ISSUE ANALYSIS

EPA's Final Rule to Reform the New Source Review Program

Introduction

For at least the past decade, EPA has attempted to improve and reform its New Source Review (NSR) program. While there has been widespread agreement that the program has not been working well, proposed solutions to the problems have been debated intensely. In 1996, the Agency proposed extensive revisions to its NSR regulations, and in 1998 the Agency published a Notice of Availability in which it requested additional comments on certain proposed changes. On December 31, 2002, EPA published a long-awaited rule taking final action on certain regulatory revisions that had originally been proposed in 1996. 67 Fed. Reg. 80,186. The final rule sets forth a new option for determining baseline actual emissions, an actual-to-projected actual emissions calculation methodology that applies to non-utility sources, a Clean Unit applicability test, an authorization for plantwide applicability limitations (PALs), and an authorization for Pollution Control Projects (PCPs) that extends to non-utility sources

At the same time it promulgated the final rule, EPA also published a proposed rule addressing the "routine maintenance, repair, and replacement" (RMRR) exclusion from NSR requirements. 67 Fed. Reg. 80,290. That proposed rule is intended to provide more specific criteria for determining whether an activity is covered by the RMRR exclusion.

This Issue Analysis reviews the new measures contained in the NSR final rule. It provides a primer on the revisions to the NSR regulatory framework.

Baseline Actual Emissions
40 C.F.R. §§ 51.165(a)(1)(xxxv), 51.166(b)(47), 52.21(b)(48)

In a major improvement, EPA's final rule provides that, in determining NSR applicability, pre-change emissions shall be determined under the new provisions for "baseline actual emissions." This new term is defined as the emissions actually emitted during any consecutive 24-month period selected by the source within the 10-year period preceding the date actual construction begins or a complete application is submitted, whichever is earlier. The following elaborates on how "baseline actual emissions" are determined:

- The source is to select the 24-month period on which to determine baseline emissions and must choose only one 24-month period for each project.

- The 24-month period selected must be one for which there is adequate information for determining annual emissions.

- The average rate of emissions shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions. Baseline emissions shall not include any emissions in the 24-month period that were in excess of applicable limitations.

- Where new emissions limitations are established subsequent to the 24-month period selected, emissions in the baseline period shall be adjusted downward to "exclude any emissions that would have exceeded an emissions limitation with which the source must currently comply," so as to establish baseline emissions as though the source had been "required to comply with such limitations during the 24-month period." However, such adjustments must be made for MACT limitations only if the state is taking credit for such reductions in a SIP attainment demonstration or maintenance plan. Also, adjustments are not required for voluntary emission reductions not reflected in federal and state limitations.

- For any new emissions unit constructed and operated after the 24-month period selected, the emissions included in determining the baseline shall be deemed to be zero.

EPA's rule only provides for the new baseline methodology to be used in three circumstances: (1) in determining a modified unit's baseline actual emissions as a part of the new "actual-to-projected-actual" applicability test; (2) in making netting calculations; and (3) in establishing the level of a "plant-wide applicability limitation." For other purposes, the pre-existing definition of "actual emissions" is to be used in determining whether NSR permitting requirements are satisfied. These include air quality analyses (such as compliance with NAAQS, PSD increments, and AQRVs) and the amount of any emissions offsets.

"Actual-to-Projected-Actual" Emissions Increase Determination

40 C.F.R. §§ 51.165(a)(1)(xxviii)(A) and (B), (a)(2)(ii)(C); 51.166 (a)(7)(iv)(C), (b)(40); 52.21(a)(2)(iv)(C), (b)(41)

EPA's final rule provides that the determination of whether an emissions increase results from a physical change or change in the method of operation is to be made through an "actual-to-projected-actual" applicability test. This test is essentially the same as the test promulgated in the 1992 WEPCO rule for electric utility generating units, with two principal exceptions. First, as indicated above, baseline emissions shall be determined under the new 10-year baseline determination method for all emission units other than electric utility units (for which the 2-out-of-5 year method for utilities remains in effect). Second, the recordation and reporting provisions are substantially improved over those provided in the WEPCO rule (which continue in effect for electric utility units). Key aspects of the new applicability test are as follows:

Post-change emissions for existing units are to be determined by projecting an annual rate that reflects the maximum annual emissions rate that will occur during any 1 of the 5 (or, under certain circumstances, 10) years immediately after the physical or operational method change, except that any emissions that could have been accommodated during the selected 24-month period and are "unrelated to the change," shall be excluded in making the post-change emissions calculation.

More specifically, the projected actual emissions shall be the product of (1) the hourly emissions rate, which is to be based on the emission unit's operational capabilities following the change, taking into account legally enforceable restrictions that could affect the hourly emissions rate

following the change; and (2) the projected level of utilization, which is to be based on both the emission unit's historic annual utilization rate and available information regarding the emission unit's likely post-change capacity utilization. From that emissions total shall be deducted the emissions that could be accommodated prior to the change that are unrelated to the change.

The preamble makes clear that the adjustment to the emissions increase determination for emissions that could be accommodated prior to the change is intended to assure that the source "only count[s] emissions increases that will result from the project." An emissions increase that results from a growth in demand which the source could satisfy in the 24-month baseline period is to be excluded in determining whether there is a significant emissions increase. However, the question of whether increased emissions are "unrelated to a change," which was initially established in the WEPCO rule as part of the determination of whether emissions increases result from a change, has the potential to create uncertainty as to which emissions increases can be excluded because they could have been "accommodated" prior to the change.

For new emissions units, the PTE of the new unit shall be used as the projected emissions. EPA also authorizes an "actual-to-potential" test as an option for existing emissions units.

Sources must track post-change emissions for only 5 years, unless the change involves an increase in a unit's design capacity or PTE, in which case the source must track emissions for a period of 10 years after completion of the project.

Where there is "a reasonable possibility" that a project may result "in a significant emissions increase," the source is required to "record" various information that shows that the project will not result in a significant emissions increase. This includes netting calculations if they are required to show that the project is not a major modification.

In contrast to the requirements for electric utility generating units, the rule does not require other sources to submit the information to the reviewing authority before actual construction. Subsequent to construction, such other sources must submit a report to the permitting authority only when an increase in a post-change annual emissions rate for a year: (1) exceeds the baseline actual emissions by a significant amount; *and* (2) differs from the projection that was calculated before the change. These reporting requirements, as indicated above, are

improvements over the provisions requiring pre-construction and annual reports that continue to apply to electric utility units.

As indicated in the foregoing, the "actual-to-projected-actual" increase calculation is one that, under the rule, is to be made by the non-utility source without permitting authority review. However, as a practical matter, many changes will require minor NSR permitting, and emissions calculations will often be reviewed by the permitting authority at that time.

As a practical matter, once a source (with or without permitting authority review) determines that a change does not result in a significant emissions increase, questions that arise in the future regarding whether emissions increases that could have been accommodated prior to the change are "unrelated to the change" will be less troublesome than at the time of any original permitting authority review, because the burden will shift to the permitting authority to show that emissions increases are related to the change.

The "contemporaneous" period for evaluating whether there is a significant emissions increase continues to be the 5-year period before construction commences, even though baseline emissions are determined over a 24-month period during the 10 years immediately preceding a change.

The final rule preamble states that existing "debottlenecking" principles continue in effect. It indicates that a proposal related to debottlenecking will be issued in the future.

