



Modifications

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Definitions:

- Modification: 10 CSR 10-6.020(2)(M)49
- Major Modification: §52.21(b)(2)(i)





Example #1:

An existing installation wishes to install a new widget sealing system to prevent rust.

The new widget sealing system has an MHDR of 25 tph and is at the tail-end of the existing 25 tph widget production process.



Example #2:

An existing installation wishes to increase the amount of Material A in their widgets. No new equipment is required. Widget production will remain unchanged at 1,200,000 widgets per year, but the weight of total material per widget will increase from 1.1 pounds to 1.5 pounds.



Calculating Emissions Increase:

For each emission source the emission increase is =

Potential to Emit (PTE) – Baseline
Actual Emissions (BAE)



INCREASE



Emissions Increase Tips:

- Don't use a different calculation methodology for determining PTE then you used for determining BAE.
- Double check that your BAE are reasonable using MoEIS and/or Air Markets Program data.
- 10 CSR 10-6.061(3)(A)3.A and (3)(A)3.B apply to the PTE of an emission source, not the emissions increase.



Example #2:

An existing installation wishes to increase the amount of Material A in their widgets. No new equipment is required. Widget production will remain unchanged at 1,200,000 widgets per year, but the weight of the total material per widget will increase from 1.1 pounds to 1.5 pounds.

Example #2 Actual Emissions:

Widget Production PM₁₀ Emission Factor:
100 lb/ton of material processed .

Material Processed per Widget: 1.1 pounds.

Year	Annual Production Rate (widgets)	PM₁₀ Actual Emission Rate (tpy)
2011	1,109,400	30.509
2012	1,058,000	29.095
2013	1,070,500	29.439
2014	1,152,600	31.697
2015	1,171,300	32.211



Example #2 Baseline Actual Emissions:

Year	PM₁₀ Actual Emission Rate (tpy)	24-month period	PM₁₀ Baseline Actual Emission Rate (tpy)
2011	30.509		
2012	29.095	2011 – 2012	29.802
2013	29.439	2012 – 2013	29.267
2014	31.697	2013 – 2014	30.568
2015	32.211	2014 - 2015	31.954



Example #2 Potential Emissions:

Widget Production PM_{10} Emission Factor:
100 lb/ton of material processed .

Material Processed per Widget: 1.5 pounds.

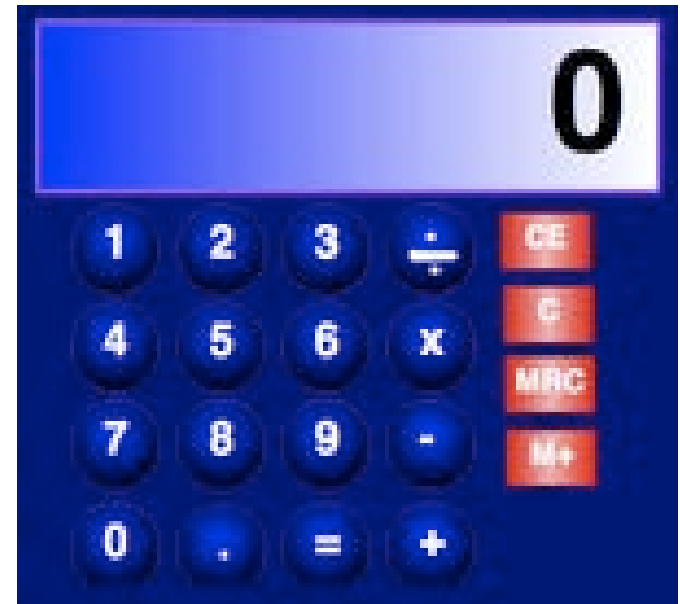
Widget MHDR: 136.99 widgets/hr
(1,200,000 widgets per year)

Potential PM_{10} Emissions = 45.0 tons per
year



Example #2 Emissions Increase:

Project PM_{10} emissions
= Widget Production Process PM_{10} Emissions
Increase
= PM_{10} PTE – PM_{10} BAE
= 45.0 tons – 31.954 tons
= 13.046 tons





Example #3:

An existing installation wishes to increase their existing production limit from 1,300,000 tons per 12-month rolling total to 1,500,000 tons per 12-month rolling total. No new equipment is required. The existing production limit was used in a netting analysis 8 years ago that resulted in the installation “netting out” of PSD for PM, PM₁₀, and PM_{2.5}.



§52.21(r)(4) states:

At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of §52.21(j) through (s) shall apply to the source or modification as though construction had not yet commenced on the source or modification.



Example #3 – Step #1:

Does the relaxation of the production limit trigger PSD permitting requirements for the original project?

- The original project used a baseline period of January 2005 – December 2006 and a contemporaneous period of January 2002 – December 2007.

Relax ?



§52.21 (b)(2) Major Modification:

Major modification means any physical change in or change in the method of operation of a major stationary source that would result in: a significant emissions increase (as defined in §52.21(b)(40)) of a regulated NSR pollutant (as defined in §52.21(b)(50)); and a significant net emissions increase (NEI) of that pollutant from the major stationary source.

Contemporaneous Periods:

§52.21(b)(3)(i)(a) The increase in emissions from a particular physical change or change in the method of operation at a stationary source as calculated pursuant to §52.21(a)(2)(iv); and

§52.21(b)(3)(i)(b) Any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable.

