

# **Air Permit Reviewer Reference Guide**

**APDG 5881**

## **Major New Source Review - Applicability Determination**

**Air Permits Division  
Texas Commission on Environmental Quality**

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**\*The purpose of this document is to provide assistance to the regulated community and TCEQ staff. The contents of this document is for informational purposes only and does not supersede or replace applicable federal rules, statutes, or court rulings. This document is not an original legal source and should not be cited in regulatory actions.**

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# Major New Source Review - Applicability Determination

## I. Introduction

### What Gives Texas Its Authority?

The Texas Commission on Environmental Quality (TCEQ) regulates air quality in the state of Texas through the Texas Clean Air Act (TCAA), located in Chapter 382 of the Texas Health and Safety Code; develops rules, including those in Title 30 Texas Administrative Code (TAC) Chapter 116; and implements provisions of the Federal Clean Air Act (FCAA).

Title I of the FCAA requires states to develop State Implementation Plans (SIPs) to address the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). Title I also requires a preconstruction permitting program for both major and minor sources (New Source Review or NSR).

The NAAQS were designed by the Environmental Protection Agency (EPA) to protect public health (Primary NAAQS) and welfare (Secondary NAAQS) from the effects of criteria pollutants. Criteria pollutants include carbon monoxide, lead, nitrogen dioxide, particulate matter equal to or less than ten micrometers in diameter (PM<sub>10</sub>), particulate matter equal to or less than 2.5 micrometers in diameter (PM<sub>2.5</sub>), ozone, and sulfur dioxide. The FCAA requires states to determine which areas are in compliance with the NAAQS (attainment areas), and which areas are out of compliance with the NAAQS (nonattainment areas).

In an effort to help protect public health and welfare, the EPA initiated two Major New Source Review (Major NSR, or MNSR) permitting programs. The Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR) permitting programs to apply to new major sources, and major modifications of existing major sources.

The PSD permitting program is applicable for criteria pollutants, in areas that are in compliance with the NAAQS for that pollutant. The PSD permitting program is also applicable to certain non-criteria pollutants. Non-criteria pollutants are pollutants that are regulated by the EPA; however, they do not have a NAAQS.

The NNSR permitting program is applicable for criteria pollutants in areas, which are out of compliance with the NAAQS for that pollutant. If an area is out of compliance, or not in attainment with the NAAQS, it is generally referred to as a “nonattainment” area.

The applicability steps for each of these Major NSR programs will be discussed in detail later in this document.

This document provides permit reviewers with a process to evaluate Major NSR applicability. The applicant must fully document and explain why Major NSR is, or is not, applicable to the project under review. The document also contains links to the necessary Major NSR forms, and to additional information specific to the PSD and nonattainment permitting programs.

This document covers definitions, concepts, approaches, and examples, which can be used in determining whether Major NSR is required. While this document provides general guidance for the determination of Major NSR applicability, it is not regulatory and does not limit the permit reviewer's ability to require that the applicant provide additional information. Due to the complexity of Major NSR applicability determinations, there may be instances where the permit reviewers may deviate from this guidance on a case-by-case basis. Deviation from this guidance may only occur with the approval of the permit reviewer's supervisor or the Air Permits Division (APD) director.

Finally, this guidance document is a training tool that supersedes and is intended to replace previous documents related to Major NSR applicability, including previous versions of the "Federal New Source Review Permits (FNSR Permits) Applicability Determination" document.

## **Background**

The TCEQ staff conducts a preconstruction technical review during the air permitting process. This review ensures that the operation of a proposed facility will comply with all applicable rules and regulations (federal and state) and intent of the TCAA, and not cause or contribute to air pollution.

One of the first actions in any technical review is the check for Major NSR applicability. Each project with a proposed new facility, or a modification of an existing facility, must be evaluated to determine whether it is subject to either the PSD permitting program or the NNSR permitting program. For NO<sub>x</sub> emissions, it is possible that both PSD and NNSR may apply. That determination is made on a pollutant by pollutant basis using the steps provided in this document. Although the PSD and NNSR permit reviews are quite different, the steps to determine whether they apply to a project are very similar.

Major source or major modification permitting is similar to minor source or minor modification permitting; however, the differences are significant enough so that every project must be evaluated to determine if it is subject to MNSR permitting requirements. Projects subject to MNSR cannot be authorized through permit by rule (PBR) or standard permit. Note the following explanations of major NSR:

- Major NSR permitting is only done for regulated NSR pollutants (commonly called federally regulated pollutants, or regulated pollutants) that meet or exceed specific significant emission rates. This includes both criteria pollutants (regulated pollutants which have a NAAQS), and non-criteria pollutants (regulated pollutants which do not have a NAAQS). If a pollutant will be emitted at rates below the significant emission rates, they are not

subject to review under EPA's Major NSR permitting programs; however, the state's "minor NSR" permitting program still applies. The TCAA requires that all air contaminants emitted from a facility be authorized, so a technical review for a single project could require multiple evaluations: PSD, NNSR, and/or minor NSR.

- Major NSR permitting is done on a pollutant-by-pollutant basis. A project may be considered a major modification for one pollutant and Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) would only be evaluated for that pollutant. All physical and/or operational changes must be authorized by the state's minor NSR program. Even if a project is not major, a BACT Review (along with all other requirements of the state's Minor NSR program) must be conducted.
- If a project is subject to Major NSR, the minor NSR authorization cannot be obtained through 30 TAC § 116.116(e) or 30 TAC § 116.617. If Major NSR applies to equipment authorized by a flexible permit, a Major NSR application will be required and the flexible permit must be amended. In addition, if a project is subject to Major NSR, authorization cannot be obtained through 30 TAC Chapter 106 (Permit by Rule, or PBR). The only exemptions to major NSR are identified in the definition of major modification in 30 TAC § 116.12.

## Additional Notes

There have been court decisions and EPA initiatives that have created new NAAQS requirements. Some of the changes are either not reflected in TCEQ rules or not fully implemented by EPA rules or policy. Permit reviewers must be aware of any existing, updated, or new NAAQS and conduct their reviews appropriately. Below are recent NAAQS changes as of the latest revision of this guidance.

- **2008 Ozone NAAQS Reclassification**

Effective September 23, 2019, the Dallas-Fort Worth nonattainment area (Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties) and the Houston-Galveston-Brazoria nonattainment area (Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties) have been reclassified to Serious nonattainment areas. The EPA determined that these areas failed to attain the standards set by the attainment date.

- **2015 Ozone NAAQS Implementation**

Effective August 3, 2018, the EPA finalized designations for the Dallas-Fort Worth nonattainment area (Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, and Wise Counties) and the Houston-Galveston-Brazoria nonattainment area (Brazoria, Chambers, Fort Bend, Galveston, Harris, and Montgomery Counties). Effective September 24, 2018, the EPA finalized designation for the San Antonio

nonattainment area (Bexar County). The EPA classified these three nonattainment areas as Marginal nonattainment for the 2015 ozone NAAQS.

- **PM<sub>2.5</sub> NAAQS Implementation**

PM<sub>2.5</sub> emissions must be addressed during permit technical reviews. This means that BACT needs to be evaluated, and PM<sub>2.5</sub> emissions need to be included in the Maximum Allowable Emission Rates Table, or MAERT (if PM<sub>2.5</sub> is present). The review of PM<sub>2.5</sub> includes “direct” emissions, which contain the “condensable” portions of the emissions as well. Pending further guidance from the EPA, precursors to PM<sub>2.5</sub> (NO<sub>x</sub> and SO<sub>2</sub>) will be evaluated under their own federal requirements (as they currently exist). Calculations and BACT specific to PM<sub>10</sub> and PM<sub>2.5</sub> should be submitted with an authorization request; however, there may be situations where the BACT and calculation methodology for PM<sub>10</sub> and PM<sub>2.5</sub> are equivalent. There are currently no PM<sub>2.5</sub> nonattainment areas in Texas.

- **1-Hour NO<sub>2</sub> NAAQS Implementation**

In 2010, the EPA finalized 1-hour NO<sub>2</sub> NAAQS. There are no NO<sub>2</sub> nonattainment areas in Texas. Permit technical reviews include consideration of 1-hour NO<sub>x</sub> NAAQS.

- **1-Hour SO<sub>2</sub> NAAQS Implementation**

In 2010, the EPA finalized 1-hour SO<sub>2</sub> NAAQS. In 2016, portions of Freestone, Anderson, Rusk, Panola, and Titus counties were designated as nonattainment for SO<sub>2</sub>. In 2021, portions of Hutchinson, Navarro, and Howard counties were designated as nonattainment for SO<sub>2</sub>. Permit technical reviews include consideration of 1-hour SO<sub>2</sub> as part of state property line standards and NAAQS.

## II. Common Terms and Concepts

Major NSR is applicable for new major sources and major modifications of existing major sources. If an owner or operator is constructing a new facility or modifying an existing facility, they must determine if the new or modified facility is either a “new major source” or a “major modification of an existing major source.” To make these types of determinations, the reviewer will need to be familiar with some of the common terms and concepts associated with the MNSR program.

### Source

When reviewing the TCEQ’s minor NSR rules, the term “source” is commonly used. A source is defined in 30 TAC § 116.10 as “A point of origin of air contaminants, whether privately or publicly owned or operated.” A stationary source is defined in 30 TAC § 116.12 as: “any building, structure, facility, or installation that emits or may emit any air pollutant subject to regulation under 42 United States Code, §§ 7401 et seq.”

It is important to note that the definition of “source,” as used in Major NSR applicability, does not have the same meaning as the “source” as defined for use in Texas’s minor NSR program. This difference, in the use of the word “source,” can lead to confusion.

In Major NSR applicability, a “source” is, in most cases, the entire plant site. In 40 Code of Federal Regulations (CFR) § 51.166 and 40 CFR § 52.21, the EPA defines “source” as “any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant.” The EPA rule continues with an explanation of what is meant by “building, structure, facility or installation,” stating that: “*Building, structure, facility, or installation* means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same “Major Group” (i.e., which have the same first two-digit code) as described in the *Standard Industrial Classification Manual*, 1972, as amended by the 1977 Supplement (U. S. Government Printing Office stock numbers 4101-006 and 003-005-00176-0, respectively).”