Clean Unit Applicability Test
40 C.F.R. §§ 51.165(c); 51.166(t); 52.21(b)(54)(x)

The Clean Unit provisions of the NSR final rule establish a new NSR applicability test. The new test provides that when the source meets emission limitations based on installing state-of-the-art emissions control technology (add-on control technology, pollution prevention techniques, or work practices) that are determined to be BACT/LAER, the source may make any physical or operational changes without triggering major NSR, unless the change causes a need for revision in the emission limitations or work practice requirements in the relevant permit or would alter any physical or operational characteristics that form the basis for the BACT, LAER, or Clean Unit

determination for the unit. Thus, the new applicability test will measure whether an emissions increase occurs based upon whether the physical change or the change in the method of operation affects the Clean Unit status of the unit. The key provisions governing Clean Units are:

The only emission units that may automatically qualify for Clean Unit status are ones that have gone through a major NSR permitting review and are complying with BACT or LAER. For other units to qualify for Clean Unit status, they must first go through a SIP-approved permitting process in which a determination is made whether the emission unit meets the criteria to be designated as a Clean Unit.

For a unit to qualify for Clean Unit status based upon a SIP-approved permitting process, it must pass a two-part test: (1) the air pollution control technology (which includes pollution prevention or work practices) must be comparable to BACT or LAER; and (2) the source must demonstrate that the allowable emissions will not cause or contribute to a NAAQS or PSD increment violation, or adversely impact an AQRV (such as visibility) that has been identified for a Federal Class I area by the FLM and for which information is available to the general public.

In a SIP-approved permitting process to establish Clean Unit status, the source may make a showing that the air pollution control technology is comparable to BACT/LAER in two ways: (1) by comparing the emission unit's control level to BACT/LAER determinations for similar sources in the RACT/BACT/LAER Clearinghouse (RBLC); or (2) by making a case-by-case demonstration that the emissions control for the unit is "substantially as effective" as BACT or LAER.

To demonstrate that an emission unit's control level is comparable to BACT/LAER determinations for similar sources in the RBLC, the rule provides for different methodologies depending on the attainment status of the area. If the source is in a nonattainment area, it must compare proposed control technology to the best-performing five similar sources in the RBLC for which LAER has been determined within the past five years. If the emissions limitation is at least as stringent as any one of the five units, and the emissions unit also passes the air quality test, then the permitting authority shall presume that the unit qualifies as a Clean Unit. In an attainment area, the comparison must be to BACT and LAER decisions in the RBLC that were made in the past 5 years and for which it is technically feasible to apply the BACT or LAER control to the source's emission unit type. If the

source's control technology achieves a level of control that is equal to or better than the average of these determinations and satisfies the air quality test, the permitting authority shall "presume" that the emission unit qualifies as a Clean Unit. However, the permitting authority also is to consider other BACT/LAER determinations not included in the RBLC and consider this information before making a final determination as to whether the proposed emissions rate is comparable to BACT/LAER.

If the emissions unit does not qualify as a Clean Unit under the methodologies for comparing an emissions rate to BACT/LAER determinations, the source may still show, on a case-by-case basis, that the emissions unit will achieve a level of control that is "substantially as effective" as BACT in attainment areas or LAER in non-attainment areas. EPA established no specific criteria for determining whether this test is satisfied. The permitting authority is to make the decision through a process that involves public comment.

Sources may not qualify for Clean Unit status where no emission controls are required. EPA requires that a source make an investment to qualify.

Clean Unit status can be used for up to 10 years from the time of major NSR permitting or for a period of 10 years after the Clean Unit status is established under a SIP-approved program. Also, a source can apply for a Clean Unit status for control technology installed in the past under a SIP-approved permitting program that authorizes Clean Units.

Clean Unit status is pollutant-specific and may not be granted for more than one pollutant, but the source may qualify for simultaneous Clean Unit status for other pollutants at the same emissions units.

Sources in a nonattainment area must, in general, install and obtain offsets to obtain Clean Unit status. However, if a unit obtained a PSD permit in an area that is now a nonattainment area, the unit will qualify for Clean Unit status for 10 years from the date of the PSD permitting.

Emissions reductions resulting from installation of control technology for an emissions unit to achieve Clean Unit status may not be used as offsets or in netting calculations. However, emission reductions below the level that qualify the unit as a Clean Unit may be used as offsets if they otherwise meet offsets criteria.

