Oregon Department of Environmental Quality

Air Quality Permit Updates 2022

Issue Paper: Generic Plant Site Emissions Limits

To: Air Quality Permitting Updates 2022 Rules Advisory Committee
From: Oregon Department of Environmental Quality
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Overview

Plant Site Emission Limits are included in almost all Air Contaminant Discharge Permits and Oregon Title V Operating Permits. PSELs are annual emission limits that can be source specific or can be set at generic levels. Sources assigned Generic PSELs often have actual emissions that are much lower than the Generic PSEL.

DEQ is considering a change to this approach. Rather than assigning sources generic PSELs, DEQ could permit those sources using a limit based on their capacity, or potential to emit. Permitting sources at capacity or potential to emit:

- Creates permits that more accurately reflect actual emissions;
- Provides for regulatory certainty;
- Avoids over-allocation of air resources;
- Provides transparency for communities; and
- Allows more opportunities to review air quality modeling of emission increases to ensure compliance with short-term National Ambient Air Quality Standards for some permit modifications.

History of Generic Plant Site Emission Limits

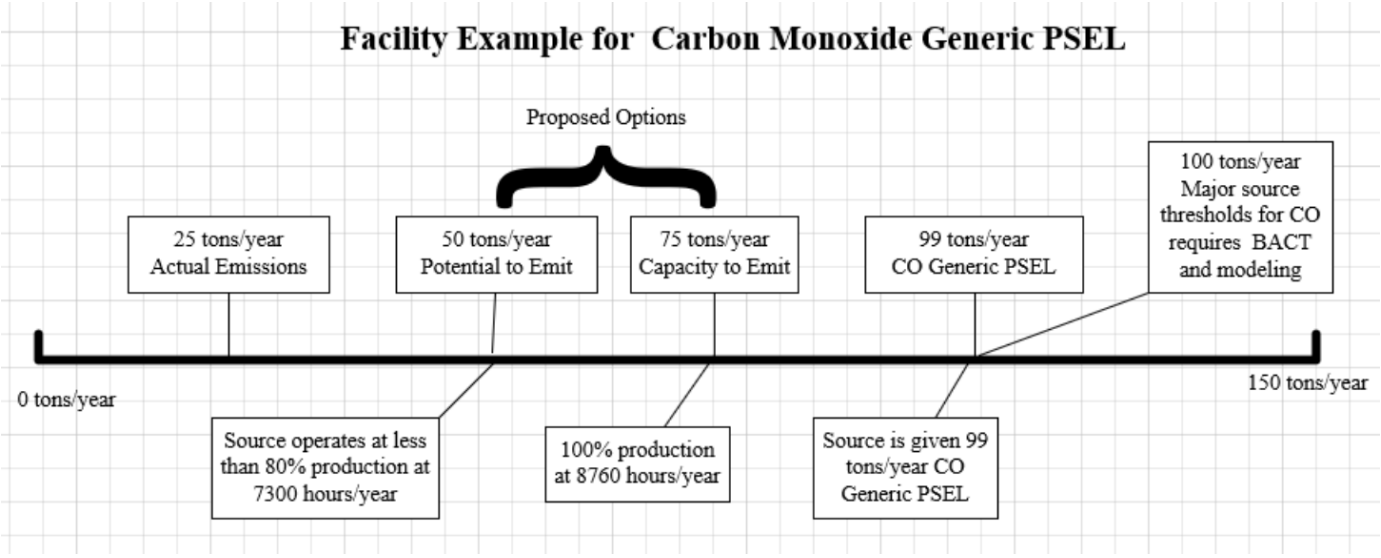
In an effort to streamline air quality permitting, DEQ established the concept of Generic PSELs in the 2001 Streamlined Permit Process Improvement Team rulemaking to replace source specific PSELs for some facilities. Generic PSELs (Appendix A) were established in permits for all pollutants with a listed Significant Emission Rate (Appendix A) if the source emitted that pollutant above the de minimis emission levels (Appendix A).

