

**Air Permit Reviewer Reference Guide**

**APDG 5944**

# **Potential to Emit Guidance**

**Air Permits Division  
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### What is potential to emit (PTE)?

Potential to emit is defined in Title 30 Texas Administrative Code (30 TAC) Chapter 122 (herein referred to as Chapter 122) as the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design or configuration. Any certified registration or preconstruction authorization restricting emissions or any physical or operational limitation on the capacity of a stationary source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable by the United States Environmental Protection Agency (EPA).

Please note that PTE is a theoretical calculation (which may differ from actual emissions) used to determine if a site is a major source. A site is not authorized to emit any air pollutant without first complying with preconstruction authorization requirements pursuant to 30 TAC Chapter 106 and/or Chapter 116 (herein referred to as preconstruction authorization).

### How does PTE relate to determining major source?

A site is a major source subject to the requirements of Chapter 122 if the site emits, or has the PTE equal to or greater than the major source thresholds for any air pollutants as specified in Chapter 122.

However, there are some state and federal regulations that require non-major sources to comply with the requirements of Chapter 122. Refer to [Non-major Sources Subject to 30 TAC Chapter 122](#) for a list of regulations that require non-major sources to comply with the requirements of Chapter 122.

### What is my site's PTE?

In general, a site's PTE is the sum of all the stationary sources' PTEs at a site.

As noted earlier, a site is not authorized to emit any air pollutant without first complying with preconstruction authorization requirements. Preconstruction authorizations consist of the following:

- Case-by-case New Source Review (NSR) permits (pursuant to 30 TAC Chapter 116),
- Standard permits (pursuant to 30 TAC Chapter 116),
- Permits by rule (PBRs) (pursuant to 30 TAC Chapter 106), and
- De minimis facilities or sources (pursuant to 30 TAC § 116.119).

Based on the PTE definition above, the emission limits established for emission sources through preconstruction authorizations are federally enforceable so they are considered PTE. In addition, the emission limits established in certified registrations (using [Form APD-CERT](#) or [Form PI-7-CERT](#)) are federally enforceable so they are considered PTE. [Although the emission limits represented on [Form PI-7](#) (not to be confused with [Form PI-7-CERT](#)) are not federally enforceable, the emission limits specified in 30 TAC Chapter 106 are federally enforceable so they are considered PTE.]

The following emission limits (PTEs) from stationary sources must be included in a site's PTE calculation:

- For emission sources authorized by case-by-case NSR permits:
  - the emission limits listed in the Special Conditions (if any), and
  - the emission limits listed in the Maximum Allowable Emission Rates table (MAERT) [including planned maintenance, startup, and shutdown (MSS) emissions];
- For emission sources authorized by standard permits, the lower of the following:
  - the emission limits specified in the standard permit, or
  - the emission limits listed in the standard permit registration approval letter or the standard permit Maximum Emission Rates Table;
- For emission sources authorized by PBR certified registrations ([Form PI-7-CERT](#)):
  - the emission limits certified on Form PI-7-CERT;
- For emission sources authorized by PBRs, the lower of the following:
  - The PBR General Emission Limits (30 TAC § 106.4) of less than 250 tons per year (tpy) of NO<sub>x</sub> and CO and less than 25 tpy of VOC, SO<sub>2</sub>, PM<sub>10</sub>, and any other air pollutants,
  - The PBR Specific Emission Limit (if contained in the PBR), or
  - The PTE calculated based on the maximum operational design or achievable capacity (whichever is higher) of emission sources operating continuously 8760 hours per year\*, and
- For emission sources authorized by de minimis facilities and sources, the lower of the following:
  - The emission limits listed in 30 TAC § 116.119 or the "[De Minimis Facilities or Sources](#)" list (if any), or
  - The PTE calculated based on the maximum operational design or achievable capacity (whichever is higher) of emission sources operating continuously 8760 hours per year\*.
- For activities currently not authorized by 30 TAC Chapter 106 or 116:
  - The PTE must be calculated based on the maximum operational design or achievable capacity (whichever is higher).

\* If an owner or operator submitted an FOP application and later requested to withdraw the FOP application or void the FOP, the PTE calculation must be certified using Form APD-CERT. If a site was determined not to be a major source using the PTE calculation and an FOP application was not submitted, the owner or operator must be able to verify that determination if requested by the EPA, the Texas Commission on Environmental Quality (TCEQ), or any other air pollution control agency having jurisdiction.

