Project Emissions Increases (PEI)

- Sum of emissions increases associated with the project
- PEI is calculated using a PSD applicability analysis
- The PEI is compared to significant emission rates (SER) to determine whether or not a project is subject to PSD permitting.

1

Calculating Project Emissions Increases (PEI)

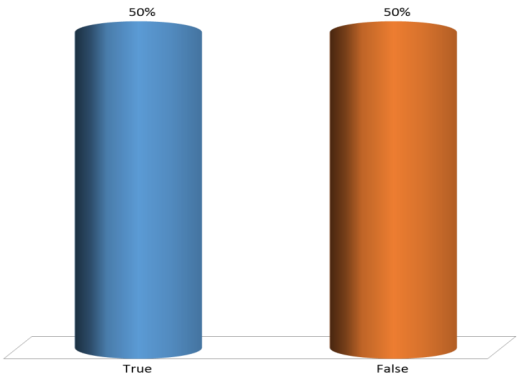
- For existing units, actual-to-projected actual test – uses the difference between projected actual emissions (definition at 62.210-200(206),F.A.C.) and baseline actual emissions (definition at 62.210-200(28),F.A.C.)
- For new units – actual-to-potential test (actual emissions equal zero normally) or PTE (special case))

2

A surface coating facility consists of 9 identical coating lines, each with a potential-to-emit 30 tons of VOC annually. All coating lines at the facility operate independently of the others. The facility applies for a permit to install a tenth coating line identical to the existing lines. To determine whether or not the project is subject to PSD permitting, the potential emissions of the new coating line are compared to the PSD significant emissions rates.

✓ A. True

B. False



3

More Definitions

- Types of Emission Units
  - New
  - Existing
  - "Replacement"
  - Electric Utility Steam Generating Unit (EUSGU)
  - "Reactivated"
- Baseline Actual Emissions (BAE)
- Projected Actual Emissions (PAE)
- "Could have accommodated" emissions
- "Unrelated to the project" emissions

4

New Versus Existing Units

"Emissions unit" means any part of a stationary source that emits or would have the potential to emit any regulated NSR pollutant, including EUSGUs. There are two types of emissions units as described in paragraphs (A) and (B) below:

1. A **new** emissions unit is any emissions unit that is (or will be) newly constructed and that has existed for less than 2 years from the date such emissions unit first operated.
2. An **existing** emissions unit is any emissions unit that does not meet the requirements in paragraph (A) of this definition. A replacement unit is an existing emissions unit.

Interesting sidelight – units that have not been operating (EPA's reactivation policy)

Note: "Electric utility steam generating unit" or **"EUSGU"** means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

5

Replacement Unit (40 CFR 52.21(b)(33))

- A "replacement" unit is considered an **existing** unit under these conditions
  - The unit is a reconstructed unit within the meaning of 40 CFR 60.15(b)(1), or the facility replaces an existing facility.
  - The unit 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 unit is permanently removed from the major source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable.
- If the replaced unit is brought back into operation, the unit will be considered to be a new unit.
- No creditable emission reductions are generated from shutting down the existing unit that is replaced.
- If the proposed project includes a replacement unit, the baseline emissions of the unit being replaced must be determined.
- A replacement unit is considered an existing unit for the purpose of determining federal NSR applicability. The BAE for the unit being replaced become the baseline emissions for the replacement unit.

6

Reactivation of Sources/Units

- Policy dates back to 1978
  - Reactivated source considered a new source if shutdown was permanent
  - Reactivated source considered existing source if shutdown was not permanent
- Evidence of permanence
  - Shutdown lasting two years or more
  - Removal of source from the emissions inventory
- Shutdown beyond two years?
  - Assess whether owner has demonstrated a "continuous intent to reopen"

7

Reactivation of Sources/Units, cont.

