

Land use and exposure location verification are the primary issues to resolve at the modeling stage of the risk assessment process. DEQ includes recommendations in online reference materials to assist facilities in determining which exposure location type should be applied to a particular zoning or land use category.

Review and Approval of Risk Assessment

A risk assessment is completed after DEQ approves an emissions inventory, modeling protocol, and risk assessment work plan. Risk assessment results provide important information about the health risks from facility emissions of toxic air contaminants. Figure 1, below, shows results from a completed risk assessment for a new facility. Risks are identified for both cancer and noncancer health impacts, considering the land use around the facility (e.g. homes or schools near the facility). The results of the risk assessment determine if health standards are met or if additional action is needed, such as permit

Risk Type	Facility Risk	Risk Assessment Results
Cancer Risk – added cancer risk per million with a lifetime of exposure		
Residential (e.g. homes near facility)	7	Facility Risk is below the Risk Action Level* limit of 10
Non-Residential Child (e.g. school near facility)	<0.5	
Non-Residential Worker (e.g. office near facility)	1	
Long-Term Noncancer Risk – Hazard Index (less than or equal to 1 is within health standards)		
Annual Exposure Residential (e.g. home)	<0.5	Facility Risk is below the Risk Action Level* limit of 10
Annual Exposure Non-Residential Child (e.g. school)	<0.5	
Annual Exposure Non-Residential Worker (e.g. office)	<0.5	
Short-Term 24-Hour Exposure (acute)	1	Facility Risk is at the Risk Action Level* limit of 1

* DEQ requires risk reduction if risk is above these Risk Action Levels.

Figure 1. Cleaner Air Oregon risk assessment results for a new facility. conditions or additional risk reduction to maintain risk at safe levels before a permit will be issued to the facility.

Risk Assessment Update for Existing Facilities

To date, only one existing facility has submitted a completed risk assessment for DEQ review. Some delays can be attributed to economic reasons and unforeseen technical complexities that come up in the risk assessment process. Other delays can be attributed to extensive revisions arising from incomplete or

inaccurate submissions, which require DEQ to request additional information from a facility. So far, the majority of existing facilities have submitted multiple versions or additions to technical documents, as DEQ often needs background information to review and approve emissions calculations and estimation methodologies.

With the challenges of meeting timeliness goals for completing risk assessments for existing facilities, DEQ has learned valuable lessons about the complexities inherent to these assessments and the unique data needs that may arise during the risk assessment process. Facilities are providing significant amounts of new and updated emissions information on a number of chemicals for which DEQ did not previously have sufficient data. The CAO process has also led to facilities taking a deeper look at their operations in order to accurately model their emissions. DEQ and facilities are gaining deeper understanding of the types and quantities of pollutant emissions and how they occur in Oregon.

Risk Assessment Update for New Facilities

DEQ has completed 17 risk assessments for new facilities, most of which show very low risk. Some of these assessments have presented risks requiring community engagement, as defined within the program, and DEQ has held several public meetings to present the findings of those assessments. In general, the majority of new facilities have been issued permits with conditions to limit their risk to the levels approved in their risk assessment. These conditions may include annual or daily limits on fuel usage, source testing to verify emissions or ensuring proper maintenance and operation of control devices.

A key takeaway for new facilities is that the time to complete a risk assessment and issue permit conditions continues to improve over time. DEQ has reduced review and approval time for a level 1 risk assessment by 60 days, on average, as compared to the first level 1 assessment received in March 2019. As expected, level 1 risk assessments take less time than level 3 risk assessments due to the increased complexity associated with running a facility-specific air dispersion model required for performing a level 3 assessment.

Risk Reduction

Risk assessments provide excess cancer and noncancer risk estimates that DEQ uses to evaluate if further action is required by an existing facility to meet health standards. These risk action levels establish the specified risk reduction requirements at different levels of risk. As established in statute and rule, new facilities must meet more stringent standards than existing facilities.

Risk Reduction Update

Risk reduction requirements only apply to existing facilities, as new facilities must meet risk standards in order to be permitted for construction. Some new

facilities have permit conditions that limit operations in order to keep risk below allowable standards. Of the 10 permitted new facilities that have completed CAO assessments, three have permit conditions that keep risk below thresholds. No existing facilities to date have required risk reductions at this time since only one facility has completed a risk assessment. However, as the process is becoming more familiar and facilities can anticipate being called in, CAO staff have seen some facilities that are taking proactive, early action to meet potential future CAO risk reduction requirements.