Information on reducing PTE (or federally enforceable emission limits) is explained in the next section.

Certain federally enforceable emission limits or emission sources' PTEs may be excluded from a site's PTE calculation when determining major source status. These exclusions are explained later in this document.

## How do I lower my federally enforceable emission limits?

There are several available mechanisms for a permit holder to lower the federally enforceable emission limits for emission sources at a site. The available mechanisms depend on the emission sources' preconstruction authorizations, and they are described below.

For an existing case-by-case NSR permit, the permit holder may lower the federally enforceable emission limits in the permit through the permit alteration or amendment process pursuant to 30 TAC Chapter 116, or possibly the pollution control standard permit registration process pursuant to 30 TAC § 116.617.

For a standard permit authorization, the permit holder may lower the federally enforceable emission limits in the standard permit authorization by submitting a revised application for the standard permit registration.

For a non-registered PBR claimed or a registered PBR authorization (Form PI-7), the permit holder may lower the federally enforceable emission limits of the PBR general limits or specific PBR limits by submitting Form APD-CERT. Form APD-CERT may also be submitted to make emission limits in previously issued PBR authorizations (Form PI-7) federally enforceable.

For a PBR certified registration (PI-7-CERT), the permit holder may lower the federally enforceable emission limits of the previously certified emission limits by submitting Form APD-CERT.

For a de minimis facility or source, the permit holder may lower the federally enforceable emission limits for the de minimis facility or source by submitting Form APD-CERT.

Form APD-CERT cannot be used to establish or lower federally enforceable emission limits for emission sources authorized by standard permits or case-by-case NSR permits, except in the following situation. There are certain instances where an affected source subject to a regulation after the compliance date will remain subject to that regulation, regardless of any changes to the site's PTE. For example, pursuant to EPA's "once in, always in" policy, an owner or operator cannot avoid MACT applicability for affected sources once the compliance date of that MACT has passed. In situations where the compliance date of a regulation has not passed but is near, and an alteration/amendment of an NSR permit (or a revision to standard permit registration) would not be completed before the compliance date, the permit holder may use Form APD-CERT to establish federally enforceable emission limits to avoid applicability to the regulation. However, the permit holder must submit an application for an NSR permit alteration/amendment (or application to revise the standard permit registration) along with Form APD-CERT to incorporate the emission limits and representations from Form APD-CERT.

When Form APD-CERT is submitted to establish or lower federally enforceable emission limits the owner, or operator must follow the instructions on Form APD-CERT and submit **all** required information. Also, the owner or operator must demonstrate on an ongoing basis that the representations are satisfied and certified emission limits are not exceeded. Therefore, it is critical that enforceable documentation of the emission rates and/or operating parameters be maintained at the site or an accessible designated location for at least the past five years for inspection by the EPA, TCEQ, or any other air pollution control agency having jurisdiction.

This documentation may include, but is not limited to, production rate or throughput, hours of operation, type or amount of material combusted, stored, or processed, and other appropriate operating parameters, such as temperature, pressure, flow rate, as necessary to demonstrate that the source is in compliance with the emission limitations represented in Form APD-CERT.

#### Why should I lower my site's PTE and when should it be done?

The two common reasons why an owner or operator may lower a site's are to avoid having to obtain or maintain an FOP pursuant to Chapter 122 and to avoid applicability to the maximum available control technology (MACT) standards pursuant to Title 40 Code of Federal Regulation (40 CFR) Part 63 (except as specified in [Non-major Sources Subject to 30 TAC Chapter 122](#)).

First, an owner or operator may lower a site's PTE below major source thresholds such that the site does not trigger or is no longer subject to the requirements of Chapter 122. In order to avoid submitting an FOP application pursuant to Chapter 122, the owner or operator must establish federally enforceable emission limits below major source thresholds for the site by the due date of the FOP application as specified in 30 TAC 122.130. Otherwise, the FOP application must be submitted by the application due date and may be withdrawn once federally enforceable emission limits below major source thresholds are established for the site. If an FOP has already been issued for the site, the FOP may be voided once federally enforceable emission limits below major source thresholds are established for the site. The owner or operator is obligated to comply with all terms and conditions of an FOP until the date of the void letter issued by the TCEQ Air Permits Division.