- Burden of proof to rebut presumption is on the permittee
  - Reason for shutdown
  - Statement regarding intent
    - "Restart at a moment's notice"
  - Cost/time to reactivate
  - Status of permits
  - Ongoing maintenance and inspections during shutdown

8

Baseline Actual Emissions (BAE)

"Rate of emissions, in tons per year, of a regulated NSR pollutant"

- Existing Unit: Average rate the unit actually emitted during any consecutive 24-month period (baseline period), within a 10-year period (lookback period), immediately preceding actual construction of the project or the date an application is received, whichever is earlier.
- Existing EUGSU's unique – 5-year lookback period, or alternate period if representative of "normal source operation"
- No allowance for alternative periods for non-EUSGUs

9

Baseline Actual Emissions (BAE)

- Includes average fugitive emissions <u>related to the project</u>, to the extent quantifiable, in selected 24-month period
- Includes average emissions associated with startups, shutdowns and malfunctions <u>related to the project</u>, in selected 24-month period
- If, during the 24-month period, unit did not meet an enforceable limit in effect at that time, average emissions in selected 24-month period get adjusted downward to exclude these non-compliant emissions

10

Baseline Actual Emissions (BAE)

- For non-EUSGU's, average rate selected gets adjusted downward to exclude any emissions that would have exceeded an emission or limit or operating restriction which the source must NOW comply with:
  - A raw material/fuel previously used is now prohibited
    - Ex: SO_2 emissions from fuel oil combustion in baseline for units firing only natural gas or ULSD
  - A subsequent allowable emission rate change

11

Baseline Actual Emissions (BAE)

- However, if the subsequent limit is part of a proposed or promulgated MACT standard, adjust baseline actual emissions downward only if the State has taken credit for the MACT reductions in an attainment demonstration or maintenance plan

12

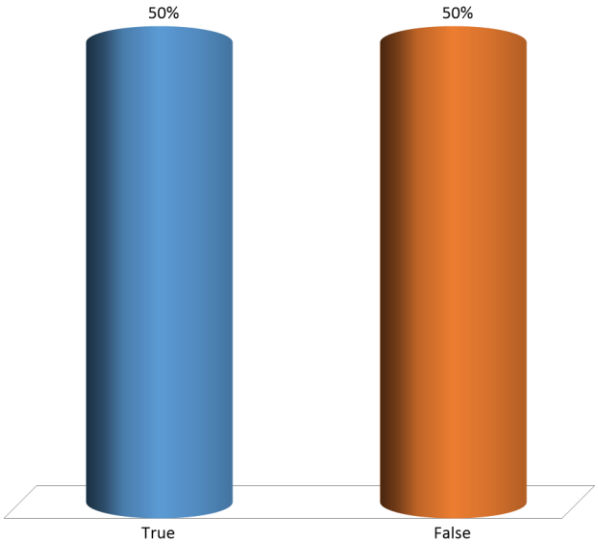
Baseline Actual Emissions (BAE)

- If the project at hand involved multiple existing emission units, only one consecutive 24-month period is used to determine the BAE for all emission units impacted by the project
- Can use different consecutive 24-month periods for each regulated NSR pollutant impacted by the project
- Can't use 24-month periods with "inadequate information"

13

A baseline period is selected from within the most recent 10 years (for non-EUSGUs) for each pollutant, but applies to all emission units affected by the project.

A. True
✓ B. False



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Baseline Actual Emissions

EXAMPLE #1 – Project proposed in 2013

Year	VOC Emissions
2003	75 tpy
2004	**85 tpy**
2005	**95 tpy**
2006	80 tpy
2007	60 tpy
2008	50 tpy
2009	50 tpy
2010	40 tpy
2011	**25 tpy**
2012	**35 tpy**

Past actual emissions (permittee can select 24-month period within 10 year period preceding the change) = 90 tpy

Pre-NSR Reform Rule: Past actual emissions (two-year period preceding the change) = 30 tpy

15

Baseline Actual Emissions

EXAMPLE #2 – Project proposed in 2013

Year	VOC Emissions
2003	750 tpy
2004	**850 tpy**
2005	**950 tpy**
2006	800 tpy
2007	60 tpy
2008	50 tpy
2009	50 tpy
2010	40 tpy
2011	**25 tpy**
2012	**35 tpy**

Baseline actual emissions of 900 tpy not available for use since allowable emission rate was subsequently reduced.

New controls require 90% destruction efficiency, meaning baseline actual emissions are only 10% of the highest uncontrolled emission rate in previous 10 year period

What is the maximum PAE of the project?