EPA's and DEQ's air permitting programs use Significant Emission Rates to determine when New Source Review requirements apply to new and existing facilities. Air quality modeling analysis is required for Significant Emission Rate increases to ensure the National Ambient Air Quality Standards are protected. In addition, a control technology review is required for major sources requesting Significant Emission Rate increases. Because there were no federal requirements in place for increases of emissions less than the Significant Emission Rate at that time, the Generic PSELs were established to allow increases up to the Generic PSEL and not require a source to submit a permit modification application as long as there were no physical modifications. The changes were intended to result in:

1. Less time to calculate PSELs
2. Less time to write permits
3. Fewer permit modifications
4. Less public notice for PSEL changes
5. Less time spent with applicant

Concerns with the use of Generic PSELs

Assigning Generic PSELs allows some sources to be permitted at emission levels that they cannot physically emit. DEQ does not have readily available data on potential to emit (Appendix B) or capacity to emit (Appendix B) for sources that have Generic PSELs. The following tables are included to show what actual emissions are relative to Generic PSELs. Actual emissions should always be less than the potential to emit or the capacity to emit of sources. The potential to emit or the capacity to emit could be much higher than actual emissions and could be closer to the Generic PSELs. See Appendix B for a visual explanation of these concepts.



This illustration shows an example of a source that has a Generic PSEL for carbon monoxide. While actual emissions are 25 tons/year, they are currently permitted at 99 tons/year. Under the proposal, DEQ would permit this source at its potential to emit of 50 tons/year, at its capacity to emit at 75 tons/year, or any lower amount that the source may request. This will provide transparency for communities and more realistic emission limits.

The following summarizes 2020 actual emissions from the 89 out of a total of 100 Title V sources that have at least one Generic PSELs for comparison purposes. Of the 268 Generic PSELs:

- 120 actual emissions are less than 10% of the Generic PSEL.
- 243 actual emissions less than 50% of the Generic PSEL.
- 25 actual emissions are between 51% and 99% of the Generic PSEL.

The following summarizes 2017 actual emissions from sources that are on Simple or Standard permits that have Generic PSELs for comparison purposes. Of the 170 Generic PSELs:

- 108 actual emissions are less than 10% of the Generic PSEL.
- 161 actual emissions are less than 50% of the Generic PSEL.
- 9 actual emissions are between 51% and 81% of the Generic PSEL.
- No actual emissions are greater than 81% of the Generic PSEL.

In addition to permitting sources at emission levels that they cannot physically emit, DEQ rules provide that DEQ will establish permit requirements "to prevent violation of an ambient air quality standard caused or projected to be caused substantially by emissions from the source as determined by modeling, monitoring, or a combination thereof." In 2010, EPA established 1-hour NAAQS for both NO_2 and SO_2 for the first time. In 2006, EPA lowered the primary and secondary 24-hour $PM_{2.5}$ standards. Significant Emission Rates were established in 1980, before 1-hour NAAQS were set. Significant Emission Rates are based on long-term (annual) emissions which do not take into account the variability of operations on a short-term basis. Because of this, Significant Emission Rates may not be protective of the short-term NAAQS in many cases. To protect short-term NAAQS, in compliance with the Clean Air Act, DEQ must evaluate increases that are less than the Significant Emission Rates and apply its existing rules to require modeling information.

Generic PSELs also obscure hourly emission rates that are necessary to determine whether a source has triggered modification as defined under OAR 340-210-0215 Notice of Construction and Approval of Plans.

Proposal to Permit by Capacity or Potential to Emit

Generic PSELs could still be available for General Air Contaminant Discharge Permits and General Title V permits. General permits are written for classes of industry (e.g., coffee roasters, crematories, rock crushers), and any source that meets the criteria for the General permit can apply for one. Without Generic PSELs, sources would be required to apply for source specific permits and pay much higher permit fees. Generic PSELs are an effective way to accommodate an industry type of varying sizes with substantially similar activities and similar emissions profiles.

PSELs can also be used to limit emissions from sources so they do not fall into the category of major sources and therefore, are not required to obtain Title V permits. Major sources have the potential to emit 100 tons/year of criteria pollutants, 25 tons/year of combined hazardous air pollutants, or 10 tons/year of an individual hazardous air pollutant. If a source accepts of limit under these major source thresholds, they are known as synthetic minor sources. If a source could be a major source for carbon monoxide only, a PSEL of up to 99 tons of CO could be included as a permit limit. For all other pollutants, PSELs will be based on capacity or potential to emit PSELs.

