TCEQ REGULATORY GUIDANCE
Air Permits Division
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Prevention of Significant Deterioration and Nonattainment Major Source Significant Emissions Fact Sheet

This fact sheet outlines the requirements for prevention of significant deterioration (PSD) and nonattainment major source significant emissions. The information in this guidance document does not replace the discussed laws and regulations. They take priority over any information supplied here.

See the Pollutant and Acronym Key at the end of this publication.

Prevention of Significant Deterioration Major Source Thresholds

[Title 40, Code of Federal Regulations, Subsection 51.166(b)(1) (40 CFR 51.166(b)(1)) and Title 30, Texas Administrative Code, Subsection 116.164(a)(1) (30 TAC 116.164(a)(1))]

Major Named Source: One of the stationary source categories listed below with a potential to emit (PTE) of 100 tons per year (tpy) or more of a regulated pollutant, including fugitive emissions.

- Coal cleaning plants (with thermal dryers).
- Kraft pulp mills.
- Portland cement plants.
- Primary zinc smelters.
- Iron and steel mills.
- Primary aluminum ore reduction plants.
- Primary copper smelters.
- Municipal incinerators capable of charging more than 250 tons of refuse per day.
- Hydrofluoric, sulfuric, or nitric acid plants.
- Petroleum refineries.
- Lime plants.
- Phosphate rock processing plants.
- Coke oven batteries.
- Sulfur recovery plants.
- Carbon black plants (furnace process).

- Primary lead smelters.
- Fuel conversion plants.
- Sintering plants.
- Secondary metal production plants.
- Chemical process plants. Not including facilities that produce ethanol by natural fermentation included in the North American Industry Classification System codes 325193 or 312140.
- Fossil-fuel boilers (or combinations thereof) totaling greater than 250 million British thermal units (BTUs) per hour of heat input.
- Petroleum storage and transfer units with total storage capacity above 300,000 barrels.
- Taconite ore processing plants.
- Glass fiber processing plants.
- Charcoal production plants.
- Fossil fuel-fired steam electric plants greater than 250 million BTUs per hour of heat input.

Major Un-named source: Any stationary source that is not a named source with a PTE of 250 tpy or more of a regulated pollutant. As of August 7, 1980, fugitive emissions from an un-named source under the New Source Performance Standards or National Emission Standards for Hazardous Air Pollutants are included in the tpy emission.

Minor source: A named or un-named source with emissions less than major source thresholds.

Major source: A named or un-named source with a PTE greater than or equal to major source thresholds. A source that is major for any regulated pollutant is major for all regulated pollutants.

Significant Emission Rates (SER) for PSD Major Sources

[40 CFR 51.166(b)(23) and 30 TAC 116.164(a)(2)]

PSD review is required for a new major source if the project emissions increase equals or exceeds the corresponding named or un-named major source threshold by itself. If PSD is triggered for a new major source for a pollutant, the project emissions increase for all other regulated pollutants are evaluated against the SER to determine if PSD is triggered for the pollutant. If the project emissions increase equals or exceeds the SER for the pollutant, PSD is triggered for that pollutant as well.

PSD review is required at an existing site if one of the following criteria occurs:

- **Minor source:** If the project increase equals or exceeds either the corresponding named or un-named major source threshold by itself. If PSD is triggered for an existing minor source for a pollutant, the project emissions increase for all other regulated pollutants is evaluated against the SER to determine if PSD is triggered for the pollutant (no netting

allowed). If the project emissions increase equals or exceeds the SER for the pollutant, PSD is triggered for that pollutant as well.

- **Major source:** If the net emissions increase for the pollutant equals or exceeds the SER (Tables 1-3).

Table 1. PSD Major Source Modification SERs for Criteria Pollutants

Criteria Pollutant	Major Source Modification SER (tpy)
Carbon monoxide (CO)	100
Oxides of nitrogen (NO_x)	40
Sulfur dioxide (SO_2)	40
Ozone as volatile organic compound (VOC)	40
Ozone as NO_x	40
PM_{10} (includes condensable emissions)	15
$PM_{2.5}$ (includes condensable emissions)	10
Lead (Pb)	0.6