Under the Clean Unit NSR applicability test, a source is not subject to the basic NSR applicability requirements when it makes a change if it satisfies two conditions. First, the change under consideration must not cause the need to change the emission limitations or work practice requirements in the permit that produced the Clean Unit status. Second, there must not be any change in the physical or operational characteristics that formed the basis for the permitting decision on which Clean Unit status was based. Once a source loses Clean Unit status, it is then subject to the basic NSR applicability requirements.

Clean Unit status may be granted for emission controls established before the effective date of Clean Unit programs in an area. However, the permitting authority may only grant Clean Unit status to emission units that previously installed controls for a period of two years after the effective date of the program for the area. Also, if the emission unit's control technology is installed on or after the date two years after the date the Clean Unit provisions are effective, the source must apply for Clean Unit status at the time the control technology is installed.

If a source is applying for retroactive Clean Unit status, the permitting authority may compare the emissions control level to the BACT or LAER level that would have applied at the time the source began construction of the emissions unit, as long as sufficient information is available to make such a determination.

In general, the effective date for Clean Unit status cannot be before the Clean Unit provision becomes effective in an area. The Rule contains a series of complicated provisions that establish when Clean Unit status becomes effective and when it expires. In general, Clean Unit status will expire 10 years from the date controls were installed or the date that the permitting authority determines that controls are currently equivalent to BACT or LAER.

EPA indicates that it intends to propose that Clean Unit status be authorized for a period of 15 years from the date of installation of controls, but states that it was not able to provide for that in this rulemaking.

Clean Unit status will be incorporated into Title V permits at the next permit renewal, reopening or modification after the time that the Clean Unit effective and expiration dates are known.

Plantwide Applicability Limitations
40 C.F.R. §§ 51.165(f); 51.166(w); 52.21(aa)

The basic concept underlying the new authorization for "plantwide applicability limitations" (PALs) is simple. A PAL is a voluntary source-wide cap on emissions and, once established, the source is not subject during the life of the PAL to major NSR, unless it wishes to increase its emissions above the PAL level. However, EPA's rule contains numerous provisions that govern the establishment of a PAL and a source's activities during the life of a PAL. Among these are:

The PAL emissions cap is to be set at the level of a source's "baseline actual emissions," plus the relevant major modification "significant" level. The baseline level for all sources except electric utilities is to be set under the new 10-year baseline provisions. For units that have operated for less than 2 years, the permitting authority has the discretion to consider allowable emissions of such units when establishing or renewing a PAL.

EPA's rule only authorizes actual emissions PALs. The preamble indicates that EPA will later propose a rule to establish PALs based on allowable emissions.

The PAL emissions cap is to be set on a rolling 12-month basis. It can be set for one or more pollutants at the source, but must cover the entire facility. NSR applicability provisions will apply to any pollutants for which there is no PAL at the source.

A PAL must be set as a federally enforceable permit in either a minor NSR permit, a major NSR permit, or some other EPA-approved program.

The term of a PAL is 10 years. A source must submit a complete application to request renewal or expiration of a PAL at least 6 months prior to, but not earlier than 18 months from, the expiration date of a PAL. Whether a PAL can or should be terminated prior to its expiration date is a decision to be made between the source and the permitting authority. If the source wishes to renew the PAL, the existing PAL will continue in existence until the permitting authority issues the permit with the renewed PAL.

- A renewal application must include recalculation and proposal of a maximum PAL level, taking into account newly applicable requirements and other factors. The permitting authority may renew a PAL at the same level without any review of the appropriateness of doing so, if the baseline actual emissions, plus an amount equal to the significant level, is equal to or greater than 80% of the PAL level. If the source's PTE has declined below the PAL level, the reviewing authority must adjust the PAL downward so that it does not exceed the source's PTE. The reviewing authority has broad discretion to decide the level of a renewed PAL, which may be the original level even if the 80% emissions level is not met but also may be reduced for a variety of reasons.