For all other instances, DEQ proposes to permit sources at their capacity or potential to emit with source specific PSELs. Source specific PSELs prevent a scenario where a source is permitted at emission levels that it cannot physically emit.

> OAR 340-200-0020(19)
> "Capacity" means the maximum regulated pollutant emissions from a stationary source under its physical and operational design.

> OAR 340-200-0020(124)
> "Potential to emit" or "PTE" means the lesser of:

(a) The regulated pollutant emissions capacity of a stationary source; or
(b) The maximum allowable regulated pollutant emissions taking into consideration any physical or operational limitation, including use of control devices and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, if the limitation is enforceable by the Administrator.
(c) This definition does not alter or affect the use of this term for any other purposes under the FCAA or the term "capacity factor" as used in Title IV of the FCAA and the regulations promulgated thereunder. Secondary emissions are not considered in determining the potential to emit.

If a source is operating at its capacity or potential to emit, and its emissions at those operating rates are less than the Generic PSEL, then the source has the flexibility it needs and should not need to be given more emissions than it can physically emit. Permitting at capacity is also in alignment with how Cleaner Air Oregon permits smaller sources. In order to emit more than its capacity, the source would have to do a physical modification. A permit modification is required for a physical modification to increase capacity, at which time DEQ would increase the PSEL, if requested by the source. This will also allow the applicant and DEQ to ensure compliance with New Source Performance Standards, if applicable, as well as any minor source control technology requirements adopted by EQC. The review may also assess impacts on National Ambient Air Quality Standards.

Effects on Title V sources

Title V sources have PSELs that are source specific and usually greater than the Generic PSELs. For the pollutants where the potential to emit is less than the Generic PSEL, the PSEL is set at the Generic PSEL "level." Under this proposal, DEQ would use the same production/throughput that is used to calculate the source specific PSELs to set all the PSELs, even those that are less than the Generic PSEL level. If a Title V source proposes any type of construction, existing rules typically require that this approval must happen outside of the Title V program, either through the Notice of Intent to Construct or with an Air Contaminant Discharge Permit that allows for construction. Once construction is approved, it must be incorporated into the Title V permit under OAR 340-218-0190 so operating approval is, in most cases, a two-step process. When the Title V permit includes construction approval for operational flexibility under OAR 340-210-0230(4), a Notice of Intent to Construct is not required. This means that in some cases, facilities construct emissions units that are not specifically identified in the permit and have no enforceable emission rates or production limitations.

Setting the PSEL for all pollutants at the potential to emit may affect Title V sources and result in some permit modifications. Under the proposal, less significant changes that result in emissions increases may trigger Notice of Intent to Construct and construction permit applications.

Effects on Air Contaminant Discharge Permit sources

All sources that are currently on Simple permits have Generic PSELs unless they emit at less than the de minimis emission levels. Sources that are on Standard permits have PSELs that are a combination of source specific PSELs and PSELs set at the Generic PSEL level.

DEQ always encourages sources to set their PSELs at a level under which they can operate for the permit term. Because a source's actual emissions are usually much less than their capacity or potential to emit, permitting these sources at either of these levels will provide flexibility since a source could request permission to add a new piece of equipment that could increase their potential to emit without needing a PSEL increase.

DEQ also is considering changes to the rules to allow a source to stay on a Simple permit for Type 3 Notice of Intent to Construct changes that would increase the source's PSEL. Type 3 changes would allow increases in emissions above the PSEL by more than the de minimis emission level and would increase emissions from any new, modified, or replaced device, activity or process, or any combination of devices, activities, or processes at the source by more than the Significant Emission Rate. Currently, Type 3 changes require a source on a Simple permit to obtain a Standard permit with much higher fees.

Permit Type	Initial Application Fee	Annual Fees	Cleaner Air Oregon Annual Fees
Simple permit	$9,000	Low Fee $3,917 High Fee $7,834	Low Fee $806 High Fee $1,612
Standard permit	$18,000	$15,759	$3,225

Setting the PSEL for all pollutants at the capacity or potential to emit is not expected to affect most sources on Standard permits because PSELs set at capacity or potential to emit should give sources enough flexibility to operate and not need permit modifications to increase permittee emissions. DEQ anticipates some permit modifications from this proposed rule change for sources on Simple permits that cannot accommodate the new equipment under their PSEL.

