Actual-to-Potential Test

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Actual-to-PTE Test

- Basic philosophy behind the test:
  - [A]lterations at a plant provide an economic incentive to increase production, and must undergo PSD review unless the company agrees to limit its actual emissions to current levels”. *Alan Eckert Memorandum, November 24, 1989.*
  - Actual emissions are key to understanding the actual-to-PTE test.
Actual-to-PTE Test

- Where is the test found?
  - EPA’s (and DE’s) nonattainment NSR and PSD regulations require preconstruction review for sources undertaking a “major modification”.
  - A major modification is a physical change or change in operation that results in a “significant net emissions increase”.
  - A “net emissions increase” is defined as the increase in “actual emissions” from the change together with any other contemporaneous increases and decreases in “actual emissions”.
Actual-to-PTE Test

So why isn’t this an actual-to-actual test? It is....sort of.

- Actual emissions are defined as the emissions occurring during a two year period as of a particular date that is representative of normal operation.
- The definition also states that “[f]or any emissions unit which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date”.

Actual-to-PTE Test

- Because the applicability determination must be made in advance of construction, the regulations provide that an emissions unit that will undergo a physical or operational change “has not begun normal operations” as of the date the modified unit will begin operation, therefore, actual emissions must equal potential to emit.
- Easy to understand why a new unit would not have begun normal operations. Less easy, and much more controversial, is why an existing unit would be considered not to have begun normal operations.
History

- On August 7, 1980, EPA promulgated revised regulations for PSD that included the definition of actual emissions. In the preamble to the rule, EPA states that “the source owner must [first] quantify the amount of the proposed emissions increase. This amount will generally be the potential to emit of the new or modified unit”. 45 FR 52677.
- The DC Circuit upheld the rules in a decision issued October 31, 1989 in Puerto Rican Cement v. EPA.
Then came the WEPCO v EPA decision in 1990.

- WEPCO made physical changes involving the repair and replacement of turbine generators, steam drums and other major boiler components.
- Court determined that where the renovations were like-kind replacements, EPA could not reasonably interpret its regulations to say that a unit was so different that it has not “begun normal operations”.
- EPA promulgated the “WEPCO Rule” on July 21, 1992, and determined that “begun normal operations” is inherently case-by-case but extensive knowledge of the electric utility industry, and the similar nature of their operations, provided a basis to predict future actual emissions. Hence the actual-to-representative actual test.
History

- And then....NSR Reform on December 31, 2002, upheld by the DC Circuit June 2005.
  - The Court upheld the concept that Congress, via the Clean Air Act, intended NSR to be based on increases in actual emissions. Facilities could use either an actual-to-projected actual test, or rely on the traditional actual-to-potential test.
  - NSR applicability could not be based on a “potential-to-potential” test (see vacature of Clean Unit Test);
  - There are no exceptions to NSR for pollution control equipment (see vacature of Pollution Control Exclusion).
Like-Kind Replacements

- Court determined in WEPCO that EPA could not reasonably conclude that a like-kind replacement was so different that it would not have begun normal operations.
- Can facilities in states with the actual-to-PTE test make the same interpretation?
PTE - Important Elements

- PTE is the maximum capacity of a unit to emit a pollutant, considering any physical or operational limits on the capacity of a source to emit a pollutant.
- PTE is not always the same as allowable emissions.
- When is PTE a consideration in pre-change emissions?
  - For dual source definition, the pre-change PTE of a unit must be determined.
  - For the plantwide definition of source, limits that exist prior to a physical or operational change are irrelevant unless the facility has been in noncompliance.
Actual-to-PTE Considerations

- The test applies to all pollutants emitted by the unit(s) in a project.
- Beware of ton per year (tpy) limits. They may not be practically enforceable and they should not be treated as a PAL or mini-PAL.
- A limit on one pollutant may inherently create a limit on other pollutants.
Actual-to-PTE Test

- A 100 mmBTU/hr boiler provides steam to process units at a facility and was installed with excess capacity to accommodate future growth. The facility is proposing to add an additional process unit that will consume an additional 10% of the boiler’s capacity. How would you calculate PTE before and after the change?
- How would installation of a baghouse affect NOx emissions in an applicability determination?
Actual-to-PTE Test

- A power generator operating a multi-fuel CFB wants to increase heat input limits from 10,038,960 mmBTU/yr to 11,703,360 mmBTU/yr, a 23% increase in throughput.
- They intend to maintain the current limits on all pollutants except for CO. Current actual emissions of CO are 495 tpy. The pre-change PTE is 753 tpy and post-change PTE will be 925 tpy.
- Facility claims that they need flexibility in CO limit to accommodate worst-case fuel. Recent data indicates that they are w/n 35 tons of existing annual limit at full capacity.
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What would you do?
Actual-to-PTE Test

- It can potentially penalize facilities for not running at capacity just prior to a modification.
- Can frustrate attempts to make systems more efficient.
  - *Puerto Rican Cement* – project was to convert cement kilns from wet to dry process. New unit would be inherently less polluting in terms of total potential emissions and emission per unit of production. However, plant had operated at 60% capacity prior to the change. Therefore, difference in emissions between pre-change actual and post-change PTE was significant.
Emissions Caps

- An “emissions unit” is defined as any part of a stationary source that emits or would have the potential to emit any regulated NSR pollutant.
- A cap taken on a group of emissions units to avoid a requirement, e.g. in netting, does not insulate a unit from triggering NSR in the future. There are no mini-PALs.
- Where a facility takes a limit on a group of units, the group becomes the emissions unit. A change to one is a change to all. If NSR/PSD is triggered, LAER/BACT applies to all the units.
- Breaking the cap will trigger the “r(4) provisions”.

Sample Language - PADEP

- Volvo shall comply with a VOC emissions cap of 56.49 tpy for five spray booths (Source IDs 201, 202, 203, 204, and 205). The VOC emissions cap for the five spray booths is a compliance cap, imposed for NSR applicability purposes. This VOC emissions cap shall not provide any relief from NSR applicability determinations for any future physical change or change in the method of operation of the five spray booths at the facility. The spray booths (Source IDs 201, 202, 203, 204, and 205) covered under the VOC emissions cap shall be considered as one emissions unit, as defined in 25 Pa. Code Section 121.1 (relating to definitions), for NSR applicability purposes. Any future NSR applicability determinations must consider the baseline actual VOC emissions of the five spray booths as one emissions unit and not the cap. In the event that major NSR is triggered for any of the spray booths covered by the 56.49 tpy VOC emissions cap, LAER shall apply to the five spray booths. If the company finds it necessary to relax the VOC emissions cap at some future date, the requirements of 25 Pa. Code Section 127.203(e)(2) shall apply.