

CLEANER AIR OREGON

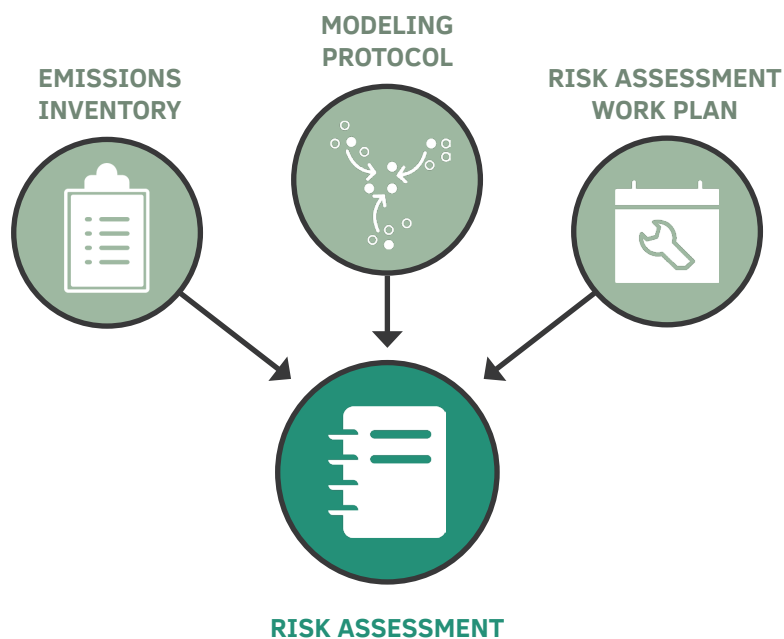


Understanding the Risk Assessment

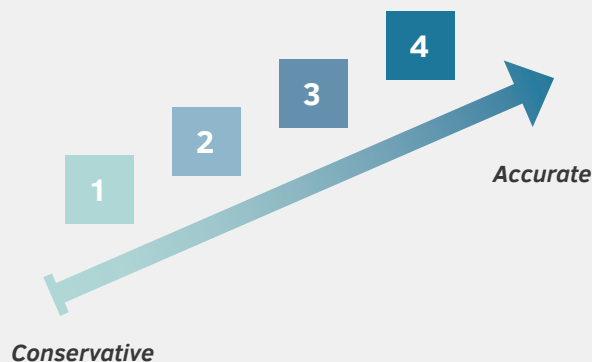
Cleaner Air Oregon is a health-based permitting program that regulates emissions of toxic air contaminants from facilities based on risk to nearby communities. CAO requires facilities to report toxic air contaminant emissions, assess potential health risks to people nearby and reduce toxic air contaminant risk if it exceeds legal limits. CAO adds requirements to Oregon Department of Environmental Quality air permits to limit the levels of potentially harmful air toxics a facility puts into the air.

Risk Assessment

The risk assessment is informed by other CAO facility reporting requirements: the facility's emissions inventory, the modeling protocol and the risk assessment work plan. DEQ must review and approve each of these documents, which are then made available on the [facility website](#). The emissions inventory describes what air toxics the facility is emitting. The modeling protocol describes the methods the facility will use to estimate exposure to the community from these emissions and the risk assessment work plan describes how risk will be evaluated in the final risk assessment. DEQ has provided [recommended procedures](#) for conducting this assessment.



RISK ASSESSMENT LEVEL



Based on the DEQ-approved risk assessment work plan, a facility may complete a Level 1, 2, 3, or 4 risk assessment. The level is chosen by the facility. The lower levels require less sophisticated modeling but have more conservative assumptions that will likely overestimate risk. Facilities may choose to complete a higher level risk assessment, using more advanced modeling to gain a more accurate picture of risk. DEQ reviews and approves all risk assessments.

DEQ compares the results of the risk assessment to regulatory limits called Risk Action Levels. If a facility's risk exceeds the Risk Action Level, DEQ will require the facility to implement permit conditions, which could include emission reductions or community engagement. DEQ incorporates CAO permit conditions in a facility's air quality permit for public notice. Once a permit is issued, DEQ ensures the facility is meeting the permit requirements through inspections, monitoring, recordkeeping, and reporting.

If the facility risk is...



RISK ASSESSMENT

\leq
less than or equal to

$>$
greater than



Facility action not required

Facility action required

Reading the Public Notice from DEQ

The public notice will include a section called Cleaner Air Oregon Risk Assessment, which will summarize the facility information, risk assessment results, what the results mean and what permit conditions are required. Below is an example of what this looks like in a public notice.

Cleaner Air Oregon Risk Assessment

Facility Site Description and Activities: As part of the Cleaner Air Oregon process, DEQ required Genentech to conduct a level 1 risk assessment to evaluate health impacts from the facility. Genentech currently operates a packaging facility for medical prescription drugs in Hillsboro. Genentech proposes to substantially expand existing operations to include pharmaceutical manufacturing. Toxic air contaminants are anticipated to be emitted from the following new production activities: use of isopropyl alcohol (used to clean equipment and surfaces); natural gas-fired boilers (used in the manufacturing process); and emergency generators and a fire water pump engine (which are diesel-fired). DEQ reviewed and approved a risk assessment performed by Genentech, for these new emissions. The results are summarized in the following table. To learn more about the risk assessment process through Cleaner Air Oregon, go to the website [here](#).

Table 2

Risk Type	Facility Risk	Risk Action Levels*	
Cancer Risk – added cancer risk per million			
Residential (e.g. homes near the new facility)	3	10	Below Limit
Non-Residential Child (e.g. school near the new facility)	<0.5		
Non-Residential Worker (e.g. office near the new facility)	1		
Noncancer Risk – Hazard Index (Hazard Index equal to 1 is considered safe)			
Chronic Residential (e.g. home)	<0.5	1	Below Limit
Chronic Non-Residential Child (e.g. school)	<0.5		
Chronic Non-Residential Worker (e.g. office)	<0.5		
Acute (24-hour)	1		At Limit

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

Interpretation of the Risk Assessment: Risk was determined by using the closest location to the facility for each risk category.

- Excess cancer risk is greater than 0.5 in a million and less than 10 in a million. Permit conditions will be included in the permit to ensure risk does not exceed the facility risk (shown above). The facility will report activities and emissions annually to verify their compliance.
- The hazard index for noncancer chronic risk is less than 1. This means the facility emissions will be safe for this type of risk. No permit conditions are required to manage this kind of risk.
- The hazard index for acute noncancer risk is equal to 1. This level is considered safe. Since the facility risk is at the Risk Action Level, permit conditions will be included in the permit to ensure risk does not go any higher. The facility will report activities and emissions annually to verify.

Permit Conditions and Compliance: DEQ is requiring permit conditions to limit diesel fuel use from this facility in order to maintain the health protective levels. These conditions require Genentech to monitor diesel fuel use and report this information annually to DEQ. Genentech will also be required to calculate daily and annual emissions of toxic air contaminants and report on an annual basis to DEQ to ensure risk remains at acceptable levels.

- Facility Site Description and Activities:** This section describes the facility and the activities that result in the release of toxic air contaminants.
- Risk Assessment Results Table:** This table explains the results of the risk calculations. The Facility Risk is the calculated risk. The Risk Action Levels are the legal limits at which a facility would be required to implement risk reduction measures.
- Interpretation of the Risk Assessment:** This section explains the results table. Even if the Facility Risk is below the Risk Action Level, additional permit conditions may still be required to maintain emissions at a level protective of public health.
- Permit Conditions and Compliance:** This section explains what permit conditions will be incorporated into the facility's air quality permit and how DEQ will ensure that the facility is in compliance.