

DECEMBER 7, 2021

COMMENTS OF THE NAAQS REGULATORY REVIEW & RULEMAKING COALITION ON EPA'S REVISED DRAFT GUIDANCE FOR OZONE AND FINE PARTICULATE MATTER PERMIT MODELING

On September 20, 2021, EPA posted Revised Draft Guidance for Ozone and Fine Particulate Matter Permit Modeling (“Draft Guidance” or “Guidance”).¹ These are the comments of the NAAQS Regulatory Review & Rulemaking (“NR3”) Coalition on the Draft Guidance. The NR3 Coalition is an ad hoc coalition of industry groups and companies supportive of National Ambient Air Quality Standards (“NAAQS”) that provide the requisite protection of public health and welfare and that are implemented in ways that provide that protection, consistent with the economic health of the country. Members of the NR3 Coalition and their member companies are committed to reducing emissions as necessary, consistent with the requirements of the Clean Air Act (“CAA” or “Act”),² to provide air quality protective of public health and welfare, while continuing to facilitate economic growth in the United States. We have worked for many years with EPA, states, and local authorities to lower concentrations of particulate matter (“PM”), ozone, their precursors, and other common pollutants in ambient air. As a result, between 1970 and 2020, emissions of criteria air pollutants have steadily declined, while both U.S. gross domestic product and population have grown.³

I. Role of the Draft Guidance

Many voluntary and compulsory programs have contributed to the improvement of impaired air quality and maintenance of existing clean air resources over the years. One such

¹ <https://www.epa.gov/scram/revISED-draft-guidance-ozone-and-fine-particulate-matter-permit-modeling>.

² 42 U.S.C. §§ 7401-7671q.

³ See EPA, Our Nation’s Air, <https://gispub.epa.gov/air/trendsreport/2021/#effects> (last visited Dec. 3, 2021).

program is the Act’s Prevention of Significant Deterioration (“PSD”) program.⁴ The Draft Guidance provides nonbinding recommendations for implementation of some aspects of this program.⁵ It provides “recommendations on how to conduct compliance demonstrations for the O₃ NAAQS and the PM_{2.5} NAAQS and PSD increments under the PSD program.”⁶ In particular, as indicated by its title, it offers technical advice on conducting air quality modeling to support these compliance demonstrations. The requirement for such compliance demonstrations⁷ is just one aspect of the PSD program. That program, which requires that new or modifying major emitting facilities in attainment or unclassifiable areas obtain preconstruction permits,⁸ also requires that these sources be “subject to the best available control technology for each pollutant subject to regulation under” the CAA.⁹

The Draft Guidance must be consistent with the statutory goals of the PSD program. Certainly, the PSD program is intended to preserve air quality in areas where NAAQS are met. This that does not mean, however, that the program should be implemented without regard to the burdens particular implementation measures may pose or consideration of how those burdens relate to their benefits. One goal of the PSD program is “to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources.”¹⁰ The Draft Guidance must be consistent with this goal. Thus, the Draft Guidance should not impose more costly or burdensome permitting requirements than are necessary to “preserv[e] existing clean air resources.”¹¹

⁴ CAA §§ 160-169B.

⁵ Draft Guidance at 4.

⁶ *Id.* at 7.

⁷ CAA 165(a)(3)

⁸ *Id.* §§ 165(a), 169(1).

⁹ *Id.*, § 165(c)(4).

¹⁰ *Id.* § 160(3).

¹¹ *Id.*

Indeed, the costs associated with the expanded modeling requirements in the Draft Guidance should not be allowed to exceed the benefits of that modeling. Under the Draft Guidance, the owner of a new or modifying source that would previously have been considered minor for PM_{2.5} will now face a potential requirement to conduct photochemical grid modeling of the source if its emissions of sulfur dioxide (“SO₂”) or nitrogen oxides (“NO_x”) will exceed the significant emission rate (“SER”) for that pollutant. Those emissions would already be subject to a requirement to use the best available control technology (BACT), however, as a result of the exceedance of the applicable SER. The owner of that source could decide that the costs, delays, and uncertainties associated with the newly required PM_{2.5} modeling render the project unworkable. For example, the owner of a source seeking to upgrade a boiler might recognize and accept a requirement for the use of BACT emissions (perhaps a low-NO_x burner), but find unacceptable the costs and uncertainties associated with the PM_{2.5} modeling required by the Draft Guidance. It is not clear that EPA has considered whether the additional modeling that the Draft Guidance is recommending will discourage construction of new facilities that use BACT in lieu of the continued operation of older facilities that are not subject to a requirement for BACT and therefore may have higher emission rates. EPA should consider this possible result before it imposes new modeling requirements.