- Increasing a PAL during its life will be difficult. In order to increase a PAL, a source must demonstrate that it would not be able to maintain emissions below the PAL level even if BACT-equivalent controls were on all existing major units and units whose emissions are above "significant" levels. Emissions of such units must be adjusted for current BACT levels unless currently subject to a BACT or LAER requirement determined within the preceding 10 years. When a PAL is to be increased, proposed new emissions units and existing emissions units undergoing a change must go through major NSR permitting, regardless of the magnitude of the proposed emissions increase that would result.

- The permitting authority must reopen the permit under certain circumstances and may reopen the permit under others. It must reopen the permit to correct errors, to reflect emission reductions used as offsets, or to reflect an increase in the PAL level. It may reopen the permit to reflect newly applicable federal requirements, reduce the PAL consistent with any other enforceable requirement that the state imposes under the SIP, or reduce the PAL to avoid causing or contributing to a NAAQS or PSD increment violation or an adverse impact on an AQRV. PALs must be adjusted at the time of Title V permit renewal or PAL permit renewal, whichever occurs first, to reflect newly applicable federal or state regulatory requirements that become effective during the PAL effective period.

- Permitting authorities may eliminate enforceable permit limits taken to avoid NSR applicability and have the discretion to determine whether other streamlining is appropriate under Title V procedures and policies on streamlining.

- Compliance with PALs must be monitored through one or more of four general approaches: (1) mass balance for sources using coatings or solvents; (2) continuous emissions monitoring systems; (3) continuous parametric monitoring systems or predictive emissions monitoring systems with continuous emissions rate monitoring systems or automated data acquisition and handling systems, as needed; or (4) emission factors (as long as the factors are adjusted for the degree of uncertainty or limitations in the factors' development). An alternative approach may be used if approved in advance by the permitting authority. All of the monitoring approaches must meet minimum requirements established in the rule. The source must use the current emissions or other current direct measurement data to demonstrate that the monitoring systems accurately determine emissions from each unit subject to a PAL.

- Under a PAL, a source is considered operational not only during periods of normal operation, but also during periods of startup, shutdown, maintenance, and malfunctions -- even if compliance with a non-PAL emissions limitation is excused during these latter periods. Monitoring must be established for monitoring under all operating conditions.

- The rule requires maintenance of records of monitoring and testing data to support compliance certifications, reports, or other compliance demonstrations and identifies data that should be kept in those records.

- The reporting requirements under Title V should be sufficient to satisfy the PAL requirements for semi-annual monitoring and prompt deviation reports.

- EPA suggests that the permitting authority renew a source's Title V permit concurrently with issuance of a PAL in order to align the two processes and decrease the administrative burden on the source and the permitting authority.

"Pollution Control Project" Exclusion

40 C.F.R. §§ 51.165(a)(1)(xxv); 51.166(a)(31); 52.21(b)(32)

The "pollution control project" (PCP) exclusion allows installation of certain projects that result in net overall environmental benefits to avoid major NSR permitting for any collateral emissions increases that exceed the

significance level. The rule supercedes EPA's prior guidance and the PCP exclusion authorization for electric utilities contained in the 1992 WEPCO rule. Key aspects of the exclusion are:

A PCP is defined as an activity, set of work practices, or project at an existing emissions unit that reduces emissions of air pollution from the unit. The PCPs may include add-on control devices, raw materials substitutions, work practices, process changes, and other pollution prevention strategies. The PCP exclusion may be sought when a project is installed at an existing source where it reduces the emissions rate of one air pollutant while causing an increase in emissions of a different, "collateral" pollutant.

The rule contains a list of pollution control projects that are presumed to be environmentally beneficial and do not require a case-by-case "environmentally beneficial" demonstration, as long as they are properly applied and site-specific factors do not indicate that their application would be environmentally harmful. In other words, the "environmentally beneficial" presumption may be rebutted. In addition to the listed PCPs, the rule provides that switching to an ozone depleting substance with a less damaging ozone-depleting affect and switching to an inherently less-polluting fuel in specified circumstances are presumptively environmentally beneficial PCPs.