Table 2. Major Source Modification SERs for Non-Criteria Pollutants

Non-Criteria Pollutant	Major Source Modification SER (tpy)
Particulate matter (PM)	25
Hydrogen sulfide (H_2S)	10
Total reduced sulfur (TRS)	10
Reduced sulfur compounds (including H_2S)	10
Sulfuric acid (H_2SO_4)	7
Fluoride excluding hydrogen fluoride (HF)	3
Greenhouse gases (GHG)	Greater than zero as GHG and 75,000 as carbon dioxide equivalent (CO_2e)
Any regulated pollutant not listed in 40 CFR § 51.166(b)(23)(i)	Greater than zero

Table 3. Major Source Modification SERs for Other Sources/Pollutants

Other	Measured as	Major Source Modification SER (tpy)
Municipal waste combustor organics	total tetra-through octa-chlorinated dibenzo-p-dioxins and dibenzofurans	3.5×10^{-6}
Municipal waste combustor metals	Particulate matter	15
Municipal waste combustor acid gases	SO_2 and hydrogen chloride	40
Municipal solid waste landfills	Nonmethane organic compounds	50
Any new or modified major source within 10 kilometers of a Class I area	Any criteria pollutant	Any rate or net increase with a 24-hour impact of ≥ 1 µg/m^3

Nonattainment Major Source Emission Rates

[40 CFR 51.165 (a)(1)(iv)(A), 51.165 (a)(1)(x)(A), 51.165(a)(9), and 51.165(a)(10)]

Nonattainment review applies to any pollutant for which areas are designated as nonattainment. For the nonattainment review to apply, the source must be major for the nonattainment pollutant or precursor.

Nonattainment review is required for a new major source if the project emissions increase of the nonattainment pollutant equals or exceeds the major source threshold for the area classification by itself.

Nonattainment review is required at an existing site if one of the following criteria occurs:

- **Minor source:** If the project emissions increase of the nonattainment pollutant (no netting allowed) equals or exceeds the major source threshold for the area classification by itself (Table 4).
- **Major source:** If the net emissions increase for the nonattainment pollutant equals or exceeds the SER (Table 4).

For current nonattainment areas, counties, and classifications, refer to Table 4. Nonattainment areas, emission limits, and offsets are pollutant specific.

Note that when multiple nonattainment classifications for the same pollutant apply in a nonattainment area, the most stringent nonattainment classification is used for air permitting.

Table 4. Nonattainment Emissions Thresholds and Offset Ratios

Criteria Pollutant	Nonattainment Area Classification	County or Area	Nonattainment Major Source (tpy)	Nonattainment Major Source Modification SER (tpy)	Offset Ratio Minimum
Ozone as VOC or NOx (2008 Standard)	Severe	**Dallas-Fort Worth** (Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties)	25	25	1.3 to 1
Ozone as VOC or NOx (2015 Standard)	Serious	**Dallas-Fort Worth** (Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, and Wise Counties)	50	25	1.2 to 1
Ozone as VOC or NOx (2008 Standard)	Severe	**Houston-Galveston-Brazoria** (Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties)	25	25	1.3 to 1
Ozone as VOC or NOx (2015 Standard)	Serious	**Houston-Galveston-Brazoria** (Brazoria, Chambers, Fort Bend, Galveston, Harris, and Montgomery Counties)	50	25	1.2 to 1
Ozone as VOC or NOx (2015 Standard)	Serious	**San Antonio** (Bexar County)	50	25	1.2 to 1
PM10 (1987 standard)	Moderate	City of El Paso	100	15	1.00 to 1
SO2 (2010 standard)	Nonattainment	Freestone (partial), Anderson (partial), Rusk (partial), Panola (partial), Hutchinson, Howard, Navarro, and Titus (partial) Counties	100	40	1.00 to 1

Pollutant and Acronym Key

Pollutant and Acronym Key	
BTU	British thermal unit
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
GHGs	greenhouse gases
HF	hydrogen fluoride
H_2S	hydrogen sulfide
H_2SO_4	sulfuric acid
$\mu g/m^3$	microgram per cubic meter
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
Pb	lead
PM_{10}	particulate matter with an aerodynamic diameter of 10 microns or less (includes condensable emissions)
$PM_{2.5}$	particulate matter with an aerodynamic diameter of 2.5 microns or less (includes condensable emissions)
PSD	prevention of significant deterioration
PTE	potential to emit
SER	significant emission rate
SO_2	sulfur dioxide
TAC	Texas Administrative Code
tpy	tons per year
TRS	total reduced sulfur
VOC	volatile organic compounds