Existing facilities that have taken steps to reduce risk have employed a variety of methods to achieve reductions. Some examples of steps facilities have taken are as detailed below:

- DEQ has documented examples of fuel and material substitutions in two existing facilities. In one case, a facility discontinued distillate oil combustion, switching to cleaner-burning propane as a back-up fuel source. Another facility made a material substitution to replace a highly toxic chemical in their process. This facility is currently coordinating with DEQ to complete their risk assessment with risk at de minimis levels due to the substitution.
- Some existing facilities have proactively installed controls after the adoption of the CAO rules, such as installing additional high performance filters onto existing baghouses to increase capture and control efficiencies.

Program Technical Resources for Facilities

Development In 2020, DEQ published technical guidance to assist facilities in performing air toxics risk assessments. This guidance provides technical tools for facilities and consultants with standardized approaches to completing risk assessments, and FAQs to promote consistency and accuracy of submittals. Some of these resources are detailed below:

- Assistance with Modeling and Risk Assessment protocols with accompanying guidance documents published online (linked in Supporting Material Items D and E).
- Updated web pages that include frequently asked questions and a step-by-step guide that outlines the CAO process and technical requirements (linked in Supporting Material Items F).
- Quick reference guides for selected technical topics that have required clarification in the risk assessment process, such as zoning and exposure location assignments.
- Updated forms that provide clearer instructions to facilities and consultants on the submission of documents and fees required for issuing related permits.

These resources are designed to be periodically updated by DEQ. DEQ intends to publish additional guidance and training materials over the next few years of

implementation and will consult with both agency staff and the regulated community for input on these tools.

Stakeholder Engagement

Consultation with environmental and industrial stakeholders was essential to the initial development of the CAO rules and will be critical to future program development efforts. As DEQ implements the rules, the agency continues communication with various environmental and industrial groups in order to promote their involvement through various avenues.

DEQ staff have frequently presented to consultants and facilities on program requirements, lessons learned and updates at local and regional conferences and industry-sponsored workshops. DEQ technical staff routinely are invited to these venues to provide technical assistance and program updates.

Community Engagement and Public Involvement

CAO arose from overwhelming concern from communities about impacts to health from industrial emissions of toxic air contaminants. The legislation establishing the program requires DEQ to take the lead in community engagement, and the commission's rules were designed to include community engagement as a central part of the program.

CAO rules require DEQ to complete community engagement activities when facilities exceed specified risk action levels. Along with existing public involvement requirements of DEQ's permitting program, the rules direct DEQ to provide additional discretionary levels of community engagement to inform the community, provide a mechanism for input to DEQ's work with sources, and consider information about environmental justice.

While mandatory standard community engagement may be triggered by facilities that exceed certain risk action levels, CAO community engagement and public involvement goals are designed to anticipate and proactively respond to community concerns at any stage of the assessment and permitting process. CAO staff have presented at public meetings for facility air permits to explain how CAO works, what work has been done, and what the public can anticipate as next steps as the facility goes through CAO. In some cases, these meetings are conducted in advance of completed emissions inventories or completed risk assessment and provide an early opportunity for the public to track and understand facility risk evaluation and operations. Regional staff and Public Information Officers work closely with CAO to ensure that DEQ understands and meets the unique needs of communities.

DEQ maintains general CAO and facility-specific webpages where people can view facility progress, access emission inventory data and get more information

about permit hearings, community meetings and other engagement opportunities.

Development of the draft Community Engagement Toolkit

DEQ developed a draft Community Engagement Toolkit to guide the CAO public participation process. Between December 2020 and February 2021, DEQ conducted a 60-day review period to take input on the draft toolkit documents. DEQ provided versions of the toolkit in both English and Spanish, with additional languages available upon request. With the recent completion of the review period, DEQ is assessing comments and preparing a final version of the toolkit.

The toolkit will serve as a living document that will guide community engagement and involvement activities for CAO. The latest draft of the Community Engagement Toolkit is linked in Supporting Material Item G.

Steps in CAO Community Engagement

DEQ's draft Community Engagement Toolkit outlines the two main elements of engagement for CAO facilities: community assessment and engagement planning.

Community Assessment

For each facility that enters the program, DEQ uses EPA's EJSCREEN tool to evaluate the demographic profile of a specific location, based on the Census data and parameters of the EJSCREEN web-based mapping tool. The community engagement assessment also considers additional factors that can determine local impacts and potential public interest in the risk assessment and risk reduction at a facility.