Generic PSELs are also used to distinguish between Simple and Standard permits. If a source can operate under the Generic PSELs, that source can be permitted on a Simple permit as long as the other criteria for a Simple permit are met. If a source cannot operate under the Generic PSELs, that source must be permitted on a Standard permit. By eliminating Generic PSELs for Simple permits, DEQ can still use the Significant Emission Rate as one criterion to distinguish between a Simple permit and a Standard permit.

Implementation

If adopted, DEQ is considering implementation of the proposed changes to the Generic PSEL immediately for new applications and, at the first permit renewal application due date after the rule adoption date for existing sources. Permit writers, especially those who write Simple permits, will work closely with their sources to clearly explain the ramifications of the rule change and whether to set their PSELs based on capacity or potential to emit. Later increases in PSELs will require a permit modification and fees.

Effects on Workload

As with any rule change adopted by the Environmental Quality Commission, DEQ will conduct outreach to sources and update permit guidance and resources. DEQ will train staff on new permitting requirements to maintain efficiency during implementation.

Title V sources are required to pay fees based on permitted emissions (i.e., Generic level PSELs) or potential to emit. DEQ performs an audit of Title V fees every three years. The audit is resource intensive and requires a staff person to work 4-6 hours/day and a second staff person to work one full day/week for 4 months. The cost of the audit is approximately $40,000. For sources that pay on the Generic PSELs rather than their potential to emit, DEQ refunds fees for overpayment since their potential to emit is less than the Generic PSEL. The audit is also used to identify any underpayments.

The proposed rule changes will eliminate the work needed to refund the overpayment of fees. Permittees on Air Contaminant Discharge Permits do not pay fees based on emissions.

Summary of Generic PSELs and Changes Under Consideration

The left column in following table that contains the rationale verbatim when DEQ recommended that Environmental Quality Commission adopt the Generic PSELs in 2001. The right column includes the effects that the proposed rule changes have on that original rationale.

2001 Rationale for Generic PSELs	Effect of Changes Under Consideration
Allows expanded use of General permits.	No change. Generic PSELs would still be allowed for General permits.
Eliminates permit modifications to increase the PSEL up to the SER since there are no technical requirements for increases below the SER.	Some anticipated increase in permit modifications. Allowing increases up to the Significant Emission Rates may not be protective of the short-term National Ambient Air Quality Standards so modeling should be done to ensure these standards are protected. This change may also increase the number of public notices and potential request for a public hearing from the impacted communities.
Allows netting basis to be used to track New Source Review applicability for all pollutants with a SER.	No change. Netting basis is used to track New Source Review applicability. Most sources with Generic PSELs emit at a fraction of the Generic PSELs and would probably never trigger New Source Review. Netting basis for these sources is not needed because New Source Review permit applications are submitted about once per year by major sources.
Does not affect State Implementation Plan and Prevention of Significant Deterioration modeling, which will use actual emissions instead of generic PSELs.	Would reduce the risk of adverse finding from EPA. The current practice of issuing generic PSELs does not assure protection of NAAQS. However, sources report actual emissions, regardless of whether their PSELs are set at the Generic PSEL or are source specific. New Source Review is comprised of three parts: analyses for the Significant Impact Level, NAAQS, and PSD Increments. The SIL and NAAQS analyses require permitted or PTE emission, while PSD Increment uses actual emissions. The full NAAQS analysis requires the inclusion of nearby competing sources, and in Oregon, we commonly use actual emissions in place of emissions based on generic PSELs. In short, for PSD Increment modeling we use actual emissions, in accord with EPA's Appendix W. For the NAAQS competing sources analysis, we typically use actual emissions because the generic PSELs usually don't reflect reality. For sources that

2001 Rationale for Generic PSELs	Effect of Changes Under Consideration
	do not have Generic PSELs, we use the PSELs for the source undergoing the analysis.
Avoids unproductive work to calculate the PSEL for insignificant emission levels and inefficiently addressing HAPs through the NSR program.	Calculations must be done for all activities at a source, excluding categorically insignificant activities, to ensure that the source emits at levels less than the Generic PSELs. This calculation is not done for sources on General permits or Basic Permits. This change is a result of the Title V program and has also been incorporated into the Air Contaminant Discharge Permit program. Hazardous Air Pollutants have never been addressed through the New Source Review program since that program is for criteria pollutants, not Hazardous Air Pollutants.

