

US EPA ARCHIVE DOCUMENT

# Nonattainment New Source Review (NA NSR) Program

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# What will I cover in this module?

**1. NA NSR Applicability**

**2. NA NSR Program Requirements**

# What is a nonattainment area?

- **Area in which air quality is worse than NAAQS levels**
- **Such NA areas must improve air quality within a certain time period and reach attainment**

# Which sources might be subject to the major NA NSR program?

- **New major sources**
- **Existing major sources making major modifications**
  - **Physical or operational changes at the source**
  - **Change must result in a significant net emissions increase**

# How do we determine if a new source is a major source under the NA NSR program?

- 1. Identify NA pollutants for new source**
- 2. Determine source's potential to emit (PTE)**
- 3. Determine applicable major source thresholds**
- 4. Determine if PTE exceeds major source threshold for any NA pollutant**
- 5. If so, source is subject to major NA NSR for that pollutant**

# How do I identify which pollutants are nonattainment pollutants?

- **Determine if area is in attainment or nonattainment for each criteria pollutant emitted by the source**
  - **To find this information:**
    - **Contact the appropriate EPA Regional Office or applicable permitting authority**
    - **Search an EPA database such as:**  
[www.epa.gov/air/data](http://www.epa.gov/air/data)

# What is the source's potential to emit (PTE)?

- **The maximum capacity of a source to emit a pollutant under its physical and operational design**
  - **Based on operating 24/7 (8760 hours/year), unless restricted by a permit condition**
  - **Can include effect of emissions controls, if enforceable by permit or:**
    - **State Implementation Plan (SIP),**
    - **Tribal Implementation Plan (TIP) or**
    - **Federal Implementation Plan (FIP) conditions**



# What is the applicable major source threshold?

- 100 tpy or lower depending on NA severity

Nonattainment Areas		
Pollutant	Nonattainment Classification	Major Source Threshold
Ozone	Marginal ( $\geq 0.085 < 0.092$ ppm)	100 tpy of VOC or NO <sub>x</sub>
	Moderate ( $\geq 0.092 < 0.107$ ppm)	100 tpy of VOC or NO <sub>x</sub>
	Serious ( $\geq 0.107 < 0.120$ ppm)	50 tpy of VOC or NO <sub>x</sub>
	Severe ( $\geq 0.120 < 0.187$ ppm)	25 tpy of VOC or NO <sub>x</sub>
	Extreme (= 0.187 ppm and up)	10 tpy of VOC or NO <sub>x</sub>
Particulate Matter (10 $\mu$ m)	Moderate	100 tpy
	Serious	70 tpy
Carbon Monoxide	Moderate (9.1 – 16.4 ppm)	100 tpy
	Serious (16.5 and up ppm)	50 tpy
Sulfur Dioxide, Nitrogen Oxides, PM <sub>2.5</sub> and Lead	Only one nonattainment classification	100 tpy

# When is a modification subject to the major NA NSR program?

- **When:**
  - **The proposed project emissions increase exceeds the significant emission rate (SER) and**
  - **The proposed project results in a significant net emissions increase (i.e., contemporaneous increases and decreases in emissions at the existing major source exceed the SER)**
    - **SER Examples:**
      - **40 tpy for VOC, NO<sub>2</sub>, SO<sub>2</sub>**