Community Engagement Plan

Results of the community assessment are used to develop and implement a community engagement plan. While each engagement plan will be different, the overall goals are to understand what community members are interested in learning; providing that information; and receiving community input to the CAO risk assessment and risk management process. Following implementation of each community engagement plan, DEQ intends to gather metrics that will inform future engagement for these areas and report out to the public on lessons learned from implementing the community engagement plan.

Implementing Community Engagement

DEQ continues to make progress on community assessments and implementing plans to ensure meaningful public participation. Examples of steps taken include CAO-specific outreach/meetings, and sending postcard mailers, in addition to the regular email and webpage updates, to households in an area where three new facilities were performing CAO assessment. The postcards

ensure that residents of the area have access to the facility information, and do not have to rely on email lists or web access to stay informed.

Throughout 2020, the COVID-19 pandemic has required virtual community meetings. While some benefits of in-person communication may be lost when resorting to virtual meetings, there are alternative benefits of reaching wider audiences through an enhanced online presence. The CAO email distribution list includes more than 7,000 subscribers who receive program updates, such as alerts to upcoming meetings and other opportunities for public participation.

Program Operations

The CAO program operates from the DEQ headquarters office, and works collaboratively with regional staff to coordinate facility assessments. The DEQ CAO team also collaborates closely with communications specialists and other subject matter experts across DEQ and the Lane Regional Air Protection Agency, which implements CAO in Lane County.

As part of the agency's Air Quality Permitting Program, CAO program staff work closely with regional staff to promote internal cross training opportunities to help existing permitting staff better understand risk assessment concepts and CAO assessments. To promote and accelerate cross training, each DEQ region has an assigned CAO Program Representative. This representative writes permits and consults routinely with CAO staff to share permitting and regional perspectives.

DEQ also coordinates closely with the Oregon Health Authority. OHA staff are the health experts that DEQ relies on to understand community health risks. OHA toxicologists also consult closely with DEQ in evaluating and updating health standards, as part of the 2019 Hazard Index rulemaking and the current harmonizing rulemaking, described in the EQC Involvement section.

Upcoming Challenges and Future Priorities

The Cleaner Air Oregon program is a new, health risk-based regulatory program that will require additional rulemaking, guidance development and collaboration with internal and external partners. DEQ will continue to integrate and collaborate closely with existing Air Quality Division staff to leverage existing knowledge and relationships while completing assessments. Ongoing discussions and coordination with stakeholders will ensure new program tools are well-considered and meet identified needs.

Program Priorities for 2021

- Call in remaining facilities in priority group one;
- Evaluate and develop additional technical guidance for facility risk assessments;
- Develop risk awareness and communication training (DEQ headquarters and regional staff);

- Develop user-friendly web resources;
- Finalize and publish the Community Engagement Toolkit.
- Initiate and continue community engagement around facilities completing risk assessments by fully implementing practices outlined in the toolkit;
- Hire remaining program staff vacancies to support future program implementation and integrate new positions into existing program team;
- Present to the commission on the Air Toxics Programs Alignment rulemaking, initiate the first Triennial Toxicity Reference Value rulemaking; and
- Develop the area risk assessment pilot program.

In addition to the priorities listed above, completing and developing institutional knowledge on risk assessments will be critical. Capturing accurate emissions data on industrial sources of toxic air contaminants is a key benefit of the program. Through the development of an air toxics database, and new source testing, DEQ hopes to improve the accuracy and timeliness of the risk assessment process by creating a consistent and reliable source of emissions data for industries across Oregon. Additionally, as more becomes known about industrial toxic air contaminant emissions and more facilities are called-in to the program, DEQ will be better able to identify potential hot spots of emissions and their impact on vulnerable communities. This information will allow DEQ and affected communities to better understand and proactively address the health risks from nearby facilities across the state.

As more facilities complete risk assessments, DEQ will be able to establish additional metrics on risk assessment and process timelines. More detailed program implementation and performance metrics will be available during the next program update, planned for November 2023.

EQC

Involvement

In late 2021, DEQ intends to propose rules for the Air Toxics Programs Alignment rulemaking, which will align various portions of DEQ rules between the Oregon State Air Toxics Program and CAO (Supporting Material Item H). DEQ is scoping the rulemaking process for the Area Risk Pilot Program, to begin in late 2021. DEQ also anticipates future rule proposals in 2022 to update the toxic air contaminants reporting list as well as their respective Toxicity Reference Values and Risk-Based Concentrations. Those 2022 proposals will require analysis by a reconvened Air Toxics Science Advisory Committee.

