



Volume 2, Number 1

Enforcement Alert

Office of Regulatory Enforcement

COMPLIANCE WITH PERMITTING CRITICAL TO CLEAN AIR ACT GOALS

EPA CONCERNED ABOUT NONCOMPLIANCE WITH NEW SOURCE REVIEW REQUIREMENTS

ABOUT

Enforcement Alert

The Enforcement Alert is published periodically by EPA's Office of Regulatory Enforcement. It informs and educates the public and regulated community of important environmental enforcement issues, recent trends and significant enforcement actions.

This information should help the regulated community anticipate and prevent violations of federal environmental law that could otherwise lead to enforcement action.

See Page 4 for useful EPA Websites and additional resources.

Eric V. Schaeffer, Director
Office of Regulatory
Enforcement

Editor: Virginia Bueno,
(202) 564-8684.

bueno.virginia@epamail.epa.gov
Layout & Design: Tracey L. Horner
horner.tracey@epamail.epa.gov

Under the Clean Air Act (CAA) companies must obtain a major new source review ("major NSR") permit for new construction or major modifications that substantially increase a facility's emissions of certain regulated air pollutants.

Because air pollution control requirements in these major NSR permits reduce emissions of nitrogen oxides (NOx), particulate matter (PM) and other pollutants by as much as 95 percent, compliance is key to achieving the nation's air quality goals. One U.S. Environmental Protection Agency (EPA) action to enforce these requirements reduced NOx emissions at one facility by more than 400 tons per year, which is equivalent to removing about 60,000 cars from the road. NOx and PM exacerbate asthma, lower resistance to respiratory disease and harm vegetation, including crops and forests.

In addition to excess emissions of air pollutants, violations of NSR requirements can result in inequities. First, noncompliance shifts the burden of pollution control to law-abiding facilities, which are effectively forced to compensate for illegal unpermitted emissions by meeting more stringent control standards in State Implementation Plans. Moreover, because NOx and other criteria pollutants can be transported long

distances, violations in one state can impact air quality in another state. Finally, as the State of Iowa has pointed out in a recent letter to EPA, lax implementation in some states can make it more difficult for others to insist that permit standards be met.

Evidence suggests that violations of the major NSR requirements are widespread. Thus, EPA has made enforcement of the CAA's New Source Review requirements a priority for the coming year. EPA encourages regulated industries to take affirmative steps to improve compliance by meeting their obligation to obtain permits and reduce air emissions.

This issue of 'Enforcement Alert':

- Summarizes the New Source Review requirements
- Presents evidence that noncompliance is widespread
- Identifies common types of violations to be avoided

What is New Source Review?

In areas not meeting the national ambient air quality standards (NAAQS) and in the Ozone Transport Region, NSR requirements are implemented through the "nonattainment" NSR program. In areas either meeting the NAAQS (attainment areas) or for which there is insufficient information to

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determine whether they meet the NAAQS (unclassifiable areas), the prevention of significant deterioration (PSD) program applies.

Both programs require preconstruction review and permitting of new or modified existing major stationary sources of certain regulated air pollutants. A new “greenfield” source in a nonattainment area is subject to major NSR if its potential to emit exceeds 100 tons per year (tpy); the threshold can be as low as 10 tpy for some pollutants in extreme ozone nonattainment areas. In attainment areas, the major source threshold is 250 tpy, except for 28 identified source categories, which have a threshold of 100 tpy.

In addition, an existing major source that makes a modification which increases emissions above significance levels (e.g., 15 tpy for PM₁₀) triggers NSR review. In other words, if an existing facility changes or expands its operations in a manner that increases its emissions of air pollution above certain levels, it must undergo NSR. As the D.C. Circuit stated, “[t]he statutory scheme intends to ‘grandfather’ existing industries; but the provisions concerning modifications indicate that this is not to constitute a perpetual immunity from all standards under the PSD program.” *Alabama Power v. Costle*, 636 F.2d 323, 400 (D.C. Cir. 1979). A source may “net” out of NSR, however, if it generates enough emissions decreases to offset its emissions increases.

What are NSR Requirements?