## Modification

A modification is any physical change in, or change in the method of operation of, a facility that causes an emissions increase for any federally regulated NSR pollutant with the following exceptions:

- routine maintenance, repair, and replacement (RMRR);
- use of alternative fuel or raw material by reason of an order under the Energy Supply and Environmental Coordination Act of 1974, § 2(a) and (b) (or any superseding legislation) or by reason of a natural gas curtailment plan under the Federal Power Act;
- use of alternative fuel by reason of an order or rule of 42 United States Code § 7425;
- use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;
- use of alternative fuel or raw material by a stationary source that the source was capable of accommodating before December 21, 1976 (unless such change would be prohibited under any federally enforceable permit condition established after December 21, 1976) that the source is approved to use under any permit issued under regulations approved under 40 CFR 51 or 52;
- an increase in the hours of operation or in the production rate (unless the change is prohibited under any federally enforceable permit condition that was established after December 21, 1976);
- any change in ownership at a stationary source;

- any change in emissions of a pollutant at a site that occurs under an existing plant-wide applicability limit (PAL);
- the installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with the SIP and other requirements necessary to attain and maintain the national ambient air quality standard during the project and after it is terminated;
- for PSD review only, the installation or operation of a permanent clean coal technology demonstration project that constitutes repowering, provided that the project does not result in an increase in the potential to emit (PTE) of any regulated pollutant emitted by the unit. This exemption shall apply on a pollutant-by-pollutant basis; or
- for PSD review only, the reactivation of a clean coal-fired electric utility steam-generating unit.

A facility does not need to be physically “touched” for a modification to occur. The relaxation of a federally enforceable emission rate or restriction is considered to be a modification. If a PTE is increased, or if another restriction is relaxed (such as a throughput limit, charge rate, firing rate, restrictions on the types or amount of material processed, handled, etc.), the facility is considered to be modified.

In most cases, if it is necessary to change an NSR permit condition to allow an operation, the change should be considered a change in method of operation and therefore a potential modification. This is also generally true of changes proposed under 30 TAC § 116.116(e) Changes to Qualified Facilities (SB 1126). Also, there is no pollution control project (PCP) exclusion, and EPA’s Equipment Replacement Provision option for RMRR was vacated by the federal district court and is not available for use.

See the following examples for the practical application of the information presented in this section.

[Example 1](#)

[Example 2](#)

[Example 3](#)

[Example 4](#)

[Example 5](#)



## Affected Facility

Although “affected facility” is not an official term used in the Major NSR rules, it is terminology that is commonly used to describe facilities that have been “debottlenecked” by a modification of a source.

Major sources often consist of multiple pieces of equipment, both emitting (facilities) and non-emitting, that comprise integrated processes. As part of the operations of a source, various pieces of equipment at a source (both emitting and non-emitting) may provide input to or accept output from other pieces of equipment. It is possible that some pieces of equipment may constrain other pieces of equipment from operating at their full design or authorized capacity. Such constraining pieces of equipment are typically called “bottlenecks.”

When a constraining piece of equipment is changed to increase its capacity, another piece of equipment may increase its operations to provide input to the formerly constrained equipment, or to accept output from it. This is typically described as an upstream and/or downstream effect, and the EPA has historically referred to this scenario as “debottlenecking.”

The EPA defines a major modification as a modification in which a physical change or a change in the method of operation of a source results in a significant project emissions increase of a regulated NSR pollutant and a significant net emissions increase of that pollutant. The total increase in emissions that are included in a Major NSR determination includes:

- Increases in emissions occurring at all new or modified facilities, and
- Any other increases at existing facilities that are not being modified but are experiencing an emissions increase as a result of a change.

The EPA has presumed that increases in emissions at debottlenecked units are caused by the project, or modification, and are therefore required to be included in determining Major NSR applicability for the project.

## Potential to Emit (PTE)

PTE means the maximum capacity of a source to emit a pollutant under its physical and operational design. This takes into account air pollution control equipment, restrictions on the hours of operation or on the type or amount of material being combusted, stored or processed. PTE also refers to the maximum allowable emission rate contained within an air authorization. These rates can generally be found on the MAERT.

When evaluating the emission from a “source,” or plant site for Major NSR applicability, the source PTE must include all of the pollutant-emitting activities, which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Secondary emissions do not need to be

included in this determination. Certain emissions from ships and barges located at berth are considered to be primary emissions and must be included in the PTE determination. These emissions include loading emissions, any vessel equipment meant to support the transfer of materials between the vessel and shore, and the emissions from the ship's boilers used to support the transfer of materials between the vessel and shore facilities while the ship is docked.

Secondary emissions are emissions that would occur as a result of the construction or operation of a major source, or from the major modification of an existing major source, but they do not come from the major source or major modification itself. Secondary emissions include emissions from any offsite support facility which would not be constructed or increase its emissions except as a result of the construction or operation of the major source or major modification. These emissions should be considered in the air dispersion modeling analysis required for the project.

All allowable emissions (or PTE) for the pollutant from each facility at the source, including wastewater, cooling tower emissions, and compliant planned startup, shutdown (MSS), and maintenance emissions should be summed. The physical PTE, or enforceable emission rate, that should be used in this calculation for each facility is based on its authorization.

- For construction permits or flexible permits – use the maximum allowable emission rate for the facility.
- For PBRs or standard permits – the lowest of the maximum emissions that may be authorized under the specific rule or permit (including the requirements in 30 TAC §§ 106.4 and 116.610). The source may establish a lower enforceable emission rate limit as specified in Form PI-7 CERT or Form APD-CERT for the facility.

## Baseline Actual Emission Rates

Baseline actual emission rates are used specifically for Major NSR applicability determinations. The definition of baseline actual emission rate is specific to the type of facility being evaluated. A baseline actual emission rate is:

- **For an existing facility (other than an electric utility steam generating unit):** The actual emission rate, in tons per year, at which the facility actually emitted the pollutant during any consecutive 24-month period (selected by the owner or operator) within the **ten year period** immediately preceding either the date the owner or operator begins actual construction of the project, or the date of a complete permit application submitted to the TCEQ.
- **For an existing electric utility steam generating unit:** The actual emission rate, in tons per year, at which the facility actually emitted the pollutant during any consecutive 24-month period (selected by the owner or operator) within the **five-year period** immediately preceding when the

owner or operator begins actual construction of the project. For electric utilities, the Executive Director shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Unlike the requirement for other stationary sources described above, a different 24-month period may be used if justified.

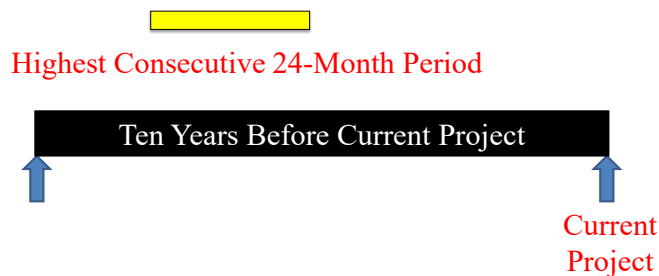
- **For a new facility:** The baseline actual emission rate, for purposes of determining the emissions increase that will result from the initial construction and operation of the facility, shall equal zero. If an existing facility has less than two years of operating history (from the date of initial operation of the facility), the baseline actual emission rate may be taken as the allowable emission rate, or the PTE, of the facility.

The following items apply to baseline actual emission rates in all cases:

- The baseline actual emission rate shall be adjusted downward to exclude any noncompliant emissions that occurred during the consecutive 24-month period. The applicant must determine whether any legally enforceable limitations currently exist, that would prevent the affected unit from emitting a pollutant at the levels calculated from the 24-month baseline period. The baseline actual emission rate cannot exceed a permitted maximum allowable emission rate or authorized rate.
- The baseline actual emission rate shall be adjusted downward to reflect any rule and/or SIP requirements.
- For each regulated NSR pollutant, when a project involves multiple facilities, only one consecutive 24-month period must be used to determine the baseline actual emissions for the facilities being changed. However, a different consecutive 24-month period can be used for each regulated pollutant.
- The baseline actual emission rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount.
- Baseline emissions cannot occur prior to November 15, 1990.
- Existing planned MSS emissions, meeting the criteria to be added to a permit, may be considered part of the baseline emissions if they were reported in the emissions inventory (EI) in a timely manner. In other words, they need to be reported in the emissions inventory during their EI questionnaire response, and not “backfilled” information, by providing emissions data to the EI’s going back in time a number of years. MSS emissions reported to the EI will be reviewed and corrected, if necessary, for any controls determined to be necessary to satisfy BACT and impacts in the permit review.
- Baseline actual emissions should not be used when determining a facility’s actual emissions for other Major NSR related requirements, such as an air

quality impacts analyses (for example, compliance with NAAQS and PSD increments). For modeling requirements, the pre-New Source Review Reform definition of “actual emissions” continues to apply to the facility (the two highest consecutive years of annual average actual operation immediately before the change).

Graphically, the contemporaneous period looks like this:



See the following examples for the practical application of the information presented in this section.

[Example 6](#)

[Example 7](#)

[Example 8](#)

## Projected Actual Emission Rates

Projected actual emission rates are used specifically for Major NSR applicability determinations and can be used in lieu of PTE emissions. Projected actual emission rates can only be used for existing facilities associated with the proposed project undergoing review.

A projected actual emission rate is the maximum annual rate, in tons per year, at which an existing facility is projected to emit a federally regulated new source review pollutant in any rolling 12-month period during:

- the five years following the date the facility resumes regular operation after the project, or
- in any one of the ten years following the date that the facility resumes regular operation after the project if the project involves increasing the

facility's design capacity or its PTE for that federally regulated new source review pollutant.

When determining the projected actual emission rate:

- If the owner or operator of the major stationary source is required to include fugitive emissions in their Major NSR applicability evaluation, they shall include fugitive emissions to the extent quantifiable. Consider all relevant information, including, but not limited to, historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the state or federal regulatory authorities, and compliance plans under the approved SIP.

If the owner or operator chooses to use projected actual emission rates in their Major NSR applicability determination, the owner or operator must provide documentation for the projected actual emission rates that will be used. The documentation required is identified in 30 TAC § 116.127, and this documentation must be provided as a part of any notification, certification, registration, or application submitted to the Executive Director. This documentation must include:

- A description of the project;
- Identification of the facilities for which emissions of a federally regulated NSR pollutant could be affected by the project; and
- A description of the applicability test used to determine that the project is not a major modification for any pollutant, including the baseline actual emissions, the projected actual emissions, and any netting calculations, if applicable.