In addition to the rulemaking activities noted above, DEQ staff will provide the commission with a five-year program update in fall 2023. In that five-year report, DEQ and OHA will share progress on their work to estimate reductions of industrial and commercial toxic air contaminant emissions and associated health risks due to the CAO program. Ultimately, these results will inform the EQC's future decision, anticipated in 2029, to update CAO noncancer and

cancer benchmarks; until 2029, benchmarks are set as directed in statute by the 2018 [Senate Bill 1541](#). This information will also be used in DEQ's report to the legislature regarding the costs and benefits of the established benchmarks, and those modified, as required in 2026.

In order to evaluate health risk reductions, DEQ will need to assess how statewide toxic air contaminant emissions have changed as a result of the CAO program, and provide that information to OHA for evaluation. It is important to underscore that the nature of this evaluation will be an assessment of reduced risk of harm to health, rather than an assessment of possible observed reduction in negative health outcomes. This is because it is difficult to establish a direct link between changes in environmental exposures and health outcomes.

**Supporting
Materials**

- A. Attachment: Maps of New and Existing Facilities in Cleaner Air Oregon
- B. Attachment: Status of New and Existing Facilities Completing Risk Assessments
- C. Link: [Facility Call-in Prioritization Process](#)
- D. Link: [Recommended Procedures for Air Quality Dispersion Modeling](#)
- E. Link: [Recommended Procedures for Toxic Air Contaminant Health Risk Assessments](#)
- F. Link: [Step-by-Step Guide for Facilities and Consultants](#)
- G. Link: [Draft Community Engagement Guide and Toolkit](#)
- H. Link: [Cleaner Air Oregon Air Toxics Programs Alignment rulemaking](#)

Reported prepared by Cleaner Air Oregon Program staff

Figure 1. Map of new and existing facilities that are currently in Cleaner Air Oregon or have completed a Cleaner Air Oregon Risk Assessment.