PAE = 90 tpy

16

Baseline Actual Emissions

EXAMPLE #3 (EUSGU) – Project proposed in 2013

Year	SO2 Emissions
2008	150 tpy
2009	**165 tpy**
2010	**175 tpy**
2011	150 tpy
2012	145 tpy

Baseline actual emissions = 170 tpy; though alternative period can be allowed by Administrator if shown to be more representative of normal source operation

17

Baseline Actual Emissions (BAE) for New Units?

- The baseline emissions for a BRAND new unit is zero (initial construction/operation)
- What is the BAE of a new unit if it's going to be modified post initial construction and operation?
- A unit remains a new unit for two years post initial operation. What is the baseline emission rate during the first two years (post construction/operation)?
  - BAE = PTE (pre-change)
  - **See 62-210.200(28)(c), F.A.C.:** For a new emissions unit, the baseline actual emissions for purposes of determining the emissions increase that will result from the initial construction and operation of such unit shall equal zero; and thereafter, for all other purposes, shall equal the unit's potential to emit.

18

Projected Actual Emissions (PAE)

- Future side of equation – Remember PEI = PAE – BAE
- "the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant…" [62-210.200(206), F.A.C.]
  - Next 10 years if the project involves increasing the emission unit's design capacity or its potential-to-emit of that regulated NSR pollutant and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source
  - Next 5 years otherwise

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Calculating PAE

- In determining PAE, the permittee…
  - Shall 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 plan;
  - Shall include fugitive emissions to the extent quantifiable and emissions associated with startups, shutdowns, and malfunctions; and
  - Shall exclude that portion of the unit's emissions following the project that an existing unit <u>could have accommodated</u> during the baseline period used to establish the BAE and that are also <u>unrelated to the particular project</u> including any increased utilization due to product <u>demand growth</u>

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Calculating PAE

Preamble to 12/31/2002 rule (67 FR 80196):

- "Accordingly, you will calculate the unit's projected actual emissions as the product of:
  - (1) The hourly emission rate, which is based on the emission units operational capabilities following the change(s), taking into account legally enforceable restrictions that could affect the hourly emissions rate following the change, and
  - (2) the projected level of utilization, which is based on both the emissions unit's historical annual utilization rate and available information regarding the emission unit's likely post-change capacity utilization
  - …you should consider both the expected and the highest projections of the business activity that you expect could be achieved and that are consistent with information your company publishes for business-related purposes…"
- PAE = Hourly Rate x Projected Utilization

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Actual-to-Projected-Actual Applicability Test

Following a project, source resumes normal operation in 2012.
Source first commenced operation in 2010 as a major source.

Year*	VOC Actual Emissions
2010	55 tpy
2011	65 tpy
2012	85 tpy (projected)
2013	85 tpy (projected)
2014	90 tpy (projected)
2015	90 tpy (projected)
2016	95 tpy (projected)

Future Potential Emissions:
350 tpy

Baseline actual emissions = 60 tpy
Projected actual emissions = 95 tpy
Emissions increase (PEI) = 35 tpy
VOC SER = 40 tpy

MINOR MODIFICATION, not subject to PSD

22

Emissions Excluded from the Estimated PAE

- The PSD rule allows the applicant to exclude part of the estimated future emissions
- These are emissions that would occur even if there was no project at or impacting upon an existing emissions unit
- These excluded emissions are often referred to as:
  - "Excluded emissions"
  - "Unrelated emissions"
  - "Demand growth emissions"
  - "Could have accommodated emissions"

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"Could Have Accommodated and Unrelated" Excluded Emissions

- Part of the "Projected Actual Emissions" definition [62-210.200(206), F.A.C.]
- When estimating the PAE the applicant "shall exclude…that portion of the unit's emissions following the project that an existing unit
  - ***Could have accommodated*** during the consecutive 24-month period used to establish the baseline actual emissions …; and
  - that are also ***unrelated to the particular project,*** including increased utilization due to product demand growth"
  - These are the two "prongs" of the excluded emissions provision

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"Could Have Accommodated and Unrelated" Excluded Emissions