The owner or operator shall monitor the emissions of any regulated NSR pollutant that could increase as a result of the project at that facility and calculate and maintain a record of the annual emissions from that facility on a calendar year basis for the following time periods:

- five years following the date the facility resumes regular operation after the project, or
- ten years following that date the facility resumes regular operation after the project if the project involves increasing the facility's design capacity or its potential to emit for that federally regulated new source review pollutant.

Projected actual emissions are most likely to be used with PBR and standard permit registrations where there is not an explicit allowable emission rate for a facility in the rule. It is unlikely that allowable emission rates for modified facilities that are subject to a minor NSR permit review would be set at a level that the owner or operator has indicated that it did not plan to operate at for at least the next ten years.

If the owner or operator uses projected actual emissions in their permit application, the use of projected actual emissions will be identified in a permit condition. There will be a permit requirement that the projected actual emissions be tracked. An example of such a condition is provided below.

*“The amendment application, PI-1 dated July 10, 2006, was determined not to be subject to major new source review by identifying projected actual emission rates for one or more facilities potentially affected by the project. Actual emissions from these facilities shall be monitored, recorded and reports made in accordance with 30 TAC § 116.127.”*

If the facility is an electric utility steam-generating unit (EGU), the owner or operator must submit a report to the Executive Director within 60 days after the end of each calendar year. Records must be maintained to document the unit's annual emissions during the calendar year that preceded submission of the report.

Other facilities (non-EGUs) must report to the Executive Director if the annual emissions from the project exceed the baseline actual emissions by a significant amount for that pollutant, and the emissions exceed the preconstruction projection for any facility. If the annual emissions exceed the baseline actual emissions by a significant amount for that pollutant, and the emissions exceed the preconstruction projection for any facility, the project should have either undergone Major NSR review or completed a netting exercise to determine the net emission increase. A demonstration will need to be made that the project would still not be a major modification, or an application for a PSD and/or nonattainment permit will need to be submitted concurrent with, or shortly after, the report. In the preamble to their final rule, EPA did not believe it was “necessary to make your future projections enforceable in order to adequately enforce the major NSR requirements. The FCAA provides ample authority to enforce the Major NSR requirements if a physical or operational change results in significant net emissions increase at your major stationary source.”

See the following examples for the practical application of the information presented in this section.

[Example 9](#)

## Major Source Definition for PSD

There are two different definitions of “major source” in the PSD program. The following significant emission rates define a major source for PSD:

- Named Major Source – greater than or equal to 100 tons/year (tpy).
- Un-named Major Source – greater than or equal to 250 tpy.
- A source that is a major source for volatile organic compounds (VOC) or NO<sub>x</sub> shall be considered to be a major source for ozone.

Named Sources are described in both 40 CFR § 51.166 and 40 CFR § 52.21. The “Named” Sources are:

1. Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input
2. Coal Cleaning Plants (with thermal dryers)
3. Kraft pulp mills
4. Portland cement plants
5. Primary zinc smelters
6. Iron and steel mills
7. Primary aluminum ore reduction plants (with thermal dryers)
8. Primary copper smelters
9. Municipal incinerators capable of charging more than 250 tons of refuse per day
10. Hydrofluoric, sulfuric, and nitric acid plants
11. Petroleum refineries
12. Lime plants
13. Phosphate rock processing plants
14. Coke oven batteries
15. Sulfur recovery plants
16. Carbon black plants (furnace process)
17. Primary lead smelters
18. Fuel conversion plants
19. Sintering plants
20. Secondary metal production plants
21. Chemical process plants (which does not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140)
22. Fossil-fuel boilers (or a combination thereof) totaling more than 250 million British thermal units per hour heat input
23. Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels
24. Taconite ore processing plants
25. Glass fiber processing plants
26. Charcoal production plants

Source types which do not appear on the “Named” major source list are considered to be unnamed sources.

For PSD applicability determinations, if the source is a named source, or is in a source category which, as of August 7, 1980, is being regulated under Federal Clean Air Act (FCAA) §§ 111 (New Source Performance Standards) or 112 (National Emission Standards for Hazardous Air Pollutants), fugitive emissions must be included in the major source determination, the determination of project emission increases, and the determination of net emission increases (net emission increases will be discussed later in this document).

For PSD applicability determinations, if the source is an unnamed source, fugitive emissions are not included in the determination of whether or not a source is a major source, the determination of project emission increases, and the determination of net emission increases (net emissions will be discussed later in this document).

For the PSD permitting program, if a source is a major source for anyone regulated pollutant, it is considered to be a major source for all regulated pollutants.

See the following examples for the practical application of the information presented in this section.

[Example 10](#)

[Example 11](#)

## Major Source Definition for NNSR

The definition of a “major source facilities” in the NNSR program, depends on the classification of the area in which the source is located. The EPA currently uses the following classifications for ozone nonattainment areas: Marginal, Moderate, Serious, Severe, and Extreme. The further out of compliance that a particular area is with the NAAQS, the lower the ton/year definition of a major source becomes.

For ozone nonattainment areas (regulated through Ozone precursors, VOC and NO<sub>x</sub>), the definition of a major source, for each of the classifications listed above, is as follows:

Marginal	100 tpy
Moderate	100 tpy
Serious	50 tpy
Severe	25 tpy
Extreme	10 tpy

For particulate matter (PM<sub>10</sub> or PM<sub>2.5</sub>) nonattainment areas, the definition of a major source, based on classification, is as follows:

Moderate	100 tpy
Serious	70 tpy



For lead, the definition of a major source is 100 tpy.

For SO<sub>2</sub>, the definition of a major source is 100 tpy.

For nonattainment applicability determinations, if the source is a named source, or is in a source category which, as of August 7, 1980, is being regulated under Federal Clean Air Act (FCAA) §§ 111 (New Source Performance Standards) or 112 (National Emission Standards for Hazardous Air Pollutants), fugitive emissions must be included in determining whether or not a source is a major source, in the determination of project emission increases, and in the determination of net emission increases (net emission increases will be discussed later in this document).

For nonattainment applicability determinations, if the source is an unnamed source, fugitive emissions are only excluded when determining whether or not a source is a major source. Fugitive emissions **must** be considered in the determination of project emission increases and net emission increases (net emissions will be discussed later in this document).

For the NNSR permitting program, a source must be major for the specific ozone precursor. VOC and NO<sub>x</sub> are evaluated individually (as VOC and NO<sub>x</sub>). It is possible to be a major source for one, and not for the other. In addition, VOC and NO<sub>x</sub> are evaluated separately. An owner or operator would not add VOC and NO<sub>x</sub> emission rates together and evaluate an NNSR using a combined emission rate.

See the following examples for the practical application of the information presented in this section.

[Example 12](#)

[Example 13](#)

## Significant Emission Rates for PSD

Significant emission rates have two purposes within the PSD Major NSR program.

- If the emissions from the new or modified facility equal or exceeds the PSD significant emission rate for the pollutant being evaluated, then an applicability threshold test (netting) is required.
- If the result of the netting analysis equals or exceeds the PSD significant emission rate for the pollutant being evaluated, then the modification is considered to be a major modification, and PSD review is required.

Likewise:

- If the emissions from new or modified facilities are less than the PSD significant emission rate for the pollutant being evaluated, PSD is not required.

- If the result of the netting analysis is less than the PSD significant emission rate for the pollutant being evaluated, Major NSR is not required. Another way of describing this step is to say that the project has “netted out” of PSD review.

The significant emission rates for the PSD permitting program can be found at the following location:

[www.tceq.texas.gov/assets/public/permitting/air/factsheets/factsheets-psd-na-sigemiss-6240.pdf](http://www.tceq.texas.gov/assets/public/permitting/air/factsheets/factsheets-psd-na-sigemiss-6240.pdf)

See the following examples for the practical application of the information presented in this section.

[Example 14](#)

## Significant Emission Rates for NNSR

Similar to PSD, significant emission rates have two purposes within the Major NNSR program; however, there are some important differences.

- If the emissions from the new or modified facility equal or exceeds the NNSR significant emission rate, for the pollutant being evaluated, then an applicability threshold test (netting) is required. For serious and severe nonattainment classifications, the significant emission rate is five tons/year. For marginal or moderate, the significant emission rate is 40 tons/year.
- If the result of the netting analysis equals or exceeds the NNSR significant emission rate for the pollutant being evaluated, then the modification is considered to be a major modification, and NNSR review is required.

Likewise:

- If the emissions from new or modified facilities are less than the NNSR significant emission rate for the pollutant being evaluated, NNSR is not required.
- If the result of the netting analysis is less than the NNSR significant emission rate for the pollutant being evaluated, NNSR is not required. Another way of describing this step is to say that the project has “netted out” of nonattainment review.

Another difference between the significant emission rates for PSD program as compared to the NNSR program is that for NNSR, as the severity of the nonattainment classification increases (becomes more severe or is further out of compliance with the NAAQS), the more stringent (i.e. lower) the significant emission rate becomes.

Also, there is a difference between the netting significant emission rate, and the major modification significant emission rate, when it comes to NNSR review. The significant emission rates for the NNSR permitting program can be found at the following location:

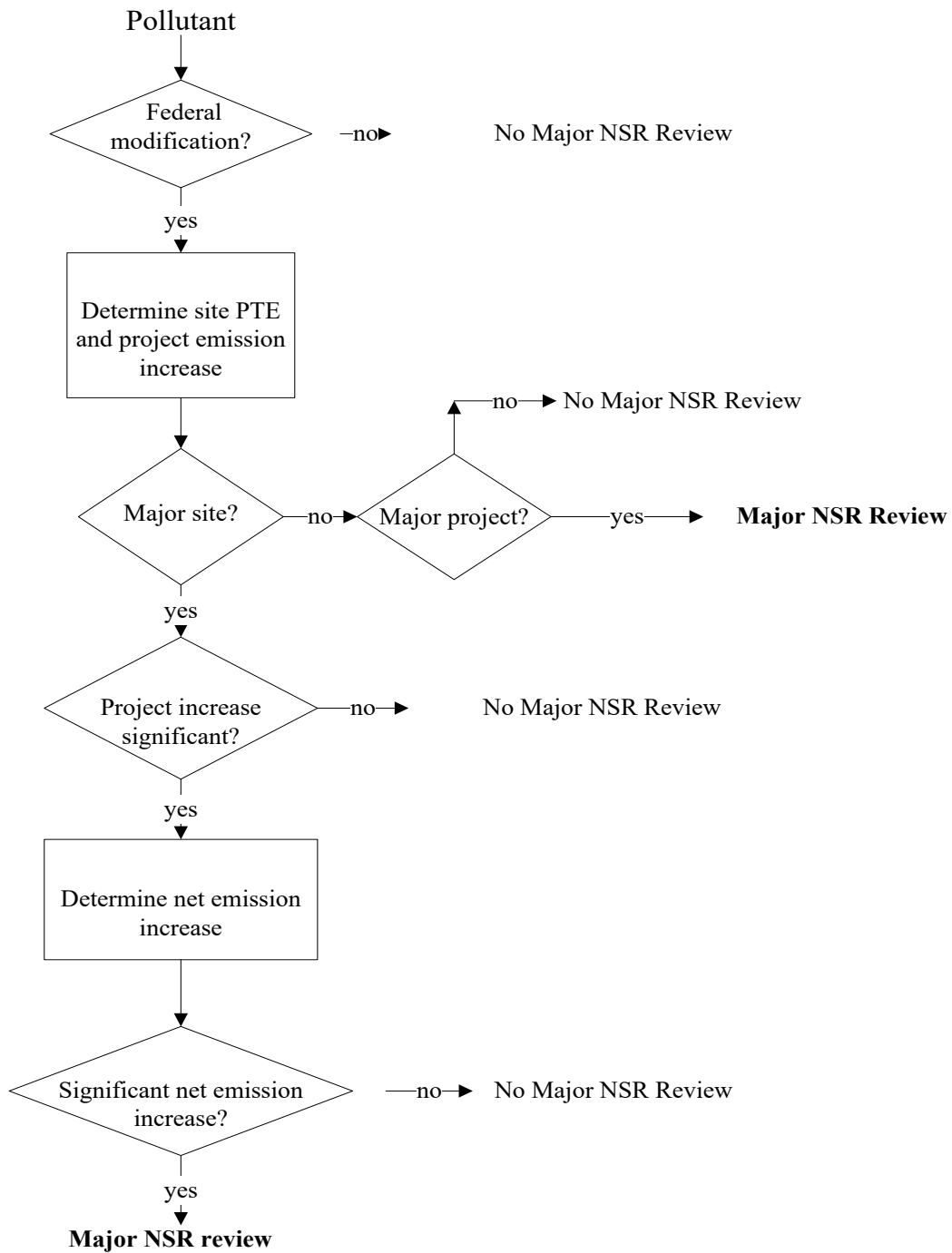
[www.tceq.texas.gov/assets/public/permitting/air/factsheets/factsheets-psd-nasigemiss-6240.pdf](http://www.tceq.texas.gov/assets/public/permitting/air/factsheets/factsheets-psd-nasigemiss-6240.pdf)

### III. Major NSR Applicability Determination

Major NSR is only applicable for new major sources and major modifications of existing major sources. If a company is constructing a new facility or modifying an existing facility, they must determine if the new or modified facility is either a “new major source” or a “major modification of an existing major source.”

**Planned MSS emissions, which have passed their 30 TAC 101 (Chapter 101) authorization schedule, must be included in Major NSR applicability determinations.**

In a “flowchart” type format, the Major NSR Applicability analysis looks like this:



Is a New, Modified, or Affected Facility located at a “grass roots” site, or a minor source? Is the project a major source in and of itself?

It is important to understand the size of a source (minor source or major source), and the location of a source, when evaluating Major NSR applicability.

- Is the new, modified, or affected facility located at a “grass roots” site, an existing minor source, or an existing major source?
- Is the new, modified, or affected facility located in an attainment area, or nonattainment area, for the pollutant being evaluated?

**Remember that Major NSR is applicable only for new major sources, and major modifications of existing major sources.** If the location is currently a greenfield site, or an existing minor source, then the project under review must be a major source in and of itself to trigger Major NSR.

Are the emissions from the new, modified, or affected facilities equal to or greater than a major source significant emission rate?

- If the new, modified, or affected facility is not a major source in and of itself, Major NSR does not apply. However, the project will have to meet all of the state’s minor NSR permitting requirements.
- If the new, modified, or affected facility is a major source in and of itself, then the appropriate Major NSR program (either PSD and/or nonattainment) is triggered for the pollutant equaling or exceeding its respective major source significant emission rate.

## **Does a modification at an existing major source equal or exceed the significant emission rate? Is netting triggered?**

A modification of an existing major source means that there are either new facilities being constructed, existing facilities are somehow being modified or affected (possibly resulting in upstream and/or downstream affects), or both. As defined using EPA’s “substantially related” test, new, modified, or affected facilities involved in a permitting action are generally referred to as a “project”. If the project emissions increase (sum of the differences between the planned emission rate and the baseline actual emission rate for each new, modified, and affected facility for the project) equals or exceeds the significant emission rate for the pollutant being evaluated, the project and increase is referred to as significant.

Project emission increases, at existing major sources, are determined by the following:

- If the facility is a new facility being constructed, the project emission increase corresponds to the facility’s potential to emit (baseline actual emission rate is equal to zero). For facilities that have started operation but

have been in operation for less than two years, the project emission increase corresponds to the difference between the current PTE for the pollutant and the post change pollutant PTE for the facility (baseline actual emission rate is equal to the current PTE). Note: A decrease may also be utilized for a unit in operation less than two years.

- For existing modified facilities or affected facilities, the project emission increase is determined by comparing the difference between the modified or affected facilities planned emission rates to the baseline actual emission rate for each facility associated with the project. Note: A facility associated with the project may have a decrease.

The planned emission rate of a modified or affected facility is either the:

- PTE, or
- A projected actual emission rate.

Only the project emission increases from new, modified, or affected facilities are considered in this step. **Emission decreases are allowed in this step provided the units associated with the decreases are existing and substantially related to the project.** Substantially related generally means that the units have a substantial economic or functional relationship (Federal Register November 15, 2018 Volume 83, page 57324). If there are other facilities at the source, and they are not affected by the project undergoing review, they are not included in determining if a project is a major project.

If the sum of the differences between the planned emission rate and the baseline actual emission rate of any modified or affected facilities, plus the PTE contribution of any new facilities, equals or exceeds the significant emission rate for the pollutant and Major NSR permitting program being evaluated, the project is considered to be a significant project. If the project is a significant project, the net emission increase at the source must be determined. This step is referred to as the applicability threshold test, contemporaneous netting, or just “netting” for short.

It is worth restating that “netting” is only conducted at existing major sources. There is no netting for minor sources.

### [Example 15](#)

## Netting

Netting is a Major NSR applicability step that is used to determine if a project is a major modification of an existing major source. If a project is a major modification of an existing major source, then Major NSR (either PSD and/or nonattainment) is applicable to the pollutant(s) under evaluation.

Does the result of the applicability threshold test (netting) indicate that the modification of an existing major source is a major modification of an existing major source?

Details on making this determination, and which Major NSR program may apply (possibly both), follows in the discussion below.

Netting is a summation of the project emission increases from the current project plus all creditable emission changes (both increases and decreases) within the contemporaneous period (also called the contemporaneous window or netting window).

The project emissions increase of the current project results from a comparison of the baseline actual emission rate to either the projected actual emission rate or the PTE for modified or affected facilities, plus the PTE of any new facilities.

Creditable emission changes (both increases and decreases), within the contemporaneous period (also called the contemporaneous window or netting window), is a summation of all projects which occur within the period.

Changes within the contemporaneous period (outside of the project undergoing review) are determined on a project by project basis and are determined through a comparison of the baseline actual emission rate prior to the project and the PTE after the project. Although this approach treats a project differently when it appears in a subsequent netting exercise, the approach is required by the EPA's rule.

The owner or operator must examine the history of all modifications at the source, over a defined period of time (contemporaneous period). If the sum of the emission changes (netting) for these historical modifications, and the current project under review, equals or exceeds the significant emission rate for the pollutant undergoing evaluation, a major source permit (PSD and/or Nonattainment Permit) is required.

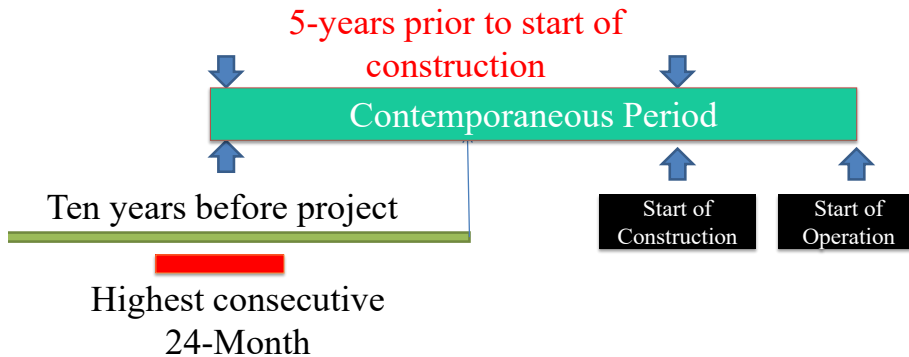
As a reminder, keep in mind that fugitive emission must be included in any Major NSR applicability determination, as discussed under the Major Source Definitions for PSD and NNSR.

Also, as a reminder, the significant emission rates for the PSD permitting program can be found at the following location:

[www.tceq.texas.gov/assets/public/permitting/air/factsheets/factsheets-psd-na-sigemiss-6240.pdf](http://www.tceq.texas.gov/assets/public/permitting/air/factsheets/factsheets-psd-na-sigemiss-6240.pdf)

All modifications during the contemporaneous period must be considered. The contemporaneous period extends back in time, from 60 months (five years) prior

to start of construction for the proposed project through the start of operation of the new, modified, or affected facilities. Graphically, the contemporaneous period looks like this:



Increases and decreases appearing in the contemporaneous window must be creditable, and the owner or operator must include any of the source's anticipated projects that may be planned and completed between the date that the permit application is submitted and the projected start of operations.

**An increase in emissions is creditable if the emissions increase:**

- occurs during the contemporaneous period;
- is the result of a physical change in, or change in the method of operation of, a stationary source only to the extent that the new level of emissions exceeds the baseline actual emission rate; and
- has not relied on it in issuing a Major NSR permit for the source, and that permit is in effect when the increase in emissions from the particular change occurs. For PSD, this effectively limits the contemporaneous period to the start of operation of the last major modification for the pollutant at the site.

Note: Emission increases at facilities under a PAL are not creditable.

