Ozone and Fine Particulate Matter Permit Modeling: U.S. Environmental Protection Agency Guidance (July 29, 2022)

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The United States Environmental Protection Agency ("EPA") Office of Air Quality Planning and Standards issued a July 29th memorandum addressing:

Guidance for Ozone and Fine Particulate Matter Permit Modeling ("Guidance")

The *Guidance* was transmitted from EPA's Richard Wayland, Division Director, Air Quality Assessment Division and Scott Mathias, Division Director, Air Quality Policy Division to the EPA Regional Air Division Directors.

The *Guidance* states that it reflects:

. . . EPA's recommendations for how a stationary source seeking a Prevention of Significant Deterioration (PSD) permit may demonstrate that it will not cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS) for ozone (O3) and fine particulate matter (PM2.5) and PSD increments for PM2.5, as required under Section 165(a)(3) of the Clean Air Act and 40 CFR sections 51.166(k) and 52.21(k).

Air quality dispersion modeling is used to estimate the probable concentration of a given pollutant at a certain geographical point. The models typically use emission data along with meteorological information to produce such predictions. Additional informational components utilized may be the chemistry of air emissions and topographical features in the relevant area. Changes to model components will affect the result in estimated air pollutant concentrations. The models are sometimes adjusted (i.e., "calibrated") as better information becomes available to improve their accuracy.

The *Guidance* had been circulated in what EPA describes as a draft form in 2020. Comments were solicited from state, local, and tribal agencies as well as the public.

EPA subsequently provided revised draft *Guidance* in 2021 for additional consideration, review, and comment. This July 29, 2022, final *Guidance* is stated to reflect a change in EPA policy with respect to determining which regulated new source review pollutants should be included in PSD compliance demonstrations for O3 and PM2.5.

The 2021 Revised *Guidance* approach to demonstrating the allowable emissions increases from a source or modification would not cause or contribute to a NAAQS or PSD increment violation is found in the July 29, 2022, *Guidance.* Sources are required to provide:

- A full accounting of the combined impacts of their allowable precursor (and direct component, in the case of PM2.5) emissions on ambient concentrations of the relevant NAAQS (i.e., O3 or PM2.5) if any precursor(s) (or the direct component, in the case of PM2.5) would be emitted in a significant amount. In other words, for O3, if either NOX or VOC precursor emissions would be emitted in a significant amount, then both precursors should be included in the assessment of O3 impacts. Analogously, for PM2.5, if a source would emit a significant amount of one or more of: NOX, SO2, or direct PM2.5 emissions, then the source should include NOx and SO2 precursor and direct PM2.5 emissions in the assessment of PM2.5 impacts.

EPA believes that what it describes as a "holistic" approach to the PSD compliance demonstrations for O3 and PM2.5 is supported both scientifically and legally.

A copy of the *Guidance* can be downloaded here.