The NSR permitting process has several elements. Generally, there is a control technology component and an air quality component. In nonattainment areas, the control technology requirement is the application of the lowest achievable emission rate (LAER), which is the most stringent emissions rate limitation required in any State Implementation Plan (SIP) or otherwise achievable in practice.

In addition, a new major source or major modification must offset its emissions increases, generally at a ratio of 1:1; for certain ozone nonattainment areas, however, the ratio can reach 1.5:1. There are some additional nonattainment NSR requirements related to alternative site analysis and company compliance.

The installation and operation of LAER and BACT can achieve significant emissions reductions.

LAER can achieve emission reductions in excess of:

VOC -- 95%	SO ₂ -- 90-95%
PM -- 99%	NO _x -- 85-90%

BACT controls can achieve emissions reductions in excess of:

VOCs -- 85-95%	SO ₂ -- 90-95%
PM -- 99%	NO _x -- 85%

In attainment and unclassifiable areas, the control technology requirement is the application of best available control technology (BACT), which is an emissions limitation based on the maximum degree of emissions reduction achievable considering economic, environmental and energy factors. In addition, the PSD review includes an air quality impact analysis

to determine whether the source’s emissions will violate the NAAQS or any air quality increments. Moreover, in some instances, a consultation must occur regarding the impact of emissions on national parks and other pristine areas.

What is the Rate of Compliance?

The relatively low numbers of NSR permits issued per year raises serious NSR compliance concerns. For instance, after the 1990 CAA Amendments tightened the definition for “major source,” EPA anticipated that approximately 900 NSR permit applications would be filed per year. Despite an economy that has been expanding at an annual rate of about 4.2 percent, applications for major NSR permits (both new sources and modifications) have remained relatively steady at about 200 per year.

When EPA looks closely at an industry sector, usually it discovers a high rate of noncompliance. For example, in its Wood Products Initiative, EPA found NSR violations at approximately 70-80 percent of the facilities investigated. Moreover, EPA continues to find high rates of noncompliance despite several successful enforcement actions.

In an EPA Region 3 Pulp & Paper Initiative, initial results show a potential 80 percent rate of noncompliance. In addition, other databases indicate a substantial increase in the capacity at existing facilities, and a series of modifications that may have triggered NSR permit and pollution control requirements.

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What Types of Violations Has EPA Found?

Violations may occur at the front and back of the NSR permitting process. **“Front-end” violations** lead to avoidance of NSR review altogether. Some common examples of front-end violations are:

■ **Improper use of exemptions:** The EPA has seen sources inappropriately apply certain exemptions from the NSR regulations. For example, the “routine maintenance, repair and replacement” exemption was meant to cover frequent, traditional and comparatively inexpensive repairs to maintain existing equipment. Some sources, however, have tried to extend it to activities that are infrequently performed in the industry, alter the design or function of the equipment, or involve a significant capital cost. In other instances, sources have failed to recognize that the alternative fuels exemption, which allows a source to switch fuels without triggering NSR under certain circumstances, requires that the entire facility, not just the combustion unit, have been capable of accommodating the alternative fuel since approximately 1975. Moreover, the alternative fuel should have been contemplated by the facility as a potential fuel during that time period.

■ **Failure to recognize a change as a “modification”:** The EPA has discovered that some sources failed to treat certain activities as modifications under the NSR regulations (e.g., removal of flue gas recirculation at utilities; catalyst changes that significantly increase capacity).

■ **Improper emission estimates:** The EPA has uncovered permit applications that failed to list all pollutants emitted at the facility, or failed to correctly total emissions from all emission points at the facility (e.g., several wood products facilities failed to report VOC emissions). In other cases, sources failed to include “debottlenecked” emissions in their calculations (i.e., the modification at Unit A removed a bottleneck at Unit B). The emissions at all debottlenecked units should be considered when determining whether the emissions from a modification are significant.

The EPA has also come across sources that relied on AP-42 factors to estimate emissions because they lacked source-specific emissions information. As EPA cautions, however, AP-42 factors should not be used for source-specific permitting decisions because they can underestimate emissions. Thus, the source assumes the risk that its emissions estimate may be inaccurate.