Discussion Questions

- What do you like about the ideas?
- What concerns do you have?
- Do you have other thoughts on changes to the rules that ensure compliance with short-term NAAQS while maximizing permitting efficiencies?
- What effects do you think this change will have on regulated sources?
- What effects do you think this change will have on impacted communities?
- Are there other criteria that should be considered?

Appendix A: Definitions

De minimis emission levels are defined as follows:

OAR 340-200-0020

(39) "De minimis emission level" means the level for the regulated pollutants listed below:
(a) Greenhouse Gases (CO2e) = 2,756 tons per year.
(b) CO = 1 ton per year.
(c) NOx = 1 ton per year.
(d) SO2 = 1 ton per year.
(e) VOC = 1 ton per year.
(f) PM = 1 ton per year.
(g) PM10 (except Medford AQMA) = 1 ton per year.
(h) PM10 (Medford AQMA) = 0.5 ton per year and 5.0 pounds/day.
(i) Direct PM2.5 = 1 ton per year.
(j) Lead = 0.1 ton per year.
(k) Fluorides = 0.3 ton per year.
(l) Sulfuric Acid Mist = 0.7 ton per year.
(m) Hydrogen Sulfide = 1 ton per year.
(n) Total Reduced Sulfur (including hydrogen sulfide) = 1 ton per year.
(o) Reduced Sulfur = 1 ton per year.
(p) Municipal waste combustor organics (dioxin and furans) = 0.0000005 ton per year.
(q) Municipal waste combustor metals = 1 ton per year.
(r) Municipal waste combustor acid gases = 1 ton per year.
(s) Municipal solid waste landfill gases (measured as nonmethane organic compounds) = 1 ton per year
(t) Single HAP = 1 ton per year
(u) Combined HAP (aggregate) = 1 ton per year

Generic Plant Site Emission Limits are defined as follows:

OAR 340-200-0020

(72) "Generic PSEL" means the levels for the regulated pollutants listed below:
(a) Greenhouse Gases (CO2e) = 74,000 tons per year
(b) CO = 99 tons per year
(c) NOx = 39 tons per year
(d) SO2 = 39 tons per year
(e) VOC = 39 tons per year
(f) PM = 24 tons per year
(g) PM10 (except Medford AQMA) = 14 tons per year
(h) PM10 (Medford AQMA) = 4.5 tons per year and 49 pounds per day
(i) PM2.5 = 9 tons per year
(j) Lead = 0.5 tons per year
(k) Fluorides = 2 tons per year
(l) Sulfuric Acid Mist = 6 tons per year
(m) Hydrogen Sulfide = 9 tons per year
(n) Total Reduced Sulfur (including hydrogen sulfide) = 9 tons per year
(o) Reduced Sulfur = 9 tons per year
(p) Municipal waste combustor organics (Dioxin and furans) = 0.0000030 tons per year
(q) Municipal waste combustor metals = 14 tons per year
(r) Municipal waste combustor acid gases = 39 tons per year

(s) Municipal solid waste landfill gases (measured as nonmethane organic compounds) = 49 tons per year
(t) Single HAP = 9 tons per year
(u) Combined HAPs (aggregate) = 24 tons per year

Significant emission rates are defined as follows:

OAR 340-200-0020
(161) "Significant emission rate" or "SER," except as provided in subsections (v) and (w), means an emission rate equal to or greater than the rates specified for the regulated pollutants below:
(a) Greenhouse gases (CO2e) = 75,000 tons per year
(b) Carbon monoxide = 100 tons per year except in a serious nonattainment area = 50 tons per year, provided DEQ has determined that stationary sources contribute significantly to carbon monoxide levels in that area.
(c) Nitrogen oxides (NOX) = 40 tons per year.
(d) Particulate matter = 25 tons per year.
(e) PM10 = 15 tons per year.
(f) Direct PM2.5 = 10 tons per year.
(g) PM2.5 precursors (SO2 or NOx) = 40 tons per year.
(h) Sulfur dioxide (SO2) = 40 tons per year.
(i) Ozone precursors (VOC or NOx) = 40 tons per year except:
(I) In a serious or severe ozone nonattainment area = 25 tons per year.
(II) In an extreme ozone nonattainment area = any emissions increase.
(j) Lead = 0.6 tons per year.
(k) Fluorides = 3 tons per year.
(l) Sulfuric acid mist = 7 tons per year.
(m) Hydrogen sulfide = 10 tons per year.
(n) Total reduced sulfur (including hydrogen sulfide) = 10 tons per year.
(o) Reduced sulfur compounds (including hydrogen sulfide) = 10 tons per year.
(p) Municipal waste combustor organics (measured as total tetra- through octa- chlorinated dibenzo-p-dioxins and dibenzofurans) = 0.0000035 tons per year.
(q) Municipal waste combustor metals (measured as particulate matter) = 15 tons per year.
(r) Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride) = 40 tons per year.
(s) Municipal solid waste landfill emissions (measured as nonmethane organic compounds) = 50 tons per year.
(t) Ozone depleting substances in aggregate = 100 tons per year.
(u) For the Medford-Ashland Air Quality Maintenance Area, the SER for PM10 is defined as 5 tons per year on an annual basis and 50.0 pounds per day on a daily basis.
(v) For regulated pollutants not listed in subsections (a) through (u), the SER is zero unless DEQ determines the rate that constitutes a SER.
(w) Any new source or modification with an emissions increase less than the rates specified above and that is located within 10 kilometers of a Class I area, and would have an impact on such area equal to or greater than 1 ug/m3 (24 hour average) is emitting at a SER. This subsection does not apply to greenhouse gas emissions.

Appendix B: Glossary

Appendix W: contains EPA's preferred and recommended models air quality dispersion modeling. These models are required to be used for State Implementation Plan (SIP) revisions

for existing sources and for New Source Review (NSR) and Prevention of Significant Deterioration (PSD) programs.

Best Available Control Technology or BACT: is an emission limit based on the maximum degree of reduction that takes into account energy, environmental, and economic impacts and other costs and is achievable for a source or modification.

Baseline year: is the calendar year 1977 or 1978. DEQ may allow the use of a prior time period if determined to be more representative of normal source operation.

Major source: is a source the emits 100 tons/year for any pollutant except for hazardous air pollutants. A “major source” for hazardous air pollutants emits 10 or more tons per year of any single hazardous air pollutant or 25 or more tons per year of any combination of hazardous air pollutants.

National Ambient Air Quality Standards: are required by the Clean Air Act and set by EPA for pollutants that are common in outdoor air, considered harmful to public health and the environment, and that come from numerous and diverse sources. There are two types of national air quality standards. Primary standards are designed to protect public health with an adequate margin of safety. Secondary standards are designed to protect public welfare.

Netting Basis: reflects approved increases and required decreases in allowable emissions since the baseline year. The netting basis is established for each pollutant with a Significant Emission Rate emitted from a source.

New Source Review: is a permitting process created by the US Congress in 1977 as part of a series of amendments to the Clean Air Act. The NSR process requires industry to undergo pre-construction review for environmental controls if they propose either building new facilities or any modifications to existing facilities that would create a "significant increase" of a regulated pollutant.

Operational flexibility: allows industry to respond quickly in some cases to changing business conditions but does not compromise the ability of the permitting authority to hold the source responsible for compliance with all applicable requirements under the Clean Air Act. Under operational flexibility provisions, no permit revision is necessary.

Plant Site Emission Limit or PSEL: means the total allowable mass emissions per unit time of a regulated pollutant to which the owner or operator is entitled for their own use, future growth, or for sale or trade to other sources under certain conditions.

Significant Emission Rates: are set by EPA and used to determine when New Source Review requirements apply to new and existing facilities. Significant emission rates are used to evaluate whether a proposed project is considered a major modification and therefore requires the facility to obtain permits.

Simple permits: are semi-complex permits for small emitters such as data centers, metal foundries, wastewater treatment plants, printers, and publishers.

Standard permits: are complex permits for medium emitters such as particleboard plants, plywood plants, fuel terminals, semiconductor manufacturers, and bakeries.