From:	Porter, Matthew k
To:	Bridgers, George
Cc:	Anderson, Tom; Yoder, Jon M
Subject:	Comments on Revised Draft Guidance for Ozone and Fine Particulate Matter Permit Modeling (September 20, 2021)
Date:	Friday, November 19, 2021 3:37:00 PM

George,

We have the following comments on the revised guidance. Thanks for the opportunity to provide comments and we look forward to EPA's considerations and responses, as appropriate. Happy Thanksgiving to you and yours!

- In the context of a major modification at a major PSD source/facility:
    - What is the scope of sources to include in the SILs analysis? Does the applicant include only sources related to the project (i.e., "affected sources")?
    - Do baseline actual emissions need to be calculated differently for the 24hr and annual SILs modeling demonstration? If so, can EPA provide examples on how to calculate 24hr and annual baseline emissions for a SILs analysis?
    - In the context of a major modification and a Class II SILs modeling demonstration, can EPA please provide examples on how to calculate 24hr and annual baseline actual and allowable emission increases (including direct PM2.5, NOX, and SO2) for affected emission units at a typical multi-fuel power generation facility and paper mill or other similarly complex manufacturing facility?
    - Does modeling of the allowable increases from the affected emission units, 5yr average H1H, and 24hr and annual impacts below the SILs protect the NAAQS and increment? Or does a wholistic case need to expand to include the entire facility?
    - Example(s) of how to take pollutants with actual increases estimates to represent permit allowable increases for NOX, SO2, and/or PM2.5 direct
        - Examples should cover 24hr and annual time averaging representative of the emission units being modeled
        - What if we have a facility that has an *actual emissions increase* of 9.9 tpy PM2.5, 39.9 tpy NOX, and 41 tpy SO2? Does that require AERMOD modeling of PM2.5 and MERPs for NOX and SO2 using *allowable emissions increases* which would be higher in most cases, for example, 15 tpy PM2.5, 75 tpy NOX, and 65 tpy SO2?
        - Conversely, what if the PSD *projected actual emissions increases* are 9.9 tpy PM2.5, 39.9 tpy NOX, and 39.9 tpy SO2 whereas the *allowable emissions increases* remained 15 tpy PM2.5, 75 tpy NOX, and 65 tpy SO2? Does the scope of the wholistic approach recommended in the revised guidance extend to addressing the allowable emissions increases that are otherwise ignored by means of *projected actual emissions increases?*
- What is the regulatory basis for "wholistic" approach? Scientific, case law, and regulatory references? Permitting authorities need a defensible regulatory basis for requiring PSD applicants to developing the needed project emissions inventories for AERMOD modeling of

direct PM2.5, as well as any NOX and SO2 secondary impacts on PM2.5 using MERPs.

- Nearby source inventory considerations:
    - Are nearby source NOX and SO2 precursor impacts represented by PM2.5 background concentrations? This assumption has typically been applied in the past.
    - What about nearby source precursor impacts on secondary PM2.5 for increment modeling? What baseline actual emissions for PM2.5 precursors would be appropriate to protect the increment? Examples would be helpful in this regard.
    - Do applicants need to use MERPs and permit allowable emissions for nearby sources?
- Please define baseline date and area for PM2.5 Class I SILs/culpability and cumulative increment demonstrations…? Do we use the October 2010 baseline date for Class I increments? What baseline area would be appropriate? Should it be based on long-range transport modeling guidance typically applied for AQRV analyses (e.g., 300 km from the Class I area)?
- What's the effect of a wholistic approach to PSD avoidance limits for NOX, SO2, and direct PM2.5?
    - E.g., project: 1 tpy pm2.5, 10 tpy SO2, and 41 tpy NOX actual emissions increases
        - Does an avoidance limit of 39.9 tpy NOX also lock in the 1 tpy PM2.5 and 10 tpy SO2 or would limits default to 9.9 tpy pm2.5 and 39.9 tpy SO2?
    - E.g., project: 11 tpy pm2.5, 20 tpy SO2, and 20 tpy NOX actual emissions increases
        - Does an avoidance limit become 9.9 tpy pm2.5 with other SO2 and NOX limits set to 39.9 tpy or 20 tpy?
- What's the effect of a wholistic approach to developing federally enforceable emissions limits based on modeling?
    - E.g., project: 1 tpy pm2.5, 10 tpy SO2, and 41 tpy NOX allowable emission increases modeled
        - Does the enforceable limit apply to PM2.5, SO2, and NOX? Or just NOX since it's > 40 tpy SER?
    - E.g., project: 11 tpy pm2.5, 20 tpy SO2, and 20 tpy NOX allowable emissions increases modeled
        - Does the enforceable limit apply to just PM2.5? Or to PM2.5, SO2, and NOX collectively?
- Primary PM2.5 includes chemically reactive species such as sulfates, nitrates, elemental and organic carbon, ammonia, and other organic compounds. How do the MERPs and supporting PGM modeling address the potential for this primary speciated PM2.5 to also chemically transform and increase or decrease secondary PM2.5 concentrations? The reactivity of speciated PM2.5 plumes may be considered inert at the fenceline, but composition and reactivity of a PM2.5 plume becomes more important with time and variable distances from the source under prolonged stagnation and light wind conditions. The revised guidance could be expanded to include examples and discussion of the sensitivities in considering plume PM2.5 speciation assumptions.

R/

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