# What should I do to determine if a modification is subject to the major NA NSR program? A Netting Analysis

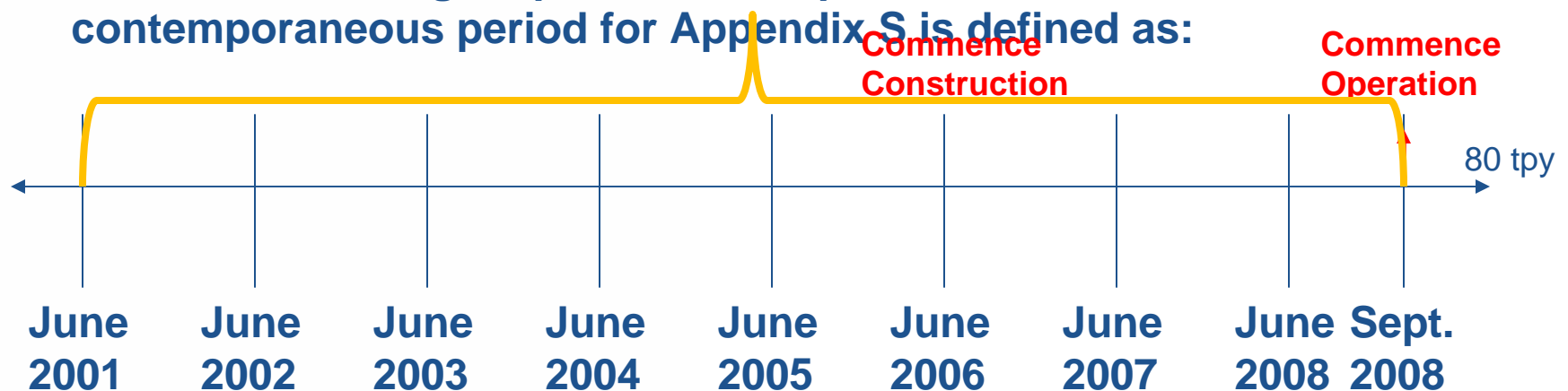
- 1. Confirm that the emissions increase from the proposed project is significant ( $>$  SER) for a pollutant**
- 2. Determine the beginning and ending dates of the contemporaneous period as it relates to the proposed modification**
- 3. Determine which other emissions units at the source experienced a physical or operational change that increased or decreased emissions during the contemporaneous period**
- 4. Determine which emissions are creditable**
- 5. Determine the amount of each contemporaneous and creditable emissions increase and decrease**
- 6. Sum all contemporaneous and creditable increases and decreases with the increase from the proposed modification to determine if a significant net emissions increase will occur**

# 1. Determine if the emissions increase from the proposed project is significant

- **If project emissions increase > significant emissions rate (SER), source determines if its net emissions increase is also significant (> SER) to know if it is a major modification or not**
- **If project emissions increase < SER, source is exempt from review and is not a major modification**
- **For example, SO<sub>2</sub> emissions increase from proposed project are 80 tpy. 80 tpy > 40 tpy SER, thus net emissions increase determination is needed**

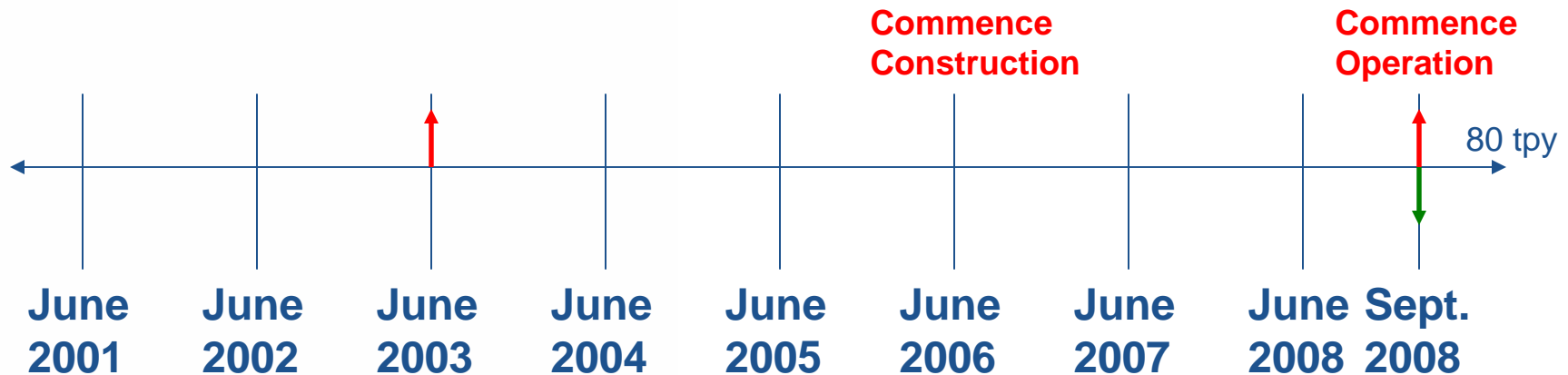
## 2. Determine the beginning and ending dates of the contemporaneous period

