

Clean Air Act Nuts & Bolts

OSB Environmental and Natural
Resources Section - Year In Review

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REGULATION OF EMISSION SOURCES

The Clean Air Act provides the principal framework for national, state, and local efforts to protect air quality. Under the Clean Air Act, EPA is responsible for setting standards, also known as national ambient air quality standards (NAAQS), for pollutants which are considered harmful to people and the environment. EPA is also responsible for ensuring that these air quality standards are met, or attained (in cooperation with state, Tribal, and local governments) through national standards and strategies to control pollutant emissions from automobiles, factories, and other sources.

AMBIENT AIR QUALITY STANDARDS

- Primary and secondary ambient air quality standards (aka: criteria pollutants)
 - Carbon monoxide
 - Nitrogen oxides
 - Sulfur dioxide
 - Particulate matter (PM_{2.5} and PM₁₀)
 - Ozone
 - Lead
- Attainment and nonattainment areas

AMBIENT AIR QUALITY STANDARDS

Pollutant [links to historical tables of NAAQS reviews]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Lead (Pb)		primary and secondary	Rolling 3 month average	0.15 µg/m ³ ⁽¹⁾	Not to be exceeded
Nitrogen Dioxide (NO₂)		primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	1 year	53 ppb ⁽²⁾	Annual Mean
Ozone (O₃)		primary and secondary	8 hours	0.070 ppm ⁽³⁾	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	PM _{2.5}	primary	1 year	12.0 µg/m ³	annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m ³	annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m ³	98th percentile, averaged over 3 years
	PM ₁₀	primary and secondary	24 hours	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO₂)		primary	1 hour	75 ppb ⁽⁴⁾	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

Current NAAQS Table, located at <https://www.epa.gov/criteria-air-pollutants/naaq-table>

AMBIENT AIR QUALITY STANDARDS (CONT'D)

Oregon Nonattainment Areas

- Oakridge – PM₁₀ and PM_{2.5}
- Klamath Falls – PM₁₀ and carbon monoxide

ADMINISTRATION OF THE CLEAN AIR ACT – CONT'D

The federal Clean Air Act authorizes states to implement the law so long as the state program is approved by EPA

- State program must be at least as stringent as federal law
- State implementation plans (SIPs) describe the elements of the state Clean Air Act programs

ADMINISTRATION OF THE CLEAN AIR ACT – CONT'D

A SIP must explain how the state will

- Achieve ambient air quality standards
- Establish emission limits
- Permit new or modified sources of air pollution

ADMINISTRATION OF THE CLEAN AIR ACT – CONT'D

Even when a SIP is approved by EPA, the EPA retains oversight authority

- EPA may take its own enforcement action if it disagrees with the state's enforcement of the Clean Air Act
- In these cases, the regulated entity may find itself caught in a crossfire between EPA and the authorized state agency

PERMITTING REQUIREMENTS

- One of the major initiatives in the Clean Air Act is an operating permit program for larger industrial and commercial sources that release pollutants into the air
- Operating permits include information on which pollutants are being released, how much may be released, and what kinds of steps the source's owner or operator is required to take to reduce the pollution
- Permits must include plans to measure and report the air pollution emitted
- EPA, States and tribes issue operating permits

PERMITTING REQUIREMENTS

- Air permits are required for the construction of new air emission sources or the modification of existing sources
- In general, air construction permits are preconstruction permits which means no “construction” can occur until the permit is issued
- Construction includes installation of foundations, paving, underground utility work, construction of permanent structures, etc.
 - Planning, ordering of equipment and material, site clearing, grading and on-site storage of equipment and materials are allowed

PERMITTING REQUIREMENTS

Plant Site Emission Limits (PSEL): assigns an emissions cap to all sources in the state, usually based on PTE, under which the source may revise emissions through any number of changes or modifications without triggering NSR as long as the emissions increase due to the change is below a Significant Emissions Limit (SER)

PERMITTING REQUIREMENTS

Permit Type	Source Categories	Permit Term	Plant Site Emission Limits (PSEL)	Typical Actual Emissions (tons/yr)
Short Term Activity	Any short term unexpected or emergency activity	60 days, no extensions	No	NA ²
Basic	OAR 340-216-0020, Table 1, Part A	10 years	No	<10
General	OAR 340-216-0050(5)	10 years	Yes, Generic PSEL	<SER ³
General Attachment	OAR 340-216-0050(5)	10 years	Yes, Generic PSEL	<SER
Simple	OAR 340-216-0020, Table 1, Part B	5 years	Yes, Generic PSEL	<SER
Standard	OAR 340-216-0020, Table 1, Part B or C	5 years	Yes, Source Specific	<100
Construction	OAR 340-216-0020, Table 1, Part B or C	5 years	Yes	NA

Which you need depends upon:

- Type of operation or equipment
- What rules and regulations apply
- Geographic location (attainment status)
- Quantity of emissions (potential and actual)
- Type of emissions
- Eligibility

PERMITTING REQUIREMENTS – CONT'D

Prevention of significant deterioration (PSD)

- Permitting of the construction or modification of major sources in attainment areas
- Allocation of available air quality increment
 - Monitoring data
 - Best available control technology (BACT)
 - Modeling of proposed emissions
 - Public notice and comment

PERMITTING REQUIREMENTS – CONT'D

New source review

- Permitting of the construction or modification of major sources in nonattainment areas
- Emission offsets
- Lowest achievable emission rate (LAER)

PERMITTING REQUIREMENTS – CONT'D

Title V permits

- Applies to major sources (potential to emit more than 100 tons per year of any air pollutant)
- All applicable legal requirements must be included in the permit
- Periodic compliance certifications

PERMITTING REQUIREMENTS – CONT'D

What is a Major Modification?

- Physical change or change in the method of operation. This does not include:
 - Increases in hours of operation or production rates that do not involve a physical change or change in the method of operation
 - Changes in the method of operation due to using an alternative fuel or raw material that the source was physically capable of accommodating
 - Routine maintenance, repair and like-for-like replacement of components

PERMITTING REQUIREMENTS – CONT'D

What is a Major Modification?

– Of an Existing Major Source

- For certain designated facilities (e.g., Kraft pulp mills), any facility that emits or has the potential to emit more than 100 tons per year of any regulated pollutant
- Any other facility that emits or has the potential to emit more than 250 tons per year of any regulated pollutant

PERMITTING REQUIREMENTS – CONT'D

What is a Major Modification?

- That Results in a Significant Net Emissions Increase of a New Source Review (NSR) Pollutant
 - Significance is established on a pollutant-by-pollutant basis (e.g., carbon monoxide 100 tons per year)
 - NSR pollutant is a pollutant for which a national ambient air quality standard has been established