



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902

March 26, 2020

Transmitted via E-mail to: bridgers.george@epa.gov

Mr. George Bridgers
Air Quality Modeling Group
U.S. Environmental Protection Agency (EPA)
Research Triangle Park, NC 27709

RE: DRAFT Guidance for Ozone and Fine Particulate Matter Permit Modeling

Dear Mr. Bridgers:

The Tennessee Valley Authority (TVA) appreciates the opportunity to provide comments on the DRAFT Guidance for Ozone and Fine Particulate Matter Permit Modeling released on February 10, 2020. TVA is a corporate agency of the United States with a diverse statutory mission. Congress tasked TVA with, among other things, providing flood control, navigation, and land management for the Tennessee River system; producing electricity; regulating local power companies; and assisting local power companies and state and local governments in the Tennessee Valley with economic development and job creation. As an agency with a broad and diverse mission, TVA has relevant expertise and experience in the type of air quality modeling discussed in the draft guidance.

If you have questions about the attached comments, please feel free to contact me at 865-632-2523.

Sincerely,

A handwritten signature in black ink that reads 'M. Carolyn Koroa'.

M. Carolyn Koroa
Director
Environment and Energy Policy

TVA Comments on the DRAFT Guidance for Ozone and Fine Particulate Matter Permit Modeling

1. Section II.2, PSD Pollutant Applicability for O₃ and PM_{2.5} (page 12); Table III-2. EPA Recommended Approaches for Assessing Primary and Secondary PM_{2.5} Impacts by Assessment Case (page 21):

Paragraph 3 and Table III-2 both state that only ozone (O₃) or fine particulate matter (PM_{2.5}) precursors above the significant emission rate (SER) are included in the Tier 1 analysis. Is this consistent with the April 30, 2019, final modeled emission rates for precursors (MERPs) guidance document? Is this verified in any other guidance?

2. Section II.4, Source Impact Analysis (page 14):

For a source impact analysis, paragraph 2 states that a permitting authority compares the modeled concentrations resulting from the proposed source's emissions increase to an appropriate O₃ or PM_{2.5} significant impact level (SIL). This statement implies that photochemical modeling has been performed, which may not be the case if a Tier 1 MERPs analysis was used.

3. Section II.5.1, O₃ and PM_{2.5} NAAQS Compliance (page 15):

Paragraph 1 states that a cumulative analysis should include "direct" and/or precursor emissions for the both the source and nearby sources. "Direct" can also imply actual emissions (vs. allowable emissions). The type of emissions should be more well-defined earlier in the document. [They are finally clarified in Section V.3.2, PM_{2.5} Increments: Cumulative Analysis (page 69).]

4. Section III.4.1, Conceptual Model (page 26):

Paragraph 2 states that O₃ characterization should take into consideration episodic high O₃ concentrations and any trends in the area. How is this information obtained, especially in rural areas with no nearby monitors? Likewise for PM_{2.5}, how are seasonality and speciated composition of current PM_{2.5} concentrations or the chemical species that participate in the photochemical reactions obtained? Further guidance or demonstration is needed.

5. Section III.5.1, SIL Comparison for O₃, Paragraph 1 (page 35):

Under the Tier 1 approach for a source impact analysis, paragraph 1 states that the highest maximum modeled O₃ concentrations should be compared to appropriate SIL. However, the Tier 1 approach uses a qualitative approach via MERPs or other approved method. Additional clarification is needed.

6. Section IV.3, Comparison to the NAAQS (page 47):

The O₃ discussion states that the design value representative for the area, rather than the overall maximum monitored background concentration, should generally be used. The monitoring data should be representative because it accounts for O₃ formation associated with existing sources both within and outside of the modeling domain. What if there are no O₃ monitors located near the source? How is this representation determined? More clarification is needed. The same clarification is needed for the PM_{2.5} discussion.