December 28, 2012

**EPA Tightens Air Quality Standards for Fine Particles**

Revised ambient air quality standard could require more stringent control of fine particulate matter emissions.

On December 14, the U.S. Environmental Protection Agency (EPA) finalized its rule tightening the National Ambient Air Quality Standards (NAAQS) for fine particles emitted by a wide variety of sources, including power plants, industrial facilities, and gasoline and diesel engines. EPA is also making certain changes to its Prevention of Significant Deterioration permitting program with respect to the NAAQS revisions. The rule will become effective 60 days after its publication in the *Federal Register*, which is expected to occur early in 2013. The rule is one of several rules in recent years tightening the NAAQS for certain pollutants, resulting in additional compliance planning for states and potential clean air permitting complications for major new construction projects.

**Background**

The federal Clean Air Act (CAA) directs EPA to establish and periodically review and revise (as appropriate) NAAQS for the substances EPA identifies as “criteria pollutants,” with the goal of protecting public health and welfare. The criteria pollutants include particulate matter, measured as both fine and coarse particulate matter (PM). Fine particulate matter consists of particles less than or equal to 2.5 micrometers in diameter (PM$_{2.5}$), while coarse particulate matter consists of particles with diameters of less than or equal to 10 micrometers (PM$_{10}$). For each criteria pollutant, EPA establishes primary standards to prevent any adverse impact on human health, and secondary standards to prevent adverse public welfare effects, such as on climate, vegetation, and visibility. Standards also take into consideration the duration of pollutant exposure and are expressed on a short-term basis (such as a 24-hour or shorter standard) and on a long-term basis (such as an annual standard).

Following issuance of new or revised standards, EPA (with state input) must designate areas as either meeting or not meeting the NAAQS (areas are designated “attainment” or “nonattainment” areas, respectively), and states must thereafter develop implementation plans to achieve the NAAQS, including, potentially, by adopting new rules limiting emissions. EPA last reviewed and tightened the PM NAAQS in 2006 and, among other changes, ratcheted down the primary 24-hour PM$_{2.5}$ standard from 65 to 35 micrograms per cubic meter ($\mu$g/m$^3$), while retaining the annual PM$_{2.5}$ standard of 15 $\mu$g/m$^3$. EPA also revised the secondary PM standards to be identical in all respects to the primary standards. In subsequent litigation, the U.S. Court of Appeals for the District of Columbia remanded the primary annual and secondary PM$_{2.5}$ standards because EPA failed to explain why they provided the requisite levels of public health and welfare protection. The court subsequently set a December 14, 2012, deadline for EPA to sign a final rulemaking.

**EPA’s Revised NAAQS**

EPA’s December 14 rule marks the culmination of its current review of the PM NAAQS and also responds to the

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1. Regarding PM$_{10}$, the 2006 rulemaking retained the 24-hour standard (150 $\mu$g/m$^3$), while revoking the annual PM$_{10}$ standard.
D.C. Circuit Court remand. Based on what it describes as an assessment of an expanded body of scientific evidence, more extensive air quality data and analysis, and a more comprehensive quantitative risk assessment, among other information, EPA has tightened the primary NAAQS for PM$_{2.5}$ by lowering the level of the annual primary PM$_{2.5}$ standard from 15 µg/m$^3$ to 12 µg/m$^3$ (a 20% reduction). EPA states that the current primary PM$_{2.5}$ standards do not protect public health with an adequate margin of safety, as required by the CAA, and that the more stringent annual PM$_{2.5}$ NAAQS will provide increased protection against health effects associated with long-term and short-term exposures, including for at-risk populations, such as children. However, EPA is retaining the current level of the 24-hour PM$_{2.5}$ standard, the current level of the 24-hour PM$_{10}$ standard, and the current suite of secondary standards for both PM$_{2.5}$ and PM$_{10}$ (except for certain technical revisions to the form of the secondary annual PM$_{2.5}$ standard). Although EPA initially proposed a distinct secondary PM$_{2.5}$ standard to address PM-related visibility impairment, it concluded, based on its analysis of monitoring data, that the current secondary 24-hour PM$_{2.5}$ standard would provide sufficient protection of visibility, and the final rule does not establish a distinct secondary visibility-related standard.

The final rule also includes a grandfathering provision for sources that have submitted applications under EPA’s major new source preconstruction permitting program applicable to areas that meet the NAAQS (or are unclassifiable with respect to the NAAQS), referred to as the Prevention of Significant Deterioration (PSD) program. Under the PSD program, owners and operators constructing new major sources or major modifications must obtain a PSD permit prior to beginning actual construction. EPA’s requirements include that applicants conduct an air quality analysis to demonstrate that the proposed source or project will not cause or contribute to a violation of any NAAQS, including EPA’s now revised PM$_{2.5}$ NAAQS. To help in the transition process, EPA’s December 14 final rule revises the PSD program to include a provision grandfathering pending permit applications from this requirement for the revised NAAQS, provided that the reviewing authority determined the application to be complete by December 14, 2012, or published notice of a preliminary determination for the application prior to the effective date of the revised PM$_{2.5}$ standard. In such cases, the applicant would instead need to comply with requirements pertaining to the PM$_{2.5}$ NAAQS in effect at the time of the reviewing authority’s action.

**Implications**

EPA anticipates making initial PM$_{2.5}$ attainment/nonattainment designations by December 2014, with these likely becoming effective in early 2015. Although EPA indicates that fewer than 10 counties nationwide will be out of compliance with the revised PM$_{2.5}$ NAAQS by the end of the decade, it identifies approximately 66 counties as currently not meeting the standard, including counties in California, Pennsylvania, Ohio, Indiana, and Illinois. Implementation plans outlining how affected states will comply will be due in 2018, and compliance is required by 2020 (subject to a possible extension until 2025 depending on the severity of noncompliance). States not meeting the standard may need to include in their implementation plans additional measures requiring deeper particulate matter emission cuts. In addition, major construction projects in PM$_{2.5}$ nonattainment areas will be subject to the stringent requirements of EPA’s Nonattainment New Source Review program, including, potentially, emission offsets and stringent technology standards. Even in counties attaining the standard, applicants (unless grandfathered) will be required under the PSD program to demonstrate that proposed major projects do not cause or contribute to a violation of the revised fine particulate standard.

Questions remain regarding EPA’s revisions. There will likely be further court challenges, and EPA intends to propose additional rules and guidance relating to state implementation of the revised PM standards and related air quality modeling. As with other recent NAAQS revisions, however, the revised PM$_{2.5}$ standard may well result in more stringent emission controls, permitting challenges, and associated delays for major new sources and plant expansions. Companies planning such projects need to include consideration of the revised standards in their anticipated project timelines and air quality impacts analysis.

**Contacts**

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