**A decrease in emissions is creditable only if:**

- the new level of emissions are less than the baseline actual emission rate;
- the emissions decrease has not relied on it in issuing a Major NSR permit (either a PSD Permit and/or a Nonattainment Permit), the emission reduction has not been used as an offset, and the emission reduction is



federally enforceable at and after the time that actual construction on a particular change begins (for PSD, this effectively limits the contemporaneous period to the start of operation of the last major modification for the pollutant at the site);

- the emissions decrease has not been required by a State Implementation Plan (SIP – including 30 TAC Chapters 115 and 117) or has not been relied upon to demonstrate attainment or rate of further progress in a nonattainment area. Cap and trade programs put into place as part of the SIP (such as those for NO<sub>x</sub> and Highly Reactive Volatile Organic Compounds in the Houston-Galveston-Brazoria (HGB) nonattainment area) do not themselves affect the creditability of emission reductions made at any specific facility; however, other facility-specific control requirements in 30 TAC Chapters 115 or 117 for those pollutants must be considered in assessing the creditability of these reductions;
- if the facility is authorized by permit, the allowable emission rate would be reduced. An APD-CERT or PI-7 CERT form must be completed for the facility if it is authorized under standard permit or permit by rule;
- the decrease has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change; and
- decreases in emissions from MSS operations must be from emissions that have been reported in the Emissions Inventory (in a timely fashion), and discounted for BACT.

Note: Decreases in emissions are not creditable if the baseline actual emission rate exceeded an enforceable emission limit in existence before the project. Noncompliant emissions cannot be used as a creditable emission reduction.

In the case of PSD review only, an increase or decrease in emissions of SO<sub>2</sub>, PM, or NO<sub>x</sub> that occurs before the applicable minor source baseline date is creditable only if it is required to be considered in calculating the amount of maximum allowable increases remaining available.

The SIP nonattainment areas may include agreed orders, or Commission Orders. Emission reductions resulting from Commission orders, which are utilized by the SIP, are not creditable emission reductions for Major NSR applicability determinations.

See the following examples for the practical application of the information presented in this section.

[Example 16](#)

[Example 17](#)

[Example 18](#)

[Example 19](#)

## Major Modification

If the result of the netting exercise is equal to, or greater than, the significant emission rate for the pollutant under evaluation, Major NSR is required. More details, regarding the PSD and NNSR permitting programs can be found in the Appendices of this document.

Once a Major NSR permit is issued or approved, this action will have an effect on future Major NSR applicability reviews.

- After a PSD permit is issued for a specific pollutant, or a major modification of a PSD permit is approved for a specific pollutant, the contemporaneous period for future applicability reviews for that pollutant starts from zero. All projects, for that pollutant, were considered to be “relied upon” for the issuance or approval of that PSD action and will not appear in future contemporaneous periods. Projects affecting that pollutant, which occur after the PSD permit is issued or approved, will be included in future applicability reviews (as long as they are contemporaneous of a future project). This is known as “wiping the slate clean.”
- After a NNSR permit is issued for a specific pollutant, or a major modification of a NNSR permit is approved for a specific pollutant, only the particular project that was offset is considered to be relied upon. All other contemporaneous increases and decreases remain “active” for future NNSR applicability reviews, as long as they remain within the contemporaneous period of a future project.

## IV. Other Major NSR Applicability Concepts and Options

### Netting within a project, or “Net to Zero”

An additional Major NSR applicability approach is typically called netting within a project, or net to zero. The approach applies to Nonattainment applicability determinations only and **does not** apply to PSD applicability. “Netting within a project” can only be used in serious and severe nonattainment areas for projects with an emissions increase (without considering decreases) up to 25 tons/year. Netting to zero means that if the project’s emission increases, coupled with the project’s actual emission decreases, result in a value of zero or less, the project emission increase would not be significant and the applicability threshold test (netting) would not be required. If the project emission increases (without considering decreases) were greater than or equal to 25 tons/year, or if the “netting within a project” results in an emission increase that is greater than zero, the project emission increase would be significant, and the applicability threshold test (netting) would be required.

### “End Points” Netting

“End Points” Netting is an alternative netting approach for facilities, which undergo multiple modifications within the contemporaneous period. This approach is used on a facility-by-facility basis, and the emission change is shown in a netting calculation as follows:

*Creditable Increase or Decrease = [final allowable emission rate (typically the PTE)] – [baseline actual emission rate prior to the first change in the contemporaneous period].*

The end points netting approach was developed to help address the potential of “double counting” emissions that can be encountered when a specific facility undergoes a number of physical/operational changes within the contemporaneous period.

See the following examples for the practical application of the information presented in this section.

[Example 20](#)

## Additional approaches for NNSR

The FCAA allows additional approaches that can be utilized when it comes to Major NSR applicability related to NNSR. These approaches are limited to nonattainment areas that are classified as either Serious or Severe nonattainment. **These approaches do not apply for PSD Reviews**, and are summarized below:

- Major sources, with a PTE of less than 100 tpy of an applicable nonattainment pollutant, are not required to undergo nonattainment review if the project increase is offset with internal offsets at a ratio of at least 1.3 to 1. If the owner or operator chooses to utilize the internal offset approach, BACT can be substituted for LAER.
- Major stationary sources with a PTE of greater than or equal to 100 tpy of an applicable nonattainment pollutant can substitute BACT for LAER if the project increases are offset with internal offsets at a ratio of at least 1.3 to 1.

Outside of the control technology approaches listed above, LAER shall otherwise be applied to each new facility, and to each existing modified facility, at which the net missions increase will occur as a result of a physical change or change in the method of operation.

## Synthetic Minor

A synthetic minor source is a source that would normally be a major source, with the exception that the source is held to emission rates that are less than major source significant emission rate through either a permit condition and/or MAERT allowable. The equipment is physically capable of producing emission rates that would make the source a major source. In such cases, if a source becomes a major source because of a relaxation of a permit condition and/or MAERT allowable, the source will be treated as a new major source. The source will be subject to Major NSR, and the source will be reviewed as if it was never constructed, even though the increase over the sources previous allowable emission rates is less than significant.

## Replacement Facilities

In certain cases, replacement facilities may be considered existing facilities for the purpose of determining the project emission increase. These facilities must satisfy the following:

- The facility is a reconstructed unit within the meaning of 40 CFR § 60.15(b)(1), or the facility replaces an existing facility.
- The facility is identical to or functionally equivalent to the replaced facility.
- The replacement does not alter the basic design parameters of the process unit.

- The replaced facility is permanently removed from the major source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable. If the replaced facility is brought back into operation, the facility will be considered to be a new facility. No creditable emission reductions shall be generated from shutting down the existing facility that is replaced. A replacement facility is considered an existing facility for the purpose of determining Major NSR applicability. If the proposed project includes a replacement facility, the baseline emissions of the facility being replaced must be determined.

Note: Replacement facilities are typically viewed by the EPA to be an **exact** replacement of the equipment, which currently exists on the site. However, keep in mind that even if a replacement facility meets the requirements of the federal rule, it is still subject to the State of Texas's Minor NSR Program and the facility still must satisfy BACT and be protective of Off Property Impacts.

## What could have been accommodated

In the estimation of a project's emission increase, the source owner can exclude emissions that could have been accommodated during the selected baseline period, and that are also unrelated to the particular project. This provision allows source owners to consider only emissions increases that are caused by a particular project (rather than all future emissions increases), resulting in fewer projects triggering major NSR. EPA has referred to this provision as the "causation element" or the "demand growth exclusion."

If any portion of the facility's post-project emissions is excluded from the project emissions increases, the amount of emissions excluded must be identified, and an explanation (including any relevant supporting information) must be provided for the exclusion.

The concept of "could have accommodated" is both legal and physical. In other words, an emission rate could have been accommodated at a facility must satisfy both of the following conditions: (1) the emission rate and associated operating conditions would have been allowed under the facility's operating permit or any applicable regulation during the baseline period (legal accommodation); and (2) the facility was capable of sustaining the operating conditions associated with the accommodated emission rate during the baseline period (physical accommodation).

Emissions must also be unrelated to the proposed project if they are to be excluded. Permit applicants excluding emissions from the project emissions increase should include in the permit application sufficient details about the proposed project so that project-related emissions increases can be estimated and distinguished from unrelated emissions.

Regulatory guidance on the demand growth exclusion is currently limited. If you receive an application that is proposing to use the demand growth exclusion,

please bring it to the attention of your management (team leader and/or section manager) for further guidance.

See the following examples for the practical application of the information presented in this section.

### [Example 21](#)

## **Plant-wide Applicability Limit (PAL)**

The PAL is an alternative and voluntary permit limit that an owner or operator can choose to implement and use to assess FNSR applicability. If the emission rates of a future project, for a pollutant, which received a PAL, stay below the PAL emission rate, Major NSR is not applicable.

Any increases in a PAL must be made through the PAL permit amendment process. As a part of a PAL permit amendment, the applicant must demonstrate the following:

- The sum of the baseline actual emission from minor facilities, plus the sum of the baseline actual emissions of the significant and major facilities assuming the application of BACT equivalent controls, plus the sum of the allowable emissions of the new facilities exceeds the PAL.
- The owner or operator shall obtain a Major NSR permit for all facilities contributing to the increase in emissions that cause the major stationary sources emissions to exceed the PAL, regardless of the magnitude of the emissions increase. These facilities must demonstrate compliance with any emission requirements resulting from the major new source review process.

PAL permits must contain recordkeeping and recording requirements to ensure that the PAL is being complied with. The PAL permit must include the following requirements:

- Require that the increased PAL level be effective on the day any emission unit that is a part of the PAL major modification becomes operational or begins to emit the PAL pollutant.
- The new PAL shall be the sum of the allowable emissions for each modified or new facility, plus the sum of the baseline actual emissions for each significant and major emission unit after application of BACT equivalent controls, plus the sum of the baseline actual emissions of the minor units.

Applications for the establishment of a PAL, the renewal of a PAL, or for an increase of a PAL limit, are required to publish public notice and are subject to the notice and comment requirements of Chapter 39, except that PAL permits are not subject to the contested case hearings (Response To Comments (RTCs) only).

There is nothing in the PAL rules which exempts an applicant from meeting the requirements of the state's minor new source review permitting requirements. In

fact, the PAL rule relies on the minor NSR program to ensure that any modifications completed do not violate the NAAQS.

It is important to remember that a PAL does not authorize the construction or modification of any facility to emit air pollutants. A PAL establishes an annual emission rate below which new and modified facilities will not be subject to Major NSR for that pollutant.