- To determine the source's net emission increase, we need to define the contemporaneous period
  - For NA NSR, States generally use 5 calendar years before the source commences operation
  - For 40 CFR Appendix S, period starts 5 calendar years before the source commences construction and ends when the source commences operation
- For example, our SO<sub>2</sub> source planned to commence construction on June 2006 and begin operation in September 2008, the contemporaneous period for Appendix S is defined as:



### 3. Determine which units experienced an increase or decrease in emissions during contemporaneous period

- Determine emission increases and decreases associated with a physical change or change in the method of operation at the source which did not require a PSD permit
- For example, our SO<sub>2</sub> source increased its SO<sub>2</sub> emissions in 2003 and decreased its emissions in 2008

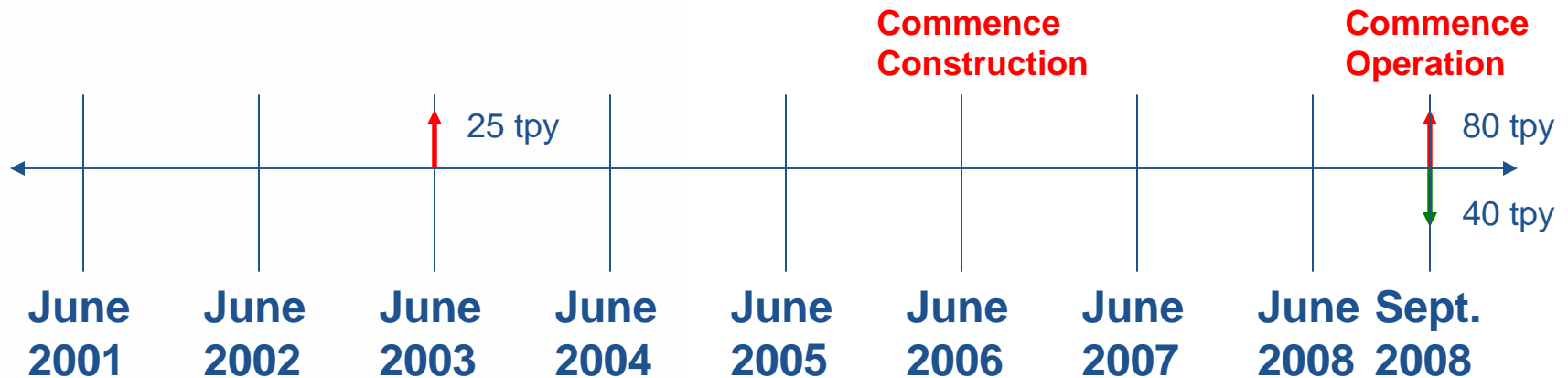


## 4. Determine which emissions are creditable

- **An increase or decrease is not creditable if it has been previously relied on for issuing a permit and the permit is in effect during the review**
- **A decrease is creditable only to the extent that it:**
  - **Is “federally-enforceable” prior to the permit issuance**
  - **Needs to occur before the new source or modification can commence operation**
- **A source cannot take credit for:**
  - **A decrease that it has had to make, or will make, in order to bring an emission unit into compliance**
  - **An emissions reduction from a unit which was permitted but never built or operated**