- Often referred to as the "demand growth exclusion" but regulatory language is not specific to demand growth
- Example:
  - Emission Unit A's BAE = 100 TPY (average 24 month actual)
  - The highest emissions observed during the 24 baseline months, Unit A's actual emissions = 10 tons/month (= 120 tpy annualized)
  - An additional 20 tpy (120–100) can be "excluded" from any PAE calculation, since the unit actually operated at this elevated level (during the chosen baseline period) at a time when the unit (and site as a whole) was clearly not influenced by the new (proposed) project.
  - This use of the highest demonstrated average monthly operating level during the baseline period was approved in EPA Region 4 guidance (See *Response to Georgia-Pacific Use of Demand Growth Exclusion from Projected Actual Emissions*, Gregg Worley, March 18, 2010)

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Calculating CHA Emissions - Example

Emission Unit A's BAE = 100 TPY (average 24 month actual)

- The highest emissions observed during the 24 baseline months, Unit A's actual emissions = 10 tons/month (= 120 tpy annualized)
- An additional 20 tpy (120–100) can be "excluded" from any PAE calculation, since the unit actually operated at this elevated level (during the chosen baseline period) at a time when the unit (and site as a whole) was clearly not influenced by the new (proposed) project.
- This use of the highest demonstrated average monthly operating level during the baseline period was approved in EPA Region 4 guidance (See *Response to Georgia-Pacific Use of Demand Growth Exclusion from Projected Actual Emissions*, Gregg Worley, March 18, 2010)
- This is not the only way to calculate CHA emissions. For example, utilities have information on projected future operations from siting plans which may serve as a better basis for calculating CHA emissions.

26

CHA Emissions - Considerations

- Averaging period is annual
  - Could unit have sustained operation at that capacity for a full year?
  - Was the rate adjusted downward to account for required maintenance?
- Think more broadly than just one emission unit
  - For a change to the boiler, can the plant actually handle the additional steam production?
  - Can it handle that steam year-round?

27

Unrelated to the particular project…

- Not so simple as it looks
  - Prior to the project, how accurate are engineering estimates of what increases the project will accomplish?
  - How will source be able to demonstrate that an increase in production is not the result of the project?
    - Maximum monthly demonstrated operating level
    - Reasonable basis for forecasted growth without the project

28

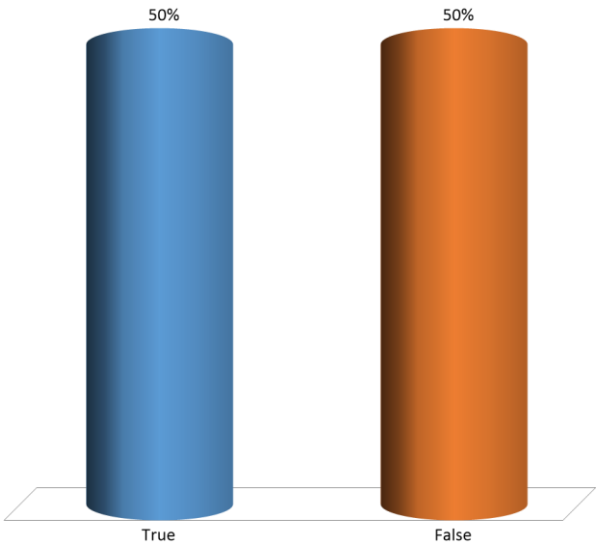
Actual-to-Projected Actual Test

- Actual-to-Projected Actual equation for evaluating modifications of existing units expressed as:
  - PEI = PAE – BAE
- This equation does not account for the demand growth exclusion (DGE) from emissions that the unit "could have accommodated" (CHA).
  - PEI = PAE-BAE-DGE
  - DGE = CHA – BAE
  - PEI = PAE - CHA

29

An actual-to-projected actual test is used to determine PSD applicability when constructing a new emissions unit at a PSD major source.