The rule clarifies that upgrading or replacing existing emissions control equipment with more effective emissions control equipment can qualify for the PCP exclusion, but the new PCP must result in a level of control more stringent than the original control equipment.

For projects not identified as presumptively environmentally beneficial, the source must make a demonstration on a case-by-case basis that it will achieve a net environmental benefit. However, the evaluation is limited to air quality considerations.

Assessing whether there are emissions increases of primary and collateral pollutants for the purpose of determining the environmental impact of a PCP is to be carried out using the actual-to-projected-actual applicability test.

All PCPs must be shown not to "cause or contribute" to a violation of any NAAQS or PSD increment, or adversely impact an AQRV that has been identified for a Federal Class I area by an FLM and for which information is available to the general public (the "cause or contribute

test"). For projects presumptively qualifying for the PCP exclusion, consideration of AQRVs is limited to those that have already been identified by an FLM for the Federal Class I area.

Permitting authorities can require analysis of air quality projects when they have reason to believe that: (1) the project will result in a significant emissions increase of any criteria pollutant over levels in the most recent analysis; and (2) such an increase would run afoul of the "cause-or-contribute test."

Significant emission increases of nonattainment collateral pollutants must be offset with acceptable emission reductions. If emission increases are below significant levels, mitigation is not necessary, although they may be subject to a state's minor NSR requirements.

A source cannot generate netting credits or offsets through PCPs.

PCPs are self-executing where projects are presumed to be environmentally beneficial. Sources are required to submit a notification showing that any significant emissions increases of a criteria pollutant will not violate the "cause-or-contribute test." However, minor NSR permitting may still be applicable for PCPs. A source may begin construction immediately upon submitting its notice to the reviewing authority.

For projects that are not presumed environmentally beneficial, sources must apply for approval and receive approval from the permitting authority before beginning actual construction.

EPA created a "general duty" requiring sources to operate PCPs in a manner consistent with reasonable engineering practices and with the basic applicability requirements for the exclusion.

One of the major changes in the PCP exclusion from prior versions is the removal of the "primary purpose" test under which the source had to make a threshold showing that the primary purpose of the project was reducing pollution.

Transition Guidance
67 Fed. Reg. 80,186, 80,240

EPA provides that the final rule shall take effect in 60 days after it is published in the *Federal Register*. On that date, the rule will become immediately effective in the states that have delegated authority to carry out the federal PSD program (approximately 12 states).[1] In states that have included the PSD program in their SIPs, EPA provides that they shall have three years to revise their SIPs to include the new programs. The same is true for all states with regard to nonattainment NSR programs. EPA states that the rules have prospective application only.

EPA does not provide that states may begin implementing the new requirements under their existing programs. EPA does provide that applicants may withdraw already-filed permit applications in states where there is delegated authority, since the new rule takes effect in 60 days in those states. The preamble then indicates that "[s]tates may allow for the same type of transition process under their own NSR programs." It is unclear whether EPA is authorizing states to begin implementing the new requirements as an interim measure until they are adopted and included in SIPs. However, since the programs currently provide for projects to trigger NSR, if there is a significant "increase in actual emissions," there is obviously a strong argument that immediate implementation should be permissible.

"Minimum Program Elements"
67 Fed. Reg. 80,186, 80,240

EPA indicates that the new requirements are "minimum program elements" that "must be" included in NSR programs. EPA notes that states may adopt "different but equivalent" programs, but suggests that it may be difficult for states to make an adequate demonstration of equivalence.

[1] The States with PSD authority delegated from EPA are Hawaii, Illinois, Indiana, Massachusetts, Michigan, Minnesota, Nevada, New Hampshire, New Jersey, New York, South Dakota and Washington.