Finally, details relating to the PAL, including (but not limited to) amending a PAL, determining compliance with the PAL, semiannual PAL reports, and renewing a PAL can be found in 30 TAC Chapter 116, Subchapter C: Plant-Wide Applicability Limits.

## V. PSD and Nonattainment Forms

PSD and Nonattainment applicability determinations are made, and represented, through the use of [Tables 1F](#) through [4F](#).

For Nonattainment review, there are additional information tables (in addition to Tables 1F through 4F) that are unique to the nonattainment-permitting program. These additional tables include the following:

Table [4N](#) – Initial LAER Determination

Table [6N](#) – Alternate Site Analysis for Texas Nonattainment New Source Review, and

Table [9N](#) – Signature Verification.

# Major NSR Applicability Examples

## Concepts and Calculations

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### *Example 1:*

Question: An existing source is located in a severe nonattainment area. The owner or operator proposes to re-tray an existing distillation tower. The new “internals” will allow for a 10% increase in throughput capability, but the storage tanks downstream of the distillation tower can handle the additional throughput and still meet the maximum allowable emission rates contained in their permit. Is the project a modification?

Answer: Yes, the project is a modification. A physical change was conducted to the distillation tower, resulting in an increase in throughput. The increased throughput will carry over into downstream units (the tanks), which will result in an actual increase in emissions from those tanks, and that throughput increase could not have been achieved if it was not for the re-tray project.

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### *Example 2:*

Question: A refinery in Corpus Christi (an attainment area) currently has an uncontrolled vent stream that is routed directly to the atmosphere. The owner or operator is proposing to route the vent stream to a flare so that they can control VOC emissions. Is this a modification?

Answer: Yes, the project is a modification. A flare would be expected to reduce the amount of VOC emitted to the atmosphere; however, routing this stream to a flare will also emit products of combustion, such as CO and NO<sub>x</sub>. In addition, any hydrogen sulfide in the vent stream would be oxidized to SO<sub>2</sub>. Each of these pollutants must be evaluated separately to determine if there is a major modification for that pollutant.

In this example, there is no potential for an increase in emissions of VOC or hydrogen sulfide as a result of routing the vent stream to a flare. However; the project would be a modification for CO, NO<sub>x</sub> and possibly SO<sub>2</sub> (if hydrogen sulfide were present). PM is not considered because it is assumed that no particulates are emitted from a properly operated flare.

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### *Example 3:*

Question: A routine burner inspection identified that five burners in an existing heater require replacement. Will the replacement of these five burners be considered a modification?

Answer: The burner replacement may be considered a modification, depending on the circumstances of the project. If the burners are replaced with the same type of burner and the replacement burners represent a fraction of the total installed burners, then the replacement would likely not be considered a modification. EPA has traditionally relied upon a four factor test (nature and extent, purpose, frequency, and cost) to determine whether a project falls into the routine maintenance repair and replacement exclusion to modification. There is a fair amount of

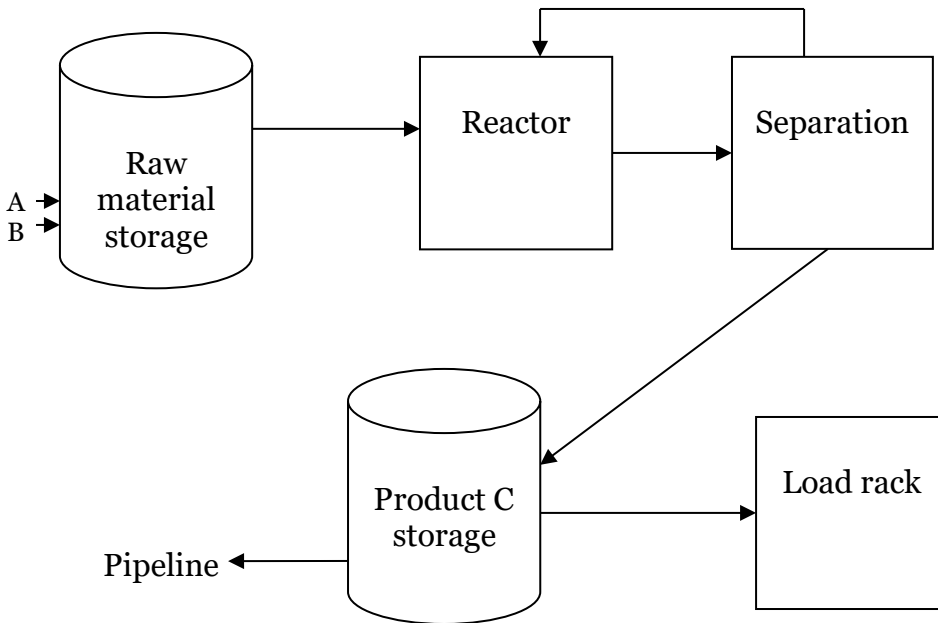


EPA guidance in this area. In simple terms, the more routine, more limited the improvement in operation, more frequent, and less costly, the more likely that the activity could be claimed under this exclusion.

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Example 4:

Question: A source is authorized to react raw materials A and B to make product C as represented in the simplified process flow diagram below. The improved process was placed online in 2009 but has never reached the design capacity because the reaction step of the process was limited by problems with the catalyst. A new structured catalyst has become available and the source proposes to use it in the reactor to reach the design production rate. No other physical changes are proposed. Is the source modified?



**Figure 1: Diagram of a simplified process flow**

Answer: Yes, the source is modified, because there is a physical change proposed for the reactor, which is expected to increase production, and therefore its emissions. The proposed change will also impact facilities upstream (raw material storage) and downstream (separation, product storage, and load rack) of the reactor. These facilities will be considered affected by the project, and they will have to be considered when determining the project emission increase.

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Example 5:

Question: An owner or operator holds a Chapter 116, Subchapter B permit authorizing ten tanks. The permit MAERT contains an emission cap which limits all tank emissions to a total of 51 tpy. The owner or operator proposes to construct an additional tank, and the proposed tank will be added to the tanks covered by the emission cap. The new tank has the capability of emitting (contributing) 6 tpy. Is there a modification if there is no change to the emission cap? What facilities are modified if the cap is increased to 57 tpy?

Answer: Yes, there is a modification since the newly constructed tank is a new facility regardless of whether the emission cap increases. The source is modified for the inclusion of a new facility. If the emission cap is increased, all the tanks under the cap are modified because they can all now emit up to 57 tpy, unless there are other operational limits in the permit conditions that would prevent them from emitting at that rate.

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Example 6:

Question: A permit application, for the modification of a reactor and its associated downstream storage tank, was submitted to the TCEQ. The application was determined to be administratively complete on January baseline actual emission rate vs. the planned emission rate, the PTE in this case), the source must determine the baseline actual emission rate for each of the facilities affected by the project. What is the baseline actual emission rate for the reactor and storage tank?

Answer: A review of their past records, for VOC, showed the following actual VOC emission rates for the reactor and associated storage tank:

In tpy	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Reactor	?	?	121	132	85	107	11	14	15	?
Storage	80	12	14	12	10	11	10	11	13	?

There was insufficient documentation available to determine actual emissions from the reactor in 2002 and 2003, while the EI has yet to be completed for 2011. The owner or operator verified that the calculations used to determine actual emissions for the inventory were consistent with current calculation methods. If this were not the case, the actual emissions from the inventory would need to be corrected.

A review of the rules and permit requirements for these facilities over the last ten years revealed the following:

- The reactor was affected by a permit amendment in 2008 with an allowable emission rate of 30 tpy. A Maximum Achievable Control Technology (MACT) standard also became effective in 2008 requiring emissions be controlled by 90 percent.
- Storage was also affected by a permit amendment in 2008 with an allowable of 30 tpy. A SIP (30 TAC Chapter 115) requirement became effective in 2002, requiring additional tank seals providing for a 90 percent control level.

The baseline actual emissions for each facility cannot exceed the current allowable emissions (30 tpy). Storage emissions from 2002 must be corrected for the SIP requirement that now applies. The actual emissions prior to 2008 must also be adjusted for any new emission controls required for BACT in that permit action.

The 2008 permit did not add any new controls for storage but did require 90 percent control on the reactor vent. The inventory emissions have been corrected for these requirements in the table below:

In tpy	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Reactor	?	?	12	13	9	11	11	14	15	?
Storage	8	12	14	12	10	11	10	11	13	?

The baseline actual emission rate is the highest consecutive 24 month timeframe (two years) out of the past ten years (for non-EGUs). When calculating the baseline actual emission rate, remember that you can use any consecutive 24 months with the last ten years for any one pollutant; however, you must use the same consecutive 24 month timeframe for any one given pollutant.

For the reactor the highest consecutive 24 month timeframe is 2009 and 2010. This yields a value of  $(14+15)/2$ , which equals a baseline actual emission rate of 14.5 tpy.

Note that even though the storage tank emits more actual emissions in 2004 and 2005 ( $(14+12)/2$ , which equals 13.0 tpy), the owner or operator must use the same timeframe that was used for the reactor (2009 and 2010). This results in a baseline actual emission rate for the storage tanks of  $(11+13)/2$ , which equals a baseline actual emission rate of 12.0 tpy.

The baseline actual emission rate for the reactor and storage, using the 2008 to 2009 timeframe, is 26.5 tpy.

As a sidebar discussion, when calculating the baseline actual emissions for multiple facilities affected by a project, it is to the owner or operators advantage to evaluate each consecutive 24 month timeframe within the last ten years, for the sum of each individual facilities emissions. It may not always be obvious as to which consecutive 24 month timeframe yields the highest baseline actual emission rate. This is especially true for projects affecting multiple facilities. This approach is acceptable as long as the same consecutive 24-month timeframe is used to establish the baseline actual emission rates for all facilities emitting the pollutant undergoing evaluation.

#### Example 7:

Question: A permit application for an electric generating unit (EGU) was submitted to the TCEQ. What is the baseline actual emission rate for the boiler?

Answer: The baseline actual emission rate for EGU's is based on the highest consecutive 24 month timeframe (2-years) out of the last five years.

A review of owner or operators past records, for NO<sub>x</sub>, showed the following actual NO<sub>x</sub> emission rates for the boiler:

In tpy	2007	2008	2009	2010	2011
Boiler	151	116	140	151	?

