

MEMORANDUM

SUBJECT: Interim Implementation of New Source Review Requirements for PM_{2.5}

FROM: John S. Seitz, Director
Office of Air Quality Planning & Standards (MD-10)

TO: See Addressees

This memorandum addresses the interim use of PM₁₀ as a surrogate for PM_{2.5} in meeting new source review (NSR) requirements under the Clean Air Act (Act), including the permit programs for prevention of significant deterioration of air quality (PSD). The revised national ambient air quality standards (NAAQS) for particulate matter, which include the revised NAAQS for PM₁₀ and new NAAQS for PM_{2.5}, became effective on September 16, 1997. In view of the significant technical difficulties that now exist with respect to PM_{2.5} monitoring, emissions estimation, and modeling (described below), EPA believes that PM₁₀ may properly be used as a surrogate for PM_{2.5} in meeting NSR requirements until these difficulties are resolved. The EPA's views on implementing the ozone and PM₁₀ NAAQS during the interim period following the effective date of the new 8-hour ozone and revised PM₁₀ NAAQS will be set forth in a separate EPA memorandum.

Section 165(a)(1) of the Act provides that no new or modified major source may be constructed without a PSD permit. Moreover, section 165(a)(3) provides that the emissions from any such source may not cause or contribute to a violation of any NAAQS. Also, section 165(a)(4) requires best available control technology for each pollutant subject to regulation under the Act. The EPA's recent promulgation of the primary and secondary standards for PM_{2.5} marks the first time that EPA has specifically regulated fine particles--less than 2.5 microns in diameter--as a discrete indicator for particulate matter. Hence, this memorandum addresses how to implement PSD for PM_{2.5} in light of significant technical difficulties which presently exist.

Of specific concern is the lack of necessary tools to calculate emissions of PM_{2.5} and related precursors and project ambient air quality impacts so that sources and permitting authorities can adequately meet the NSR requirements for PM_{2.5}. Any comprehensive system for regulating PM_{2.5} must take into account not only the fine particles emitted directly by stationary sources but also the various precursors, emitted by certain sources, which result in secondarily-formed fine particles through chemical reactions in the atmosphere. Recent studies suggest that

secondary particulate matter may account for over half of total ambient $PM_{2.5}$ nationwide. Emissions factors for the fine particles emitted directly by stationary sources, and for some important precursors (e.g., ammonia), are largely unavailable at the present time.

The EPA is in the process of developing a comprehensive modeling system which will be designed to include precursor emissions and account for secondary fine particle formation. The modeling system will also incorporate a method for nesting small local impacts from individual point sources within a greater modeling domain. Before this can be completed, it will be necessary to collect sufficient monitoring data to verify and validate protocol modeling results.

Ambient monitoring for PSD purposes must be collected from appropriately designed monitors. Sufficient quantities of such monitors will not be available specifically for PSD monitoring purposes in the near future. Initially, as these monitors become available, they will be needed to establish the new monitoring stations for the national network of $PM_{2.5}$ sites, including the required core $PM_{2.5}$ State and local air monitoring stations. A high priority has been placed on the establishment of the necessary $PM_{2.5}$ monitoring sites nationwide so that the information from these sites can be analyzed and evaluated in order to establish plans and priorities for implementing the $PM_{2.5}$ NAAQS, including the promulgation of section 107 designations.

For the reasons stated above, EPA believes that it is administratively impracticable at this time to require sources and State permitting authorities to attempt to implement PSD permitting for $PM_{2.5}$. The EPA has projects underway that will address the current technical and informational deficiencies, but it will take 3-5 years to complete these projects. Until these deficiencies are corrected, EPA believes that sources should continue to meet PSD and NSR program requirements for controlling PM_{10} emissions (and, in the case of PM_{10} nonattainment areas, offsetting emissions) and for analyzing impacts on PM_{10} air quality. Meeting these measures in the interim will serve as a surrogate approach for reducing $PM_{2.5}$ emissions and protecting air quality.

This memorandum presents EPA's views on the issues associated with implementation of the new $PM_{2.5}$ NAAQS under Federal, State and local NSR programs. The statements do not bind State and local governments and the public as a matter of law. When the technical difficulties are resolved, EPA will amend the PSD regulations under 40 CFR 51.166 and 52.21 to establish a $PM_{2.5}$ significant emissions rate, and EPA will also promulgate other appropriate regulatory measures pertinent to $PM_{2.5}$ and its precursors. Because the earliest date on which $PM_{2.5}$ nonattainment areas will be designated is in 2002, and nonattainment NSR does not apply until after nonattainment designations are made, implementation of the nonattainment NSR requirements under part D of title I of the Act need not be addressed at this time.

If you have any questions concerning this memorandum or wish to address any issues raised herein, please contact Dan deRoeck at (919) 541-5593.

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