A. True
✓ B. False



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2002 Rule Preamble

- "…even if the operation of an emissions unit to meet a particular level of demand could have been accomplished during the baseline period, but the increase is related to the changes made at the unit, then the emissions increases resulting from the increased operation must be attributed to the project, and cannot be subtracted from the projection of the projected actual emissions." [67 FR 80203]

31

Could Have Accommodated – Region 3 Letter

- EPA Region 3 letter – April 20, 2010
  - "…a facility is permitted to burn coal with a sulfur content up to two percent but actually burns coal with one percent sulfur during the baseline period. The company bases the projected actual emissions on continuing to burn one percent sulfur coal. Emissions that can be excluded would be limited to emissions associated with burning one percent coal, regardless of the limit that would allow them to burn a higher sulfur coal."
  - "In other words, the emissions that "could have been accommodated" are not defined by all the many different operating conditions that could have occurred during the baseline period; rather emissions that may be excluded are limited by the proposed operating conditions used to project emissions into the future."

32

"Could Have Accommodated and Unrelated" Exclusion

"Supporters of the demand growth provisions also argued that market factors independently cause an emissions increase absent a physical or operational change…. Several examples of this are: skyrocketing demand because the product becomes a fad; mishaps at a factory, causing production increases at remaining supplier sources; decrease in raw material prices; opening of new markets; and improved economic conditions."

(EPA's Technical Support Document for the Prevention of Significant Deterioration (PSD) and Nonattainment Area New Source Review (NSR): Reconsideration – October 30, 2003)

33

US EPA v. Ameren (2016/2017)

- Ameren operates boilers at its baseload utility plant in Rush Island, MO.
- Memorandum and Order (2/24/2016) and Memorandum Opinion and Order (1/23/17)
  - Ameren allegedly undertook major modifications at their Rush Island Plant without obtaining the requisite permits.
  - In 2015/2016, the court considered nine separate motions for partial summary judgment – most were denied. A trial followed in the US District Court Eastern District of Missouri. The issues were decided in January, 2017.
  - Two projects are at issue with EPA. Units 1 and 2 of the Rush Island Plant are coal-fired electric generating units that operate nearly continuously when available.
    - EPA alleges that Ameren performed major modifications on Unit 1 from approximately February 2007 to May 2007 ("2007 Project") when it replaced the Unit's economizer, reheater, lower slope tubes, and air preheater.
    - EPA also alleges that Ameren performed major modifications on Unit 2 from approximately January 2010 to April 2010 ("2010 Project") when it replaced the Unit's economizer, reheater, and air preheater.

34

US EPA v. Ameren (2016/2017)

- EPA alleges, for each project, that Ameren violated the PSD requirements in the CAA and the Missouri SIP because it:
  - (1) did not obtain a PSD permit for construction and operation of the modified unit;
  - (2) did not undergo a BACT determination;
  - (3) did not install BACT for control of SO2 emissions;
  - (4) failed to operate BACT for control of SO2 emissions;
  - (5) failed to operate in compliance with BACT emissions limitations;
  - (6) operated the units after undergoing an unpermitted major modification.
- EPA also alleges that Ameren violated Title V of the CAA because Ameren failed to submit an accurate and complete Title V permit application and by commencing major modifications at Units 1 and 2 without obtaining a PSD permit.

35

US EPA v. Ameren (2016/2017)

- "…Ameren argues that "unrelated" [to the project] means any emissions increases a unit could have accommodated at baseline."

- "EPA argues that such an interpretation impermissibly collapses the two prongs of the demand growth exclusion into one, and makes the entire second prong ("and that are also unrelated to the particular project, including any increased utilization due to product demand growth") superfluous."

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US EPA v. Ameren (2016/2017)

- Judge agreed with EPA writing:
  - The difference between the two prongs of the demand growth exclusion – and in particular how to determine if emissions increases are "related" to a project – can perhaps be best understood by looking at different fact scenarios.

1. If Ameren ran its units more often after the projects just because demand grew, for example, then we can easily say that any increased emissions were unrelated to the projects.
2. Likewise, if emissions increased because of changes in weather patterns or in the type of coal being used, those increased emissions would probably not be related to the projects.
3. However, if emissions increase because a project enables the unit to meet previously unmet demand during peak hours, for example, those emissions increases are likely related to the project and therefore do not qualify for the demand growth exemption.