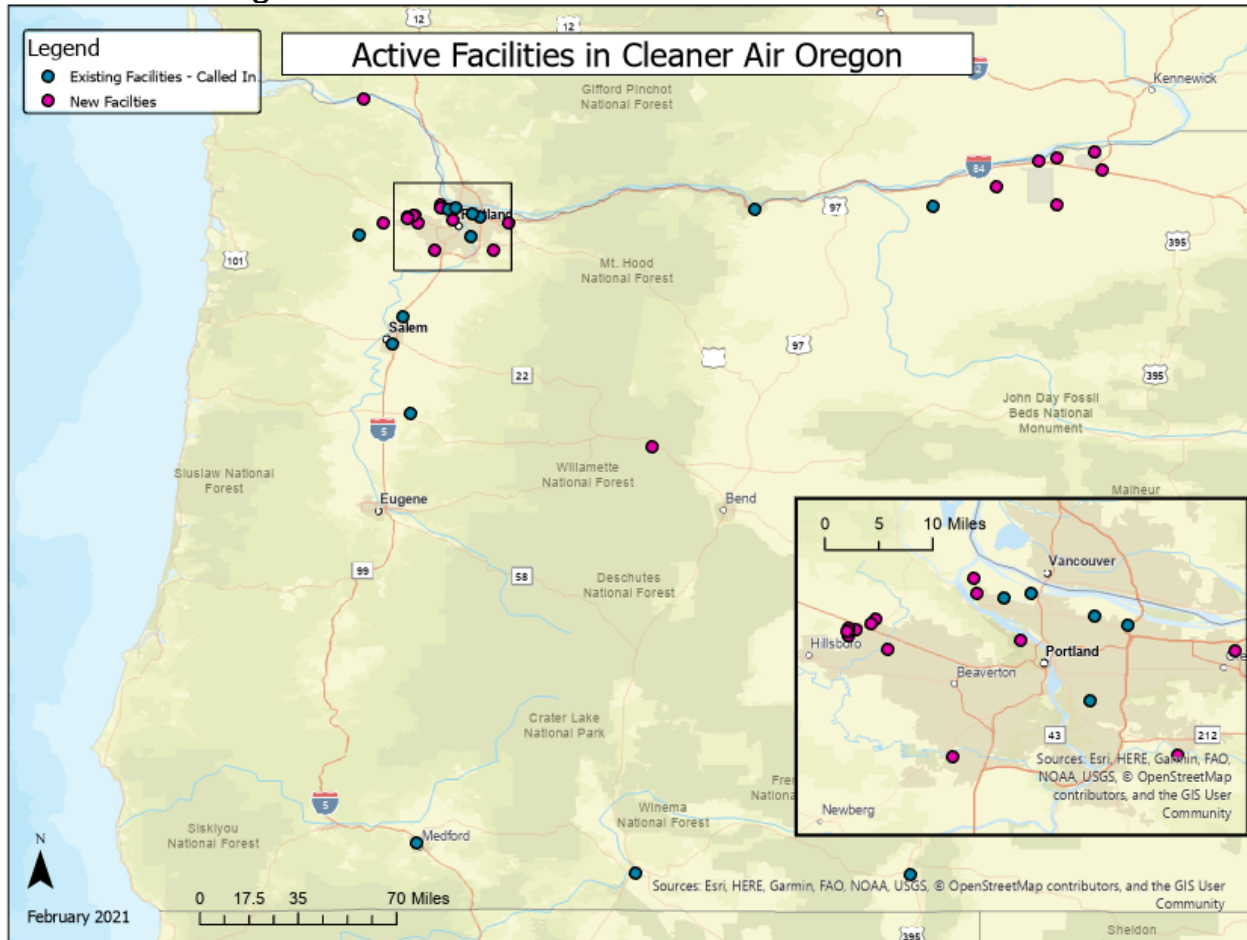


Figure 2. Map of existing facilities by prioritization group.