II. Improved Approaches and Tools for Required Modeling of PM_{2.5}

If EPA finalizes the Draft Guidance as it currently stands, we urge the Agency to consider improvements to its recommended modeling approaches and tools for PM_{2.5} to decrease their conservatism and improve their realism. Unless EPA makes such improvements, modeling required by the Draft Guidance will tend to overestimate air quality impacts of the source seeking

a permit. This, in turn, “could severely constrain the permitting process, in some instances blocking environmentally beneficial projects.”¹²

With regard to EPA’s recommended AERMOD model, which would be used to predict the impact of direct emissions of PM_{2.5}, we note that EPA continues to evaluate possible improvements to the model’s treatment of modeling under low wind speed conditions. This is an issue that our members have repeatedly highlighted in comments to and discussions with EPA.¹³ We urge the Agency to improve this aspect of AERMOD as soon as possible. Additionally, Bob Paine and Dave Heinold, both with AECOM, have identified several other potential improvements to AERMOD and we urge EPA to improve these aspects of the model rapidly, as well.¹⁴

Second, we recognize and appreciate that use of Modeled Emissions Rates for Precursors (“MERPs”) to characterize secondary PM_{2.5} resulting from emissions of SO₂, NO_x, or both will eliminate the need to conduct photochemical grid modeling in most cases. Predictions of PM_{2.5} levels using MERPs are conservative, however. Use of MERPs requires the unrealistic assumption that the maximum direct and secondary PM_{2.5} concentrations attributable to the source seeking a permit occur simultaneously and at the same site. Because direct emissions of PM_{2.5} are likely to have an impact much nearer the source than are precursor emissions, simply combining the two predictions likely means that the predicted maximum contribution of the source to ambient PM_{2.5} levels will be overestimated. This overestimate may result in an erroneous prediction of an

¹² R.J. Paine & D.W. Heinold, Comments on Revised Guidance for Ozone and Fine Particulate Matter Permit Modeling (submitted to EPA on Nov. 19, 2021), at 2 (“Paine & Heinold”).

¹³ See, e.g., Petition of the NAAQS Implementation Coalition to the Administrator of the United States Environmental Protection Agency for Administrative Reconsideration of Portions of the Final Rule Entitled “Revisions to the Guideline on Air Quality Models: Enhancements to the AERMOD Dispersion Modeling System and Incorporation of Approaches to Address Ozone and Fine Particulate Matter (Mar. 20, 2017); Comments of the NAAQS Implementation Coalition on the United States Environmental Protection Agency’s Revision to the Guideline on Air Quality Models: Enhancements to the AERMOD Dispersion Modeling System and Incorporation of Approaches to Address Ozone and Particulate Matter: Proposed Rule (Oct. 27, 2016).

¹⁴ See Paine & Heinold at 4-5.

exceedance of the Significant Impact Level (“SIL”). This, in turn, may trigger a requirement for photochemical grid modeling. Mr. Paine and Mr. Heinold recommend that EPA develop a tool to provide more realistic MERPs-based predictions near sources to address the likely overprediction of PM_{2.5} concentrations to be compared to the SIL.¹⁵ We endorse their recommendation.

Finally, if cumulative modeling is required, EPA’s approach to addressing sources near the source for which a permit is being sought is unnecessarily conservative. It requires the unrealistic assumption that “nearby” sources operate at their allowable emissions level or federally permitted emissions limit,¹⁶ when, in fact, data on the actual emissions of such a source is often available. If those data are available, they should be used when modeling the source. Furthermore, in the absence of actual emissions data, if a realistic emissions profile can be developed for a nearby source, EPA should permit the use of such a profile. In addition, EPA should specify that background air quality should be determined from a monitor that “is not influenced by any modeled sources or sources local to the selected monitor” or, if that is not possible, from a monitor when such influences are minimized, so as to avoid double-counting impacts.”¹⁷

III. Interaction of the Draft Guidance with Other Aspects of EPA’s PSD Regulations Concerning PM_{2.5}

We recognize that the Draft Guidance focuses on the ambient air quality analysis component of PSD permitting and appreciate that it “does not change or substitute for any law, regulation, or any other legally binding requirement.”¹⁸ Nevertheless, we urge EPA to consider whether it has implications for other aspects of PSD permitting, particularly with regard to PM_{2.5}.