37

US EPA v. Ameren (2016/2017)

At the trial, the court focused its attention to the details of the modifications performed in 2007 and 2010 and how they would be expected to increase the unit availability factors

- Ameren witnesses testified that the projects were justified (at least partially) based on unit availability issues they were experiencing.
  - "Ameren's project authorization for Unit 1 stated that "as a result" of the replacements, "Rush Island will eliminate forced outages due to reheater tube leaks for 20 years, eliminate 30 to 50 MW load reductions due to flyash pluggage of the current economizer, and reduce the number of tube leaks caused by slag falling on the furnace lower slopes."
  - "Further evidence of Ameren's expectation of availability improvements is found in Plaintiff's Exhibit 126, which was a presentation that Mr. Meiners made to senior executives at a business plan meeting. One of the purposes of the presentation was to discuss component replacements and the condition of the reheater, economizer, air preheater, and lower slopes. At the end of the presentation, Mr. Meiners presented a graph showing that Rush Island's availability would increase by almost 5%, from about 90% in 2005-2006 to 95% in the first year after both major boiler outages had been completed."

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Option to use PTE (as PAE) for Existing Units

- The rule allows the applicant to simplify the assessment of Projected Actual Emissions (PAE).
- PAE can be set equal to the existing emission unit's PTE. This is typically done by setting a new limit in the emission unit's permit.
- The rule does NOT employ the concept of "could have accommodated" (excluded) emissions when setting PAE=PTE.
- A key complication – How to address start-up, shut-down, and malfunction (upset) emissions in baseline and projected emissions?

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Summary of Applicability Equations

- Net Emissions Increase/Change (NEI)
  - NEI = PEI-CCD+CCI
- Project Emissions Increase (PEI)
  - New Units (less than two years old)
    - PEI = PTE – 0
  - Existing/replacement Units (rule allows 2 calculation options)
    - PEI = PAE – BAE OR PEI = PAE - CHA
    - PEI = PTE (post modification) – BAE

PAE = Projected Actual Emissions

BAE = Baseline Actual Emissions

PTE = Potential to Emit CCD = Contemporaneous Creditable Decreases

CCI = Contemporaneous Creditable Increases

CHA = "Could Have Accommodated" Emissions

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Emissions Documentation

- When the US EPA amended the NSR rules in 2002 to include the PAE applicability element for existing units, it did so with the assumption states would normally accept the applicants reasonable assessment of the projected emissions (and the excluded emissions)
  - Whether, and to what degree, the states and/or EPA should/can "second guess" the applicants emissions projections before construction commences has been hotly debated
- An actual compliance assessment can be made "after-the-fact" when the emissions from the modified units are known and rule mandated reports are submitted. This is a "project-and-report" process.
  - Rule 62-212.300(e), F.A.C. - Actual Emissions Reporting
  - Rule 62-210.300(3), F.A.C. – actual-to-actual emissions analysis not exempt from permitting.

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Preamble on Emissions Documentation Requirements

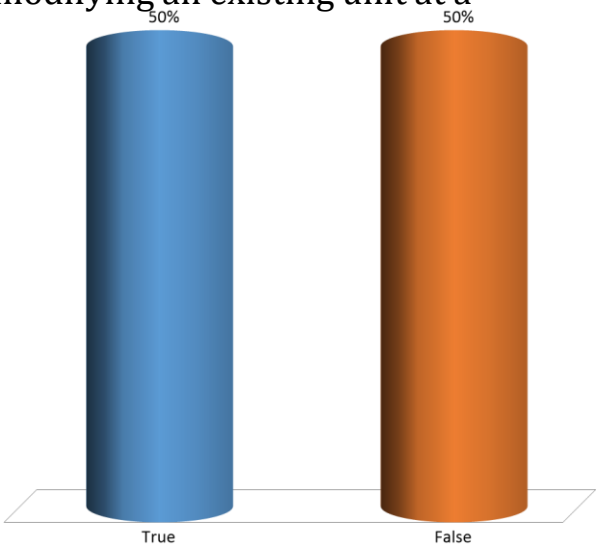
- From 72 FR 72611 (December 21, 2007):
- "We [EPA] believe this pre-change recordkeeping requirement establishes an adequate paper trail to allow enforcement authorities to evaluate the source's claims concerning what amount of an emissions increase is related to the project and what amount is attributable to demand growth."
- "…we recognize that for some limited types of projects, additional information may be required to determine whether a projected emissions increase is related to the change. The source must retain pre-change records that describe the project, identify the units that could be affected, describe the baseline actual emissions, the projected actual emissions, and the emissions excluded due to demand growth with an explanation as to why they were excluded."
- "These records provide permitting authorities and enforcement officials sufficient information to determine whether the type of project undertaken could have a causal link to increases in emissions due to demand growth. With these records, enforcement authorities will have an adequate starting point to make further inquiries and to access other types of records…"