If a source later becomes subject to the requirements of Chapter 122 (due to new regulatory requirements or changes at the site) the owner or operator is required to submit an initial issuance FOP application pursuant to Chapter 122.

Second, an owner or operator may lower a site's PTE for HAPs so that the site is an area source not subject to certain MACT standards. In order to avoid applicability to these MACT standards, the federally enforceable emission limits to demonstrate area source status must be established before the compliance date of each applicable MACT. Otherwise, once a site is subject to a MACT and the compliance date of the MACT has passed, the owner or operator must continue to comply with the requirements of the MACT.

Note: Although a permit holder cannot avoid MACT applicability after the compliance date of an applicable MACT, the permit holder may want to lower the site's PTE so that the site is no longer a major source and the FOP can be voided.

#### Are Fugitive Emissions included in the PTE calculation?

When determining if a site is a major source for hazardous air pollutant (HAP) emissions, all HAP fugitive emissions are required to be included in the PTE calculation for the site.

When determining if a site is a major source for any non-HAP air pollutants, only the fugitive emissions from stationary sources belonging to the following categories are included in the PTE calculation for the site:

- 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 plant;
- sintering plants;
- secondary metal production plants;
- chemical process plants;
- fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units (Btu) per hour heat input;
- petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
- taconite ore processing plants;
- glass fiber processing plants;
- charcoal production plants;
- fossil-fuel-fired steam electric plants of more than 250 million Btu per hour heat input; or
- any stationary source category regulated under FCAA, § 111 (Standards of Performance for New Stationary Sources) or § 112 for which the EPA has made an affirmative determination under FCAA, § 302(j) (Definitions). \*\*

\*\* Fugitive emissions must be counted for any source category regulated under FCAA § 111 or § 112 for which the EPA has made an affirmative determination under FCAA § 302(j). The source categories regulated under FCAA § 111 or § 112 for which fugitive emissions currently must be counted are listed in Table A and Table B. It is important to note that a particular source does not have to be subject to the particular subpart in order to be required to count fugitive emissions for purposes of determining if a site is major. For example, a source may have been built prior to the applicability date of a particular 40 CFR Part 60 Subpart. Fugitive emissions from the source must still be included in determining the PTE if the source belongs to the source category regulated by the subpart.

Table A - Source Categories Regulated Under FCAA § 111 for Which Fugitive Emissions Must Be Counted

<b>40 CFR Part 60, Subpart</b>	<b>Subpart Title</b>
D	Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971
Da	Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978
E	Standards of Performance for Incinerators
F	Standards of Performance for Portland Cement Plants
G	Standards of Performance for Nitric Acid Plants
H	Standards of Performance for Sulfuric Acid Plants
I	Standards of Performance for Hot Mix Asphalt Facilities
J	Standards of Performance for Petroleum Refineries
K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978
Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978 and Prior to July 23, 1984
L	Standards of Performance for Secondary Lead Smelters
M	Standards of Performance for Secondary Brass and Bronze Production Plants
N	Standards of Performance for Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973
O	Standards of Performance for Sewage Treatment Plants
P	Standards of Performance for Primary Copper Smelters
Q	Standards of Performance for Primary Zinc Smelters
R	Standards of Performance for Primary Lead Smelters
S	Standards of Performance for Primary Aluminum Reduction Plants
T	Standards of Performance for the Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants
U	Standards of Performance for the Phosphate Fertilizer Industry: Superphosphoric Acid Plants
V	Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Acid Plants
W	Standards of Performance for the Phosphate Fertilizer Industry: Triple Superphosphate Plants
X	Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities



<b>40 CFR Part 60, Subpart</b>	<b>Subpart Title</b>
Y	Standards of Performance for Coal Preparation Plants
Z	Standards of Performance for Ferroalloy Production Facilities
AA	Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983
BB	Standards of Performance for Kraft Pulp Mills
CC	Standards of Performance for Glass Manufacturing Plants
DD	Standards of Performance for Grain Elevators
GG	Standards of Performance for Stationary Gas Turbines
HH	Standards of Performance for Lime Manufacturing Plants
KK	Standards of Performance for Lead-Acid Battery Manufacturing Plants
MM	Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations
NN	Standards of Performance for Phosphate Rock Plants
PP	Standards of Performance for Ammonium Sulfate Manufacture

Table B - Source Categories Regulated Under FCAA § 112 for Which Fugitive Emissions Must Be Counted

<b>40 CFR Part 61, Subpart</b>	<b>Subpart Title</b>
C	National Emission Standard for Beryllium
D	National Emission Standard for Beryllium Rocket Motor Firing
E	National Emission Standard for Mercury
F	National Emission Standard for Vinyl Chloride
M	National Emission Standard for Asbestos

Are shutdown equipment considered in the PTE calculation?