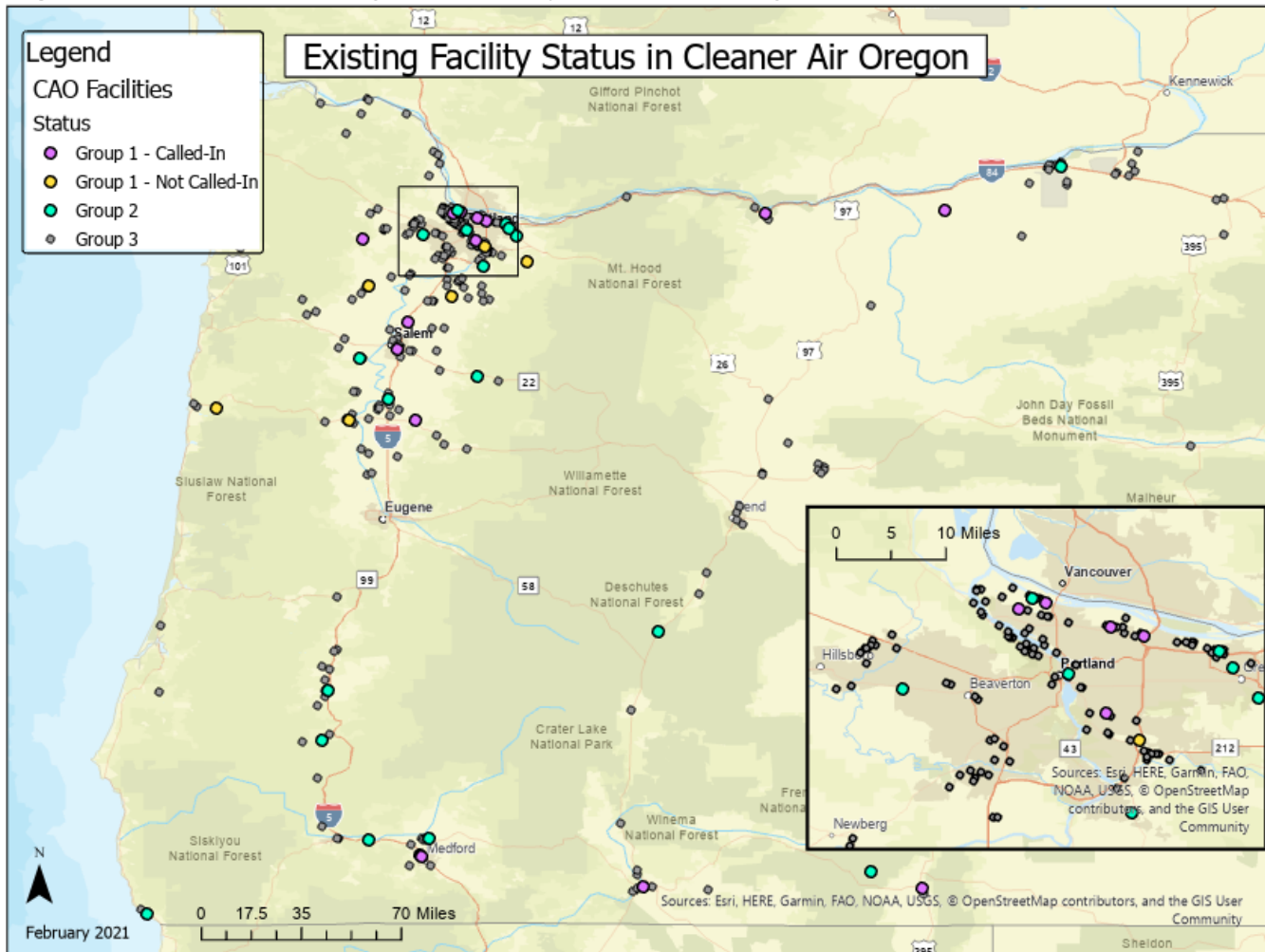


Table 1. Status of existing facilities in Cleaner Air Oregon

Status	Step in CAO	Facility Name	Industry
Risk Assessment Development	Emissions Inventory/ Source Testing	AmeriTies West	Wood Preservation - Creosote
		Chemical Waste Management of the Northwest	Hazardous Waste Disposal
		Columbia Steel Casting Company	Metal Foundry
		Covanta Marion	Municipal Waste Incinerator
		EcoLube Recovery	Oil Recycling
		Entek International	Battery Component Manufacturer
		Hydro Extrusion Portland	Surface Coating - Metals
		PCC Structurals - Large Parts Campus	Superalloy Foundry
		Oil Re-Refining Company (ORRCO) - Klamath Falls	Oil Recycling
		Stimson Lumber Company	Wood Products Manufacturer
Risk Assessment Development	Modeling Protocol	Packaging Corporation of America	Package Assembly and Printing
	Risk Assessment Work Plan	Collins Pine Company	Wood Products Manufacturer
Risk Assessment Development		Owens-Brockway Glass Container	Glass Bottle Manufacturer
	Complete Risk Assessment	Risk Assessment Review	Roseburg Forest Products - Medford

Table 2. Status of new facilities in Cleaner Air Oregon

Status	Step in CAO	Facility Name	Industry	Year*
Pre-Risk Assessment Approval	Pre-Application	Griffith Rubber Mills	Rubber Products Manufacturer	2021
	Emission Inventory/ Source Testing	Flexential Colorado Corp.	Data center	2020
		Hexion	Wood Preservation - Fire Retardants	
		JAE Oregon	Metal Plating and Polishing and Metal Finishing	
		NEXT Energy	Renewable Diesel Refinery	
		SI PORL (STACK)	Data center	
Modeling Protocol/ Risk Assessment Work Plan	Amazon Web Service (PDX 130)	Data center	2021	
Risk Assessment	Amazon Web Service (PDX 109)	Data center	2020	
Post-Risk Assessment	Permit Conditions	Showers Development, LLC	Data center	2019
		Black Butte Ranch	Air Curtain Incinerator	2020
		KoMiCo	Semiconductor Manufacturing Component Cleaning	
		The Scoular Company	Food Manufacturer	
		T5@Portland	Data center	
	Public Notice	NW Metals	Auto Shredder	2020
QTS Investment Properties	Data center			
CAO Permit Issued	Permit Issued	Biodynamics of Oregon (Hines Oregon Pellet Mill)	Wood Products Manufacturer	2019
		Castle Rock Farming	Crop Drying - Corn	
		CINTAS Corporation No. 3	Industrial Dry Cleaner	
		Genentech	Pharmaceutical manufacturer	
		Port of Morrow	Utility - Gas Flare	
		Gas Transmission Northwest (GTN)	Natural Gas Compressor Station	2020
		Elder Demolition, Inc.	Air Curtain incinerator	
		OSRAM	Semiconductor/Electronics Manufacturer	
		Northwest Pipeline, LLC	Natural Gas Compressor Station	
		RagingWire/NTT	Data center	
Inactive/ No Permit Needed	Application Withdrawn	Myers Container	Chemical Drum Recycling	2019
	On Hold (facility)	Jordan Cove	Liquefied Natural Gas Shipping Terminal	
		Perennial Windchaser	Utility - Natural Gas Turbine	
		Calico Mining	Mining	
	No Risk Assessment Needed	BirchStone Management, LLC	Rock Crusher	2019
No Permit Needed	Clackamas River Water	Utility - Emergency Diesel Generators	2020	

*Indicates the year the facility applied to Cleaner Air Oregon