Baseline actual emissions for calculating increases and decreases under this paragraph shall be determined as provided in §52.21(b)(48), except that §52.21(b)(48)(i)(c) and (b)(48)(ii)(d) shall not apply.



Contemporaneous Increases and Decreases:

An increase or decrease in actual emissions is contemporaneous with the increase from the project if it meets the requirements in §52.21(b)(3)(ii) and may only be used in emissions calculations if it is creditable according to the requirements in §52.21(b)(3)(iii) through (b)(3)(vi).

Example #3 - Step #1:

Does the relaxation of the production limit trigger PSD permitting requirements for the original project?

- The original project used a baseline period of January 2005 – December 2006. The PM_{10} BAE remains unchanged at 12.51 tons.
- The original project used a contemporaneous period of January 2002 – December 2007. Contemporaneous PM_{10} credits remain unchanged at 49.33 tons.
- The new PM_{10} PTE at an annual production rate of 1,500,000 tons per year is 76.43 tons.
- The new PM_{10} NEI of the original project = 76.43 tons – 12.51 tons – 49.33 tons = 14.59 tons.

Example #3 - Step #2:

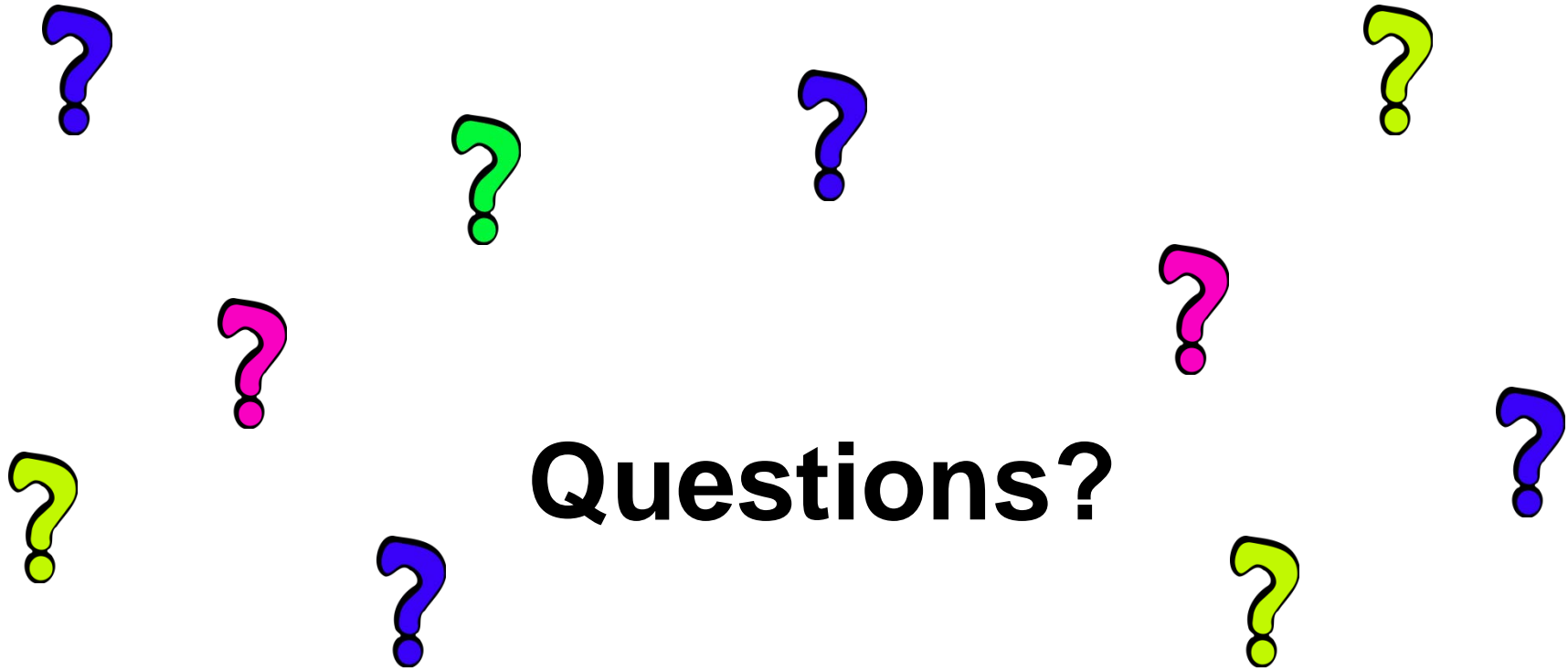
Would the production increase trigger PSD permitting requirements for the current project?

- Baseline period: January 2013 – December 2014. The new PM_{10} BAE is calculated to be 66.24 tons.
- Contemporaneous period: None.
- The new PM_{10} PTE = 76.43 tons.
- PM_{10} NEI = PTE – BAE = 76.43 tons – 66.24 tons = 10.19 tons.



Example 3 Conclusions:

- A request to relax an existing limit involves a two step approach.
 - Step #1: Determine if the original project at the relaxed limit now requires a PSD evaluation under §52.21(r)(4) using the original baseline and contemporaneous periods.
 - Step #2: If Step #1 does not trigger §52.21(r)(4), then determine if the current project triggers PSD using a current baseline period and contemporaneous period.



Questions?

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Nothing in this document may be used to implement any enforcement action or levy any penalty unless promulgated by rule under chapter 536 or authorized by statute.