For a site with shutdown equipment which is still in place and capable of operating, the shutdown must be enforceable through representation in an NSR permit or Form APD-CERT.

Are temporary sources considered in the PTE calculation?

Any temporary source which is located at a site for less than six months shall not affect the determination of a major source pursuant to Chapter 122 for other stationary sources at a site.

EXAMPLES

**Example 1:** A site is located in a marginal ozone nonattainment area where the major source thresholds for all criteria pollutants are 100 tpy. The major source thresholds for HAPs are 10 tpy of single HAP and 25 tpy of total HAPs. The site has a total of two emission units. The emission units were authorized as follows:

Emission Unit ID No.	Type of Authorization	Federally Enforceable Emission Limits, tpy						
		PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	Single HAP	Total HAPs
ENG1-NSR	NSR permit	1.0	1.0	45.0	45.0	10.0	1.5	1.5
ENG2-PBR	PBR	25	25	250	250	25	25	--

The site was a major source for NO<sub>x</sub> and CO. The company decided to reduce the emissions from emission unit ENG2-PBR by adding on controls. The company made the reduced emissions federally enforceable by submitting a certified registration using Form APD-CERT. Form APD-CERT represented the following federally enforceable emission limits: 0.1 tpy of PM<sub>10</sub>, 0.1 tpy of SO<sub>2</sub>, 35.0 tpy of NO<sub>x</sub>, 35.0 tpy of CO, 5.0 tpy of VOC, 1.0 tpy of single HAP, and 1.0 tpy of total HAPs. The PTE for the site is now below the major source thresholds (as shown below) so the site is no longer a major source.

Emission Unit ID No.	Type of Authorization	Federally Enforceable Emission Limits, tpy						
		PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	Single HAP	Total HAPs
ENG1-NSR	NSR permit	1.0	1.0	45.0	45.0	10.0	1.5	1.5
ENG2-PBR	PBR (APD-CERT)	0.1	0.1	35.0	35.0	5.0	1.0	1.0
Total:		1.1	1.1	80.0	80.0	15.0	2.5	2.5

**Example 2:** A site is located in a moderate ozone nonattainment area where the major source thresholds for all criteria pollutants are 100 tpy. The major source thresholds for HAPs are 10 tpy of single HAP and 25 tpy of total HAPs. The site has a total of two emission units. The emission units are authorized as follows:

Emission Unit ID No.	Type of Authorization	Federally Enforceable Emission Limits, tpy						
		PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	Single HAP	Total HAPs
ENG1-NSR	NSR permit	2.0	2.0	90.0	90.0	20.0	3.0	3.0
ENG2-PBR	PBR using Form PI-7-CERT	0.1	0.1	35.0	35.0	5.0	1.0	1.0

The site was a major source for NO<sub>x</sub> and CO. The company decided to reduce the emissions from emission unit ENG1-NSR by reducing the hours of operation. The company submitted an NSR permit alteration to reduce the emissions for emission unit ENG1-NSR to 1.0 tpy of PM<sub>10</sub>, 1.0 tpy of SO<sub>2</sub>, 45.0 tpy of NO<sub>x</sub>, 45.0 tpy of CO, 10.0 tpy of VOC, 1.5 tpy of single HAP, and 1.5 tpy of total HAPs. After the permit alteration was completed, the PTE for the site fell below the major source thresholds (as shown below) so the site is no longer a major source.

Emission Unit ID No.	Type of Authorization	Federally Enforceable Emission Limits, tpy						
		PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	Single HAP	Total HAPs
ENG1-NSR	NSR permit	1.0	1.0	45.0	45.0	10.0	1.5	1.5
ENG2-PBR	PBR using Form PI-7-CERT	0.1	0.1	35.0	35.0	5.0	1.0	1.0
Total:		1.1	1.1	80.0	80.0	15.0	2.5	2.5