42

An actuals-to-potentials comparison is used to determine PSD applicability when constructing a new emissions unit at a PSD major source AND can be used when modifying an existing unit at a PSD major source.

✓ A. True

B. False



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Emissions Documentation – Time Element

- So what happens after the Actual Emissions Reporting period lapses?
- Sixth Circuit Case (DTE I) – Decided on March 28, 2013
  - "While EPA does presume that emissions increases after five years are unrelated to the project (67FR 80,197), that presumption can be overcome, for example, by demonstrating that the preconstruction facility could not handle such an increase. Neither the statute nor the regulations create a time barrier. EPA can bring an enforcement action whenever emissions increase, so long as the increase is traceable to the construction. See 40 CFR 52.21(a)(2)(iv)(b)."

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Emissions Documentation

- From an EPA enforcement perspective, what matters more? The legitimacy of the pre-construction projections or the amount of emissions that actually occur later on. Maybe both matter?
- Sixth Circuit Case (DTE II) – Decided on January 10, 2017
  - "In terms of the remand, it is important to note that the panel unanimously agrees — now that *DTE I* is the law of this case and of the circuit — that actual post-construction emissions have no bearing on the question of whether DTE's preconstruction projections complied with the regulations. *DTE I* foreclosed that question in holding that an operator who begins construction without making a projection in accordance with the regulations is subject to enforcement, no matter what post-construction data later shows. The district court erred initially and again on remand when it ruled that post-construction data could be used to show that a construction project was not a "major modification." Apparently, it is necessary to reiterate that the applicability of NSR must be determined *before construction commences* and that liability can attach if an operator proceeds to construction without complying with the preconstruction requirements in the regulations. Postconstruction emissions data cannot prevent the EPA from challenging DTE's failure to comply with NSR's preconstruction requirements."

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Emissions Documentation – DTE Cases and 2017 Pruitt (EPA) Memo

- December 7, 2017, Pruitt Memo
  - The December 7, 2017, Pruitt Memo "distances" EPA enforcement from the Sixth Circuit DTE opinions
  - Memo says that post-project data is a means to evaluate the pre-project conclusions drawn by the site and can be used to determine major modification applicability
  - Memo also says sites intending to "manage" (self-limit) post-project emissions can do so as a legitimate way of assessing the pre-construction emissions projections

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Emissions Documentation – DTE Cases and 2017 Pruitt (EPA) Memo

- Quotes from the Pruitt Memo
  - "Although the majority in the first DTE opinion held that the EPA may pursue enforcement of its projection regulation where a source owner or operator has failed to perform a required pre-project applicability analysis or has failed to follow the objective calculation requirements of the regulations regardless of the level of post-project emissions, the court decision does not compel the EPA to pursue enforcement in such situations."
  - "The EPA has substantial discretion regarding prosecution of violations of the CAA and the first DTE opinion does not limit the EPA's discretion to consider whether prosecution of other sources is warranted in similar circumstances. Thus, pending further review of these issues by the courts and the EPA, the agency does not intend to pursue new enforcement cases in circumstances such as those presented in the DTE matter."
  - "…the EPA intends to focus on the fact that it is the obligation of source owners or operators to perform pre-project NSR applicability analyses and document and maintain records of such analyses as required by the regulations."