Some facilities also failed to apply the “actual-to-potential” test when measuring the emissions increase from a modification. Under EPA regulations, post-change actual emissions for units that have “not begun normal operations . . . equal the potential to emit (PTE) of the unit on that date.” (See, e.g., 40 CFR 52.21(b)(21)(iv)). Some sources have taken the position that a modified unit has “begun normal operations” and thus its post-change emissions should not be based on its potential to emit. It is EPA’s position, however, that changes to a unit at a major stationary source that are non-routine or not subject to one of the other major source NSR exemptions are deemed to be of such significance that “normal

Front-End Violations

lead to avoidance of NSR review altogether.

Back-End Violations

and/or permitting issues usually involve sources that go through the NSR process but provide inaccurate or insufficient information.

operations” of the modified unit have not begun and, therefore, post-change emissions should equal the modified unit’s potential to emit.

■ **Improper netting:** EPA has discovered netting calculations that involved emissions decreases already relied on in an earlier netting exercise; double counting of emissions decreases is prohibited. In addition, EPA has seen netting calculations that used emissions decreases which were not enforceable (e.g., permitted), a requirement of the NSR regulations.

“Back-end” violations and/or permitting issues usually involve sources that go through the NSR process, but provide inaccurate or insufficient information. Some back-end violations include applications that:

■ Provided an incorrect LAER analysis (e.g., failure to consider technology transfer).

■ Failed to obtain sufficient offsets due to a low estimate of the emissions increase, perhaps due to improper reliance on AP-42 factors.

■ Provided an inaccurate BACT analysis. EPA has discovered

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that when performing the economic feasibility portion of the BACT analysis, sources sometimes use inflated capital and operating and maintenance costs, include improper interest rates, or underestimate the life-expectancy of the control equipment, all of which increase the perceived cost of the controls. Also, some sources seem to be under the impression that there are bright line costs above which BACT is considered too expensive; this is not the case. If sources in the same source category have adopted a control technology as BACT, there is a general presumption that the cost is acceptable unless the source can demonstrate unique circumstances. Finally, EPA has seen BACT analyses that failed to consider all available control technology alternatives.

What Emissions Reductions Does EPA Get From NSR Enforcement?

Correcting NSR violations can lead to significant emissions reductions. For example, in the Wood

Products Initiative, emission reductions were as high as 500 tons of VOCs for a single facility. Estimated total emissions reductions from the entire industry could exceed 100,000 tons of VOCs.

Other NSR cases have led to emissions reductions in the thousands of tons per year. For example:

- California Almond Growers Exchange (Region 9): Approximately 5750 tpy of CO (which, when uncontrolled, contributed to NAAQS exceedances)
- Kelco (Region 9): Approximately 1,700 tpy of VOCs in an ozone nonattainment area
- Pro-Tec (Region 5 - pending): About 400 tpy of NO_x
- Region 10 Idaho Panhandle Wood Products Initiative: About 1,400 tpy of PM and 240 tpy of VOCs
- Arco/Snyder Riverton Dome (Region 8): Approximately 160 tpy of NO_x

What's Next?

Given the significance of the excess emissions that result from NSR non-compliance, EPA has been increasing its emphasis on enforcement of NSR requirements. In particular, EPA has been looking at industry efforts to ex-

pand capacity and analyzing whether such activities triggered NSR.

Finally, in a recent NSR enforcement guidance, EPA clarified that it will generally be seeking significant emissions reductions (e.g., equivalent to BACT or LAER) from companies that improperly bypass the NSR permit process. This guidance should not only result in significant environmental benefit, but also ensure consistency in the resolution of these important cases.

For more information, contact Carol S. Holmes, Air Enforcement Division, (202) 564-8709.

Useful Resources

EPA's Technical Web site for Information Transfer and Sharing Related to Air Pollution Topics:
<http://www.epa.gov/ttn/>

NSR Policy and Guidance Database:
<http://www.epa.gov/region07/programs/artd/air/nsr/nsrpg.htm>

EPA Home Page:
<http://www.epa.gov/epahome>

Small Business Gateway:
<http://www.epa.gov/smallbusiness>



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