In this example, the actual emission rates are all within the boiler PTE, and the actual emission rate has not been affected by a change in rule requirements. In this case, it is not necessary to go through the actual emissions and adjust them for current requirements. The baseline actual emission rates for the boiler, which provide the greatest advantage to the applicant, are 2009 and 2010. The calculated baseline actual emission rates from the boiler would be  $(140+151)/2$ . This results in a baseline actual emission rate value of 145.5 tpy.

Note: For EGU's, the TCEQ may allow for the use of a different timeframe, if it can be demonstrated that another year is more representative of normal operation. For example, the owner or operator may wish to look at 2006 actual emissions to determine if the 2006 and 2007 are most representative of normal source operation. If the owner or operator believes that to be the case, they will need to provide the rationale for that determination in the projects permit application, so that it can be evaluated during the permit review. This capability (of using a different timeframe, if it can be demonstrated that another year is more representative of normal operation) cannot be used for non-EGU source types. They must use the highest consecutive 24-month timeframe (two years) out of the past ten years.

#### Example 8:

Question: The owner or operator of a surface coating operation, with five facilities (Units A through E), is considering making modifications to their production lines. These modifications will allow for a substantial increase in throughput. What is the baseline actual emission rate, given the information in the following discussion? The pollutant being evaluated is VOC.

Answer: The owner or operator has provided their actual emissions (in tpy) from each of their facilities, looking back over the last ten years. Their actual emissions are shown below.

Year	Unit A (tpy)	Unit B (tpy)	Unit C (tpy)	Unit D (tpy)	Unit E (tpy)
2002	50	199	19	54	0
2003	52	200	23	51	0
2004	68	205	22	54	0
2005	65	201	23	50	0
2006	60	210	23	30	0
2007	59	21	20	30	0
2008	59	19	22	0	0
2009	67	18	22	0	0
2010	65	16	23	0	0
2011	62	17	20	0	40

The owner or operator has maintained sufficient records to document the actual emissions for each of the facilities. In reviewing the requirements for baseline emissions, the applicant notes the following:

- There was a new rule requiring 90 percent control in 2006 that affected Unit B.
- Unit D was shut down at the end of 2007.
- Unit E was added in 2011 and has an allowable emission rate of 50 tpy.
- The Unit A allowable was 60 tpy so there have been some non-compliant emissions.
- All actual emissions were determined using the most current emission factors.

Considering the above information, the actual emissions will need to be adjusted to take into account 1) compliance issues with the current allowable emission rate for Unit A, and 2) the rule requirement for a 90 percent control efficiency required for Unit B. As a result, baseline emissions were adjusted as required and are shown in the following table.

Year	Unit A (tpy)	Unit B (tpy)	Unit C (tpy)	Unit D (tpy)	Unit E (tpy)
2002	50	20	19	54	0
2003	52	20	23	51	0
2004	60	21	22	54	0
2005	60	20	23	50	0
2006	60	21	23	30	0
2007	59	21	20	30	0
2008	59	19	22	0	0
2009	60	18	22	0	0
2010	60	16	23	0	0
2011	60	17	20	0	0
Max BL	60	21	23	52.5	50
Total BL	60	20.5	22.5	52	50

Here is a good place to point out a difference. If you look at the highest consecutive 24 month (two year) average, for each facility independently (in other words, picking the high two years in the last ten for that particular facility), you will obtain the baseline actual emission rates identified in the “Max BL” Row. However, remember that the owner or operator must use the same two year baseline period, for all facilities emitting the same pollutant. We point out this “difference” in calculating the “baseline actual emission rate,” because we have found owners or operators which have tried this approach in the past. This is not the proper way to estimate a baseline actual emission rate for the project.

What the owner or operator should do is use the highest consecutive 24 month (two year) average for all facilities as a group. In this example, the highest baseline, as a group, is achieved for the 2004 and 2005 timeframe.

The baseline actual emission rates, for each facility involved in this particular project, are identified in the “Total BL” Row. If the facilities are to be upgraded as a group, their baseline actual emissions must be from the same 24 month period. The shaded areas, in the table above, show the corrected emissions rates, as identified below.

Unit A – The noncompliant emissions have been removed

Unit B – 90 percent control has been applied to all emissions prior to, and including, 2006.

Unit E – Since the unit has been in operation for less than two years, the PTE may be used for the baseline emission rate.

#### Example 9:

A gasoline terminal at a refinery is proposing to change the service of a tank, from some other material to gasoline, using a PBR (thus, modifying the storage tank). The change is necessary in order to provide for the flexibility necessary to meet projected demand in the area. The owner

or operator has reviewed historical operational data, provided a forecast of expected business activity, and provided their highest projections of business activity. The company has estimated that the authorized tank emissions will be increasing from 6 tpy to 7 tpy.

The owner or operator also reviewed the other facilities that may be affected by the change of service of the storage tank. They determined that the addition of the new material to this tank would allow for a slightly reduced throughput at the other gasoline tanks at the source. It was also forecast that the throughput at the loading rack, and its associated emissions, will increase over time at the loading rack due to the modified tank as well as increased demand in the area. Even though actual emissions from the loading rack are predicted to increase to 44 tpy, the loading rack will still be able to operate within its currently authorized level of 50 tpy, and the authorized emission rate from the loading rack does not need to be increased.

Question: If the owner or operator avoids major NSR by comparing their baseline actual emission rate to a projected actual emission rate, how long will the company have to track their projected actual emission rate?

Answer: The projected actual emission rate for the tank must be tracked for ten years because the change in service resulted in increase in the tanks potential to emit. The company does not plan to increase the authorized emission rate (i.e., the allowable emissions rate) for the loading rack, so its projected actual emission rate (44 tpy) will need to be tracked for five years.

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Example 10:

Question: An owner or operator wants to construct a new facility at an existing source. The source currently contains existing authorizations for several chemical processing units. The source currently has potential to emit (PTE) of 120 tons/year (tpy) of SO<sub>2</sub>. Is the source a major source?

Answer: Yes, the source is a major source. Chemical Process Plants is one of the named source categories. The major source definition for a named source is 100 tpy. Since the source in this example has a pre-project PTE of 120 tpy SO<sub>2</sub>, the source is a major source.

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Example 11:

Question: An existing named source emits 400 tpy of CO. Is the source also a PSD major source for NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub>?

Answer: Yes, the named source is a PSD major source for NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub>. 400 tpy of CO at a named source exceeds the major source significant emission rate of 100 tpy. For PSD, if the source is a major source for any one criteria pollutant, the source is a major source for all criteria pollutants.

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Example 12:

Question: An existing source is located in a serious nonattainment area. The source currently emits 30 tpy of VOC and 25 tpy of NO<sub>x</sub>. Is the source a major source?

Answer: No, the source is not a major source. Even though the major source significant emission rate in a serious nonattainment area is 50 tpy, the source currently emits 30 tpy of VOC and 25 tpy of NO<sub>x</sub>. Remember, for NNSR, each pollutant is evaluated individually (they

are not additive). In this example, both VOC and NO<sub>x</sub> are less than 50 tpy individually. The source is not a major source.

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Example 13:

A project is being considered in a severe ozone nonattainment area. The project will affect the emissions of NO<sub>x</sub>, CO, and PM<sub>10</sub>. The PTE from all facilities at the source, for these pollutants, were determined and were summed to provide the values in the table below.

Pollutant	NO <sub>x</sub>	CO	PM <sub>10</sub>
Source PTE (tpy)	88	310	55

Question: Is the source a major source for purposes of nonattainment applicability?

Answer: Yes, the source is a major source for NO<sub>x</sub> for the purposes of nonattainment applicability. When determining the source PTE for purposes of nonattainment review, remember that each pollutant is evaluated independently. Both NO<sub>x</sub> and VOC are regulated as precursors to ozone. In this case, the source emits NO<sub>x</sub>. The PTE for NO<sub>x</sub> is 88 tpy and exceeds the major source significant emission rate of 25 tpy for severe nonattainment areas.

Question: Is the source a major source for the purposes of PSD applicability?

Answer: Yes, the source is a major source for the purposes of PSD applicability. When determining whether the source is a major source for PSD, consider the emissions of all federally regulated NSR pollutants at the source. A review of the emissions from the source in this example shows that the PTE for CO is 310 tpy. Since the current PTE for CO (310 tpy) exceeds the major source significant emission rate for criteria pollutants emitted in an attainment area (100 tpy for named sources, and 250 tpy for un-named sources), the source is a major source. Remember, that under PSD applicability requirements, if the source is a major source for one criteria pollutant, then the source is a major source for all criteria pollutants. This is different than nonattainment applicability, where the determination of a source being a major source is conducted on a pollutant by pollutant basis.

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Example 14:

An owner or operator is located at an existing major named source, in an attainment area.

Current PTE = 200 tpy NO<sub>x</sub>  
Proposed PTE = 210 tpy NO<sub>x</sub>  
Baseline Actuals = 190 tpy NO<sub>x</sub>

Question: Is the project a major project? 210 tpy - 190 tpy = 20 tpy NO<sub>x</sub> increase.

The significant emission rate is 40 tpy NO<sub>x</sub>.

Answer: No, the project is not a major project. The proposed increase of 20 tpy is less than the significant emission rate of 40 tpy. The project is not a major project, and Major NSR is not required (minor NSR review only).



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Example 15

Question: A chemical plant in Beaumont (an attainment area) is proposing to modify a process to increase production. As part of the project, the owner or operator is proposing to vent a currently uncontrolled vent stream associated with the process to control. Can the reductions associated with the control of the vent stream be included in the determination of project emissions increases?

Answer: Yes, since there is a substantial relationship between the modified process and the previously uncontrolled vent stream, emission reductions associated with controlling the vent stream may be considered when determining project emissions increases.

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Example 16:

In January 2011, an owner or operator submits an application for the modification of an existing major source in a nonattainment area. The permit reviewer determines that netting is required.

Upon review of projects within the contemporaneous window, a March 2007 permitting action for another facility at the source is identified. The facility was authorized to emit 300 tpy of VOC. A control device was voluntarily installed, and it was designed to obtain a 98% VOC control efficiency. The PTE after the installation of the control device was 6 tpy ( $300 \text{ tpy} * 0.02$ ). The baseline actual emission rate before the change was 110 tpy. In 2007, the creditable VOC emission reduction was  $110 \text{ tpy} - 6 \text{ tpy} = 104 \text{ tpy}$ .

In February 2008, a SIP related rule change required a 90% VOC reduction of emissions from the facility controlled in 2007.

Question: How would the new rule affect the magnitude of the creditable reduction that can be used in netting for the January 2011 project?