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Emissions Documentation – DTE Cases and 2017 Pruitt (EPA) Memo

- "It also intends to focus on the fact that the post-project monitoring, recordkeeping and reporting requirements provide a means to evaluate a source's pre-project conclusion that NSR does not apply and that the NSR applicability procedures make clear that post-project actual emissions can ultimately be used to determine major modification applicability."
- "One issue that has arisen with respect to determining projected actual emissions resulting from a proposed project is whether it is permissible under the regulations for an owner or operator to factor into the projection an intent to actively manage future emissions from the project on an ongoing basis to prevent a significant emissions increase or a significant net emissions increase from occurring. The EPA notes that the rule language specifically provides that "all relevant information" shall be considered in making a projection….Pending further review of the issues described above by the EPA, the EPA intends to apply the NSR regulations in accordance with this language such that the intent of an owner or operator to manage emissions from a unit in that manner after a project is completed represents relevant information in the context of projecting future actual emissions from that unit that could be considered along with other relevant information in making an emissions projection, as provided in the NSR regulations."
- "…the EPA does not presently intend to initiate enforcement in such future situations unless post-project actual emissions data indicate that a significant emissions increase or a significant net emissions increase did in fact occur."

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Modifications – Netting Out of PSD

- A major modification occurs if there is a "significant emissions increase" and a "significant net emissions increase":
  - STEP 1: emissions changes specifically associated with project (PEI) > PSD major mod thresholds, AND
  - STEP 2: "net" emissions increases (within 5+ year time window) > PSD major mod thresholds
- Complex procedures allow netting out of PSD review if certain emissions decreases offset proposed emissions increases
- Netting ("contemporaneous") window is 5+ years
- Volumes of EPA guidance dedicated to the subject, lots of nuance

Emissions Netting

- Project emissions increases (**PEI**) can be further evaluated as the sum of three components:
  - Modified unit(s) emissions increases (**MUEI**) - these unit are being physically or operationally changed
  - Associated unit(s) emissions increases (**AUEI**) - these units are not physically changed as part of the project
  - New unit(s)
  - PEI = MUEI + AUEI + New Units

Netting Procedures

1. Determine emissions increases (PEI) (*not decreases*). If significant (PEI > SER), proceed to Step 2.

2. Determine contemporaneous period for project

3. Determine emission units with creditable increase or decrease in emissions during contemporaneous period

4. Determine which emissions changes are creditable

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Netting Procedures

5. For each pollutant, determine amount of each contemporaneous and creditable emissions increase and decrease (CCD + CCI)

6. Sum all increases and decreases with increase from proposed modification to determine if net increase will occur

NEI = PEI - CCD + CCI

NEI = (MUEI + AUEI + New units) - CCD + CCI

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Netting Nuances / Complications

- Netting of contemporaneous projects do not follow NSR Reform
  - In other words, the CCI is defined as the PTE-BAE, not PAE-BAE, even for modified units.

- A project that avoided PSD due to actuals-to-actuals analysis demonstrating a zero emissions increase is likely to be a positive CCI on a PTE-BAE basis.

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Calculating Emissions Changes – Fine Details

- A decrease in actual emissions is creditable only to the extent that it meets all the conditions below:
  - If the old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions,
  - If it is enforceable as a practical matter at and after the time that actual construction on the particular change begins, and
  - If it has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.
- In other words:
  - 1) Only the lesser of actual or allowable emissions is creditable as an emission decrease, and
  - 2) Emission decreases must have approximately the same qualitative significance for public health and welfare as the emission increases

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Summary of Applicability Equations

- Net Emissions Increase/Change (NEI)
  - NEI = PEI-CCD+CCI
- Project Emissions Increase (PEI)
  - New Units (less than two years old)
    - PEI = PTE – 0
  - Existing/replacement Units (rule allows 2 calculation options)
    - PEI = PAE – BAE OR
    - PEI = PTE (post modification) – BAE

PAE = Projected Actual Emissions - Emissions unrelated to change and "could have accommodated" during baseline period are excluded

BAE = Baseline Actual Emissions

PTE = Potential to Emit - Often set by permit as a "synthetic minor" limit to avoid PSD permitting

CCD = Contemporaneous Creditable Decreases

CCI = Contemporaneous Creditable Increases

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