## 5. Determine the amount of each contemporaneous emissions increase or decrease

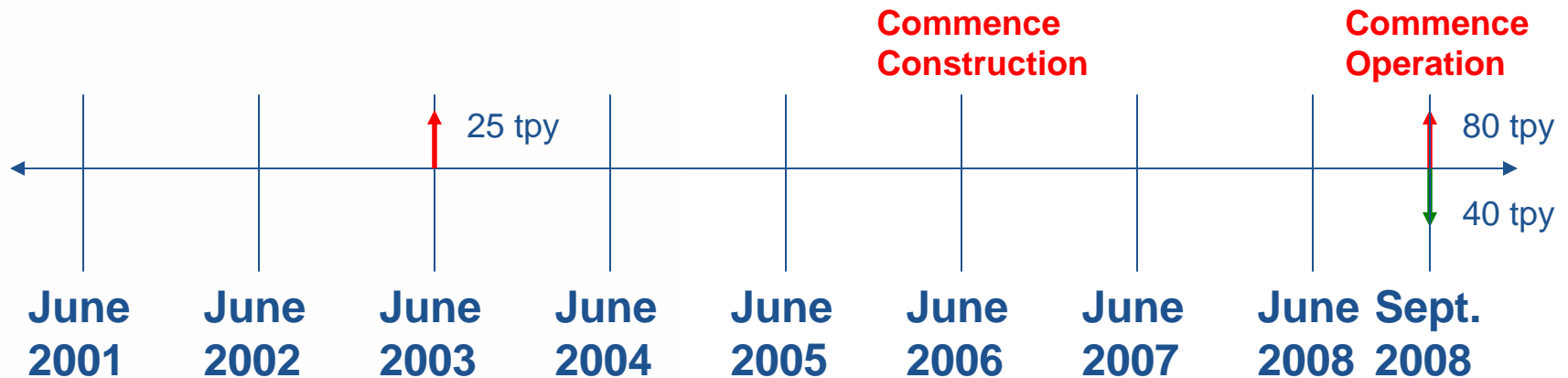
- On a pollutant by pollutant basis
- Based on actual to potential emissions difference for each unit
- Past decreases and/or increases in actual emissions based on:
  - Average of any two consecutive years in the past 5 for utilities
  - Average of any two consecutive years in the past 10 for non-utilities
- For example, SO<sub>2</sub> emissions decreases and increases are:





## 6. Sum all contemporaneous and creditable increases and decreases with the proposed modification

- **NEI = PMEI + CEI – CED where:**
  - **PMEI = Proposed modification emissions increase**
  - **CEI = Creditable emission increases**
  - **CED = creditable emission decreases**
- **For example, NEI = 80 + 25 - 40 = 65 tpy**
  - **65 tpy > 40 tpy SO<sub>2</sub> SER, project is a major modification**



# NA NSR Program Requirements



# What are the major NA-NSR program requirements?

- **LAER (Lowest Achievable Emission Rate)**
- **Offsets at prescribed ratios**
- **Alternative sites analysis**
- **Statewide facility compliance certification**
- **Public Comment Period**

- **Rate that has been achieved or is achievable for defined source**
- **Rate may be in a permit or regulation**
- **Rate does not consider the following factors:**
  - **Economic**
  - **Energy**
  - **Environmental**
  - **Other factors**

# What are emissions offsets and what are its requirements?

- **Emissions reductions from existing sources to balance emissions from proposed new or modified sources**
  - **Offset must be at least 1:1**
- **Emissions offsets reductions must be:**
  - **quantifiable, enforceable, permanent and surplus (QEPS)**
  - **from actual emissions – real, no “paper” reductions**
  - **federally enforceable at the time of permit issuance for new source**
  - **in effect before the new source can commence operation**

# How is alternative sites analysis defined?

- Source owner must submit an analysis of:
  - **Alternative sites**
  - **Sizes**
  - **Production processes**
  - **Environmental control techniques**
- Analysis for such proposed source must demonstrate that benefits significantly outweigh:
  - **the environmental impacts**
  - **social costs imposed as a result of its location, construction, or modification**

# How is compliance certification defined?

- **Source owner must certify that all other sources in that state that are:**
  - **Owned or operated by the source owner are**
    - **In compliance or**
    - **On an approved schedule for compliance**

# What are the public participation requirements?

- **Public notice:**
  - **Must be for a 30-day period**
  - **Generally in regional and local newspapers**
- **All public comments must be considered before a final permit is established**
- **A Technical Support Document (TSD) generally including responses to comments may also be required with the final permit**