Answer: The March 2007 project resulted in an actual reduction of 104 tpy; however, the February 2008 SIP related rule change will affect the amount of the reduction that is creditable for use in netting. SIP rules are intended to bring an area into attainment, and as such, the emission reductions generated by SIP rules are considered to be "relied upon" in further attainment and/or demonstration of a standard. The SIP requirement of 90% control would need to be applied to the baseline emission rate, lowering the baseline emission rate by the appropriate control value (in this case, 90%). The effect on the baseline emission rate would be  $110 \text{ tpy} * 0.1 = 11 \text{ tpy}$ . The creditable actual emission reduction from the March 2007 project that can be used in the netting calculation for the January 2011 project is  $11 \text{ tpy} - 6 \text{ tpy} = 5 \text{ tpy}$ .

In the netting calculation for the January 2011 project, the contemporaneous change for the March 2007 project would be a 5 tpy reduction.

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Example 17:

An owner or operator is proposing a project at an existing major named source in an attainment area.

Current PTE = 200 tpy NO<sub>x</sub>  
Proposed PTE = 210 tpy NO<sub>x</sub>  
Baseline Actuals = 130 tpy NO<sub>x</sub>

Question: Is the project a major project?  $210 \text{ tpy} - 130 \text{ tpy} = 80 \text{ tpy NO}_x$  increase.

The major modification significant emission rate increase for  $\text{NO}_x$  is 40 tpy.

Answer: Yes, the project is a major project. The proposed 80 tpy emission increase is greater than the major modification significant emission rate of 40 tpy. In this example, the project is considered to be a major project, and netting is required.

Netting:

Current Project is July 2011

Previous Projects	January 2011	20 tpy (increase)
	May 2009	80 tpy (increase)
	Dec 2008	30 tpy (decrease)
	Nov 2005	200 tpy (decrease)

The netting calculation includes the current project and all other projects within the contemporaneous period, looking back five years.

$80 \text{ tpy} + 20 \text{ tpy} + 80 \text{ tpy} - 30 \text{ tpy} = 150 \text{ tpy}$  increase.

The major modification significant emission rate for  $\text{NO}_x$  is 40 tpy.

The 150 tpy contemporaneous net increase exceeds the major modification significant emission rate of 40 tpy. The project is a major modification and PSD review for  $\text{NO}_x$  is required.

Second Question: Why was the 200 tpy emission reduction that resulted from the November 2005 project not included in the netting calculation?

Answer: The contemporaneous period goes back in time five years from the date of the current project. The 200 tpy emission reduction that resulted from the November 2005 project falls outside of the contemporaneous period for the July 2011 project, and is therefore ineligible for inclusion in the netting calculation.

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Example 18:

An owner or operator is located at an existing major source in a serious nonattainment area.

Current PTE = 50 tpy  $\text{NO}_x$

Proposed PTE = 70 tpy  $\text{NO}_x$

Baseline Actuals = 40 tpy  $\text{NO}_x$

Question: Is the project a major project?  $70 \text{ tpy} - 40 \text{ tpy} = 30 \text{ tpy}$  increase.

Answer: Yes, the project is a major project. The project increase is 30 tpy, which exceeds the five tpy netting significant emission rate for serious and severe nonattainment areas. The project is major project and netting is required.

Current Project is July 2011

Previous Projects	Nov 2010	10 tpy (increase)
	Oct 2007	20 tpy (increase)
	Dec 2006	5 tpy (increase)

The netting calculation includes the current project and all other projects within the contemporaneous period, looking back five years.  $30 \text{ tpy} + 10 \text{ tpy} + 20 \text{ tpy} + 5 \text{ tpy} = 65 \text{ tpy}$  increase

The significant emission rate increase for NO<sub>x</sub> is 25 tpy.

The contemporaneous net increase of 65 tpy is greater than the significant emission rate for a major modification, 25 tpy, for serious and severe nonattainment areas. The project is a major modification, and nonattainment review is required for NO<sub>x</sub>.

The owner or operator must apply LAER and provide offsets at a ratio of 1.2:1.

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Example 19:

An owner or operator submits a project for Facility A at an existing major source. The project is submitted in June 2010. The BACT review of Facility A indicates that a control device obtaining a 98% destruction efficiency would be required. The vent is currently uncontrolled, with a PTE of 300 tpy. The baseline actual emission rate (the highest actual average emissions achieved in a consecutive 24 month period out of the last ten years) before the project is 200 tpy. The owner or operator used a 2004 and 2005 timeframe to establish their baseline actual emission rate.

In February 2008, a SIP related rule change required a 90% reduction of emissions at Facility A.

Question: How will the 2008 SIP related rule change, and the BACT review for the June 2010 project, affect the baseline actual emission rate that can be used for Facility A in subsequent projects?

Answer: For the June 2010 project, the February 2008 SIP related rule (which required a 90% reduction) would reduce the baseline actual emissions. If the baseline actual emission rate was 200 tpy before the rule change, the corrected baseline actual emission rate (taking into account the SIP requirement) would be  $200 \text{ TPY} * 0.1 = 20 \text{ tpy}$ .

The 20 tpy corrected baseline actual emission rate would be used for the June 2010 project at Facility A. However, if there is another modification of Facility A in the future, the baseline actual emission rate for that new project may need to be lowered because the June 2010 project contained a 98% destruction efficiency BACT requirement. If the same baseline period is used (2004 and 2005), this BACT requirement will also affect the baseline actual emission rate calculation. After the application of BACT, the corrected baseline actual emission rate will be  $200 \text{ tpy} * .02 = 4 \text{ tpy}$ . In this example, the June 2010 permit action implemented a control requirement that is more stringent than the SIP requirement. The more stringent control requirement would lower the baseline actual emission rate to 4 tpy. Note that it is not necessary to further reduce the reduction by 90% for the SIP requirement. These requirements are not additive.

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Example 20:

An owner or operator is located at an existing major source in a serious nonattainment area.

The current project is undergoing review in 2012.

Current PTE = 20 tpy VOC

Proposed PTE = 30 tpy VOC

Baseline Actuals = 15 tpy VOC

Question: Is the project a major project?  $30 \text{ tpy} - 15 \text{ tpy} = 15 \text{ tpy}$  increase

Answer: Yes, the project is a major project. The project increase is 15 tpy, which exceeds the five tpy netting significant emission rate for serious and severe nonattainment areas. The project is a major project and netting is required.

The particular facility being affected by this project has been affected by three other projects within the last five years (multiple changes at the same facility within the contemporaneous period).

The three other projects affecting this facility are:

2008:	PTE =	15 tpy	Project Change:
	Proposed PTE =	25 tpy	25 tpy - 15 tpy = 10 tpy
	Baseline Actuals =		15 tpy
2009:	PTE =	25 tpy	Project Change:
	Proposed PTE =	25 tpy	25 tpy - 15 tpy = 10 tpy
	Baseline Actuals =	15 tpy	
2010:	PTE =	25 tpy	Project Change:
	Proposed PTE =	25 tpy	25 tpy - 15 tpy = 10 tpy
	Baseline Actuals =	15 tpy	

The netting calculation includes the current project and all other projects within the contemporaneous period, looking back five-years.  $15 \text{ tpy} + 10 \text{ tpy} + 10 \text{ tpy} + 10 \text{ tpy} = 45 \text{ tpy}$  increase.

It should be noticed that the proposed PTE (i.e., the allowable) for this facility is only 30 tpy. The result of the netting calculation shows a net emissions increase that is greater than the allowable emission rate authorized for this facility. This netting result indicates that portions of the emission increases from this facility have been counted more than once in the traditional netting exercise.

Netting using Endpoints methodology:

2008 Project:	$25 \text{ tpy} - 15 \text{ tpy} = 10 \text{ tpy}$
2009 Project:	$25 \text{ tpy} - 25 \text{ tpy} = 0 \text{ tpy}$
2010 Project:	$25 \text{ tpy} - 25 \text{ tpy} = 0 \text{ tpy}$
2012 Project:	$30 \text{ tpy} - 25 \text{ tpy} = 5 \text{ tpy}$

The endpoints netting calculation includes the current project and all other projects within the contemporaneous period for this facility, looking back five-years.

$10 \text{ tpy} + 0 \text{ tpy} + 0 \text{ tpy} + 5 \text{ tpy} = 15 \text{ tpy}$  increase.

The netting calculation, utilizing the endpoints netting approach, results in a 15 tpy emission increase.

The contemporaneous net increase of 15 tpy is less than the major modification significant emission rate for a serious nonattainment area. The project “nets out” of nonattainment review; however, the project is still subject to the requirements of the minor NSR program.

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#### Example 21:

A modification is proposed that would allow for increased production at a cement kiln. The owner or operator has demonstrated that demand for cement is, and will likely continue to be, higher than experienced during any sustained period over the last ten years. They have identified the baseline period as the years 2008 and 2009. The baseline actual emission rate

during this period was 710 tpy. The owner or operator also indicates that the baseline actual emission rate does not include an adjustment for emissions that they were capable of accommodating during the baseline period.

Question: How can the owner or operator make an argument that they should be able to include the emissions that they were capable of accommodating into their major NSR applicability analysis?

Answer: The owner or operator proposes to determine what could have been accommodated by determining the highest production for a 30 day period (that's a 30 consecutive day time frame, not a few days here and a day or two there, added to obtain a 30 day value) during the baseline time frame, and verify that they have and will operate for 24 consecutive months without an extended shutdown. That annualized production rate represents what they could have produced during the baseline period.

The actual emissions that would be associated with this annualized production rate are estimated by multiplying the ratio of the rate at which they could have produced and the actual production rate during the baseline period by the baseline emission rate. In this example, the ratio of what they could have produced compared to what they did produce during that time frame is 1.2. Multiplying the ratio of what they could have produced compared to what they did produce (1.2) by the baseline actual emission rate (710 tpy) results in a value of 852 tpy. This method utilizes actual emission data and corrects it to an operating level actually achieved over a sustained period, which approximates the operating level that could have been accommodated during the baseline period. In this example, that emission rate (852 tpy) includes emissions that could have been accommodated (852 tpy – 710 tpy or 142 tpy) and can be used in a major NSR applicability evaluation. Remember, emissions that could have been accommodated can be excluded from the major NSR applicability analysis only if they are also unrelated to the proposed project. The owner or operator should include in the permit application sufficient details about the proposed project so that project-related emissions increases can be estimated and distinguished from unrelated emissions.