



FINAL NEW SOURCE REVIEW (NSR) RULES FOR PM_{2.5}

On March 16, 2008, the U.S. Environmental Protection Agency (EPA) published final rules for States to follow in developing State Implementation Plans (SIPs) to implement the National Ambient Air Quality Standards (NAAQS) for fine particles (PM_{2.5}). One of the elements of the PM_{2.5} SIPs involves requirements for major new or modified sources in both nonattainment (NA) areas and attainment/unclassified areas [i.e., Prevention of Significant Deterioration (PSD) areas].

This Fact Sheet is intended to assist sources that may be affected by the rules to understand the significant new impacts (compared to the existing requirements for major PM or PM₁₀ sources) and to plan for implementation of the new rules.

WHO WOULD BE AFFECTED?

Under the final rules, a major source of PM_{2.5} would be a source that exceeds the major source thresholds [100/250 tons per year (tons/yr) in PSD areas; 100 tons/yr in NA areas] of direct PM_{2.5}. In addition, a source exceeding these major source thresholds for any pollutant determined to be a PM_{2.5} precursor in a given area is also major for PM_{2.5}. PM_{2.5} precursors are regulated as follows: sulfur dioxide (SO₂) – regulated in all areas; nitrogen oxides (NO_x) – regulated unless a State demonstrates that NO_x is not a significant precursor; volatile organic compounds (VOC) and ammonia - not regulated unless a State demonstrates they are a significant precursor.

A major source that is modified to increase potential emissions by a “significant” amount is also subject to major new source review (NSR) requirements. This significant emission rate remains unchanged at 40 tons/yr for SO₂, NO_x, and VOC and would be defined by each State if ammonia is determined to be a precursor. The significant emission rate for direct PM_{2.5} was set at 10 tons/yr (compared to 15 tons/yr for PM₁₀ under the current NSR program).

WHAT ARE THE REQUIREMENTS FOR MAJOR SOURCES?

In NA areas, new or modified major sources would be required to meet the Lowest Achievable Emissions Rate (LAER) and obtain emission offsets for direct PM_{2.5} and each applicable precursor in a given area if emissions or emission increases exceed the above significant emission rates. Similarly, in PSD areas, Best Available Control Technology (BACT) would be required for direct PM_{2.5} and any applicable precursors. Sources would be required to demonstrate compliance with the PM_{2.5} NAAQS; PSD increments for PM_{2.5} have been proposed in a separate rulemaking but have not yet been finalized. EPA has also proposed, but not yet finalized, de minimus air quality concentration levels for PM_{2.5} that would be used to exempt sources from a cumulative NAAQS and PSD increment analysis, including significant impact levels (SILs) and pre-construction monitoring requirements such as significant monitoring concentrations (SMCs).



SCHEDULE AND TRANSITION

In PM_{2.5} nonattainment areas, the NA requirements (e.g., emission offsets for PM_{2.5} and SO₂) are effective on July 15, 2008. In attainment areas where States have adopted their own PSD rules (most of the country), the new requirements will not be effective until the States revise their PSD rules (required by May 16, 2010). In the interim, these “SIP-approved” States are to continue to use PM₁₀ NSR requirements as a surrogate for PM_{2.5}. In States where the PSD program is being implemented under EPA rules (40 CFR 52.21), the effective date is July 15, 2008. Sources subject to the July 15, 2008, effective date that have submitted a complete application by that date remain subject to the PM₁₀ surrogate program.

With regard to condensable PM (typically the “back half” catch of a PM test), EPA did not adopt its earlier proposal that condensables be included in major source determinations on an immediately effective basis. Instead, inclusion of condensables in major source determinations and in PSD/NA permit emission limits was deferred until the end of a transition period ending no later than January 1, 2011.

HOW CAN EQ HELP?

Applicability Determination and Source Testing

Many sources’ current status as a major source of PM_{2.5} may be very uncertain. Emission factors for filterable PM_{2.5} and condensibles are generally poor and most sources have never tested for filterable PM_{2.5} and condensibles. Thus, it is recommended that where a source’s PM_{2.5} major source status is uncertain, testing or other studies should be conducted to

accurately determine their PM_{2.5} emissions and likely precursors, if those emissions are also uncertain.

EQ has extensive experience in source testing and compliance testing in a variety of industries and can assist sources in designing and conducting a source test program for PM_{2.5} and its precursors.

Air Quality Permitting

Companies that are planning to construct or modify a major PM_{2.5} source, especially where the source is or would be located in a PM_{2.5} nonattainment area, should consider moving ahead promptly with the permitting process under the current permitting rules. In general, sources must begin construction within 18 months of permit issuance; thus, it is not feasible to avoid the upcoming more stringent requirements unless the source plans to expeditiously proceed with construction once a permit is issued.

EQ has extensive experience in assisting clients in obtaining air permits. In addition to regulatory knowledge, permitting experience, and regulatory agency contacts, EQ has the process and control technology knowledge and experience to provide cost-effective control options and to assist in negotiating reasonable air permits.

Control Systems and Process Technology

EQ has experience in the evaluation of complex industrial processes and has developed computerized analysis software for calculating process emission rates. These are used to reduce uncontrolled emissions that affect control system performance and final emissions rates. EQ can also troubleshoot and evaluate process and control equipment operation and



maintenance and design conditions that influence control system performance. In many cases, EQ's knowledge of industry practices, chemical and physical reactions, and abatement technology can allow sources to achieve maximum performance without replacement or extensive modifications to the existing system.

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