¹⁵ See Paine & Heinold at 3.

¹⁶ 40 C.F.R. Pt. 51, App. W, Tbl. 8-2.

¹⁷ Paine & Heinold at 7.

¹⁸ Draft Guidance at 4.

Specifically, we understand that the Draft Guidance requires modeling of direct PM_{2.5} emissions for PSD permitting purposes even when the increase in emissions of direct PM is below the 10 ton per year (“tpy”) PM SER if SO₂ or NO_x emissions will exceed the applicable SER for those emissions. The requirement to model such insignificant direct PM_{2.5} emissions could raise issues concerning the rate of emissions to be modeled, particularly for modifications. The Draft Guidance suggests in a few places that sources should model the “net emissions increase,”¹⁹ and we agree. This approach is in line with the Guidance’s scientific basis for requiring consideration of insignificant emissions increases because to do so ensures that the source provides a full accounting of its projected air quality impacts for the relevant NAAQS.”²⁰ If the intent truly is to obtain a “full accounting” of a source’s impact on ambient air, the analysis cannot be a one-way street, meaning that the analysis should not just consider what would increase the impacts but must also address what would decrease impacts. That would be the most “scientific” approach and provide a more accurate “full accounting” of a source’s ambient air impact. The goal must be a realistic analysis, not one that is so conservative that it is meaningless.

Given EPA’s acceptance of netting as a means for determining the applicability of PSD permitting requirements, we suggest that modeling should consider both the increases resulting from the project to be permitted and contemporaneous decreases at that unit or other units.²¹ The Draft Guidance simply does not address questions such as this one that arise at the intersection of EPA’s PSD regulations and the new modeling guidance. In the absence of clear guidance from EPA, sources and permitting authorities will be left to develop their own answers, potentially resulting in inconsistencies between state programs.

¹⁹ *Id.* at 8-11.

²⁰ *Id.* at 13.

²¹ *See* 85 Fed. Reg. 74890, 74894 (Nov. 24, 2020).

The conditions that determine the minor source baseline date for an area are another example of a possible intersection between the Draft Guidance and other aspects of PSD permitting. When EPA adopted the PM_{2.5} increments in 2010 through rulemaking, the Agency indicated that the PM_{2.5} minor source baseline date would be set based on the first PSD application for *direct* PM_{2.5} emissions after the 2011 trigger date, not on the date of the first PSD application for emissions of NO_x or SO₂ after the trigger date.²² Applying PSD requirements to sources that will not emit direct PM_{2.5} in significant amounts could, however, lead to questions about the minor source baseline date. The Draft Guidance cannot change the criteria for determining the minor source baseline date for an area. Any change to how that baseline date is determined must follow the same rulemaking procedures the Agency followed in adopting the increments and specifying the current procedure. Furthermore, even if such a rulemaking were conducted, it would be administratively impractical to try to identify retroactively all potentially increment-consuming sources over the past decade; the revised criteria for the minor source baseline date would have to be prospective only. For clarity, EPA should acknowledge that the minor source baseline date for an area continues to be determined based on emissions of direct PM_{2.5} and therefore can only be established by a project that causes a significant net emissions increase of direct PM_{2.5} emissions, notwithstanding net emissions increases of precursors resulting from the project.

IV. Conclusion

The NR3 Coalition is pleased to offer these comments on the Draft Guidance. For reasons stated above, the Coalition urges EPA to consider whether the Draft Guidance in its present form imposes more costly or burdensome requirements than are necessary to prevent deterioration of

²² See 75 Fed. 64864, 64868, 64886 (Oct. 20, 2010) (acknowledging that baseline areas are established based on modeling and that modeling techniques were not available for PM_{2.5} precursors).

NAAQS Regulatory Review & Rulemaking Coalition

existing air quality. Please contact Joe Stanko (jstanko@huntonak.com) or Cindy Langworthy (clangworthy@huntonak.com) if you have questions about them. We look forward to seeing a final version of the guidance.