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Summary of Public Comments

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Air Quality Modeling Group
Air Quality Analysis Division
Office of Air Quality Planning and Standards
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7.0 NAAQS Compliance Demonstration Comments

7.1 NAAQS Compliance Demonstration General Comments

Several commenters (NIC, UARG, EEANC, SC, AISI, NMA, NEDA, AF&PA) indicate that EPA should develop and demonstrate modeling tools that support realistic predictions as new NAAQS are developed. It is inappropriate to use computer models to implement the CAA where modeling does not yield the best information.

Concern has been expressed (EEANC SC AISI NMA) that models are increasingly being given deference over measurements from ambient monitors for attainment designations; measurements should be the gold standard, and modeling used to inform those measurements. Continuing to apply models with existing but outdated guidance is inappropriate. EPA should perform an overall re-evaluation of the Agency's policies and procedures that drive its determinations regarding the application of regulatory modeling; modeling should not used to determine nonattainment areas, or any other regulatory obligation, until AERMOD is validated with measured values. Then, EPA should revise Appendix W and establish modeling guidelines that allow for flexibility and more realistic assumptions in all modeling applications, and assure that guidelines allow the use of the most accurate and up to date models and techniques available. For example, EPA's proposal to use modeling to designate attainment is different from past practice. Where AERMOD has been applied in New York modeling, results indicate large one-hour impacts. However, the extensive monitor network (current and retired monitors) does not show any NAAQS exceedances. This type of modeling should not be used to determine attainment designations.

Several commenters (NIC, AISI, NEDA, AF&PA) note that the models and modeling approaches set forth in Appendix W are inadequate for implementing EPA's newer and most stringent NAAQS; they fail to realistically predict relevant concentrations of covered pollutants in ambient air. In many circumstances, modeled concentrations that spur regulatory attention are, in fact, unrealistically high and lead to unreasonably conservative outcomes. There will be significant difficulty in permitting new or expanded sources as a result of theses inadequate tools and guidance for addressing the implementation of new NAAQS. The requirements for states to model thousands of sources using flawed tools will result in mandates for unnecessary controls on existing sources and, in some cases, make continued operation infeasible. In addition, EPA should recognize and use the form of each NAAQS to determine the modeled design value. Just as EPA allows modeling of the 8th high for NO_2 (98th percentile), and 4th high for SO_2 (99th percentile), modeling for $PM_{2.5}$ should evaluate the 8th high (98th percentile). Also, EPA should reconsider the policy that considers NAAQS effective for PSD permitting purposes immediately upon issuance, and instead institute a minimum 1-year transition period before new NAAQS would be considered applicable. Implementation guidance should be developed at the same time, and such guidance subjected to a notice and comment process that allows for stakeholder input.

7.2 Ambient Air

Commenters (NMA, AISI, AF&PA) recommend that EPA should align expectations for modeled ambient air receptors with realistic expectations of general public exposure. Most important is the determination of the ambient air boundary to make a reasonable determination in

cases where human exposure is unlikely. EPA should adopt more plausible assumptions about receptor locations where the public has reasonable access and can stay stationary for the entire period associated with an ambient standard, e.g., don't include rights-of-way or transportation corridors such as public roads and railroads that transect facility property.

7.3 Background Concentrations

Several commenters (NIC, AEPSC, API, NEDA) emphasize use of enhanced background calculation procedures where the necessary data exist. Background concentrations should be based on monitors near sources, paired in time with relevant meteorological conditions, and should conform to the averaging times (e.g., one hour, one day, annual) and the spatial domain (e.g., 10 km, 100 km, 500 km) of the scenario being modeled. Some commenters (WMA, ACW, BGNA, PE) also indicate that current guidance based on use of the 98^{th} or 99^{th} percentile monitored background values are unrealistically conservative. Guidance is needed for pairing model-predicted concentrations with monitored concentrations in-time to obtain a realistic projection of whether or not a potential exceedance is likely, and to eliminate double counting of impacts from modeled sources and those impacts represented in background monitoring data, particularly in areas with many sources at local and mesoscale distances. Where representative regional monitoring data exist, there should be no requirement to model regional sources whose impacts can reasonably be presumed to be reflected in the monitoring data.

Commenters (FI, Koogler) claim that EPA's recommendation for deriving NO_2 and SO_2 background concentrations is unnecessarily stringent and unscientific; there is a need for an improved method to account for background concentrations that better address the cause and effect relationships that exist between the actual hour-by-hour meteorological conditions that produce both the predicted impacts of the modeled sources and the actual measured background concentrations. To obtain the most appropriate background concentration for the target area, consideration should be given to using a "frequency of occurrence" approach, rather than the uniform background concentration typically used in AERMOD.

One commenter (AF&PA) suggests EPA's interim guidance for $PM_{2.5}$ screening analyses is impractical, and unreasonably overestimates the design concentration relative to the NAAQS, since it inherently assumes that the day with multi-year average maximum model impact is coincident with the day of the 98^{th} percentile background concentration. The "Paired Sums" approach should be allowed to account for background $PM_{2.5}$ in the calculation. Case studies are provided following current EPA guidance to assess $PM_{2.5}$ impacts using prescribed screening techniques and compared with a "Paired Sums" approach; most sources cannot demonstrate compliance with the $PM_{2.5}$ NAAQS under current EPA guidance despite being well controlled.

7.4 Significant Impact Levels for revised 1-hour NO_2/SO_2 and $PM_{2.5}$ NAAQS

Several commenters (NIC, AISI, AF&PA, OPC) have expressed concern about the conservative nature of SILs for pollutants with new NAAQS. They argue that less conservative levels should be used for SILs that are based on the percentile values on which compliance with the NO_2, SO_2 and $PM_{2.5}$ NAAQS are judged, not the highest predicted impact. SILs should be established to define when a source's impact is sufficiently small to eliminate the need for a comprehensive air quality analysis.