

Introduction

On December 31, 2002, EPA revised its regulations governing the New Source Review (NSR) programs required by parts C and D of Title 1 of the Clean Air Act. These changes significantly revised the rules for determining whether a change at an existing major stationary source would be considered a major modification and thus whether the substantive requirements for approval of a permit application would apply.

The December 2002 rulemaking did not revise the rules for determining if a newly constructed, "greenfield" source (major stationary source) is subject to the NSR program. Also, the December 2002 rulemaking did not substantively revise the requirements for approval of a permit application for a major stationary source or major modification.

In the preamble to the December 2002 rulemaking, EPA wrote, *"...if a State decides it does not want to implement any of the new applicability provisions, that State will need to show that its existing program is at least as stringent as our revised base program..."*. This is the course of action Rhode Island has chosen. This submission demonstrates that Rhode Island's current SIP is at least as stringent as the current federal program.

The NSR program is implemented in Rhode Island through its Air Pollution Control Regulation No. 9. Section 9.4 of the regulation contains the requirements for nonattainment NSR and Section 9.5 of the regulation contains the requirements for the PSD program. Rhode Island's Air Pollution Control Regulation No. 9 was approved in to the State Implementation Plan by EPA on 2 August 1999.

The current SIP approved version of Air Pollution Control Regulation No. 9 contains requirements for determining if a newly constructed, "greenfield" source (major stationary source) is subject to the NSR program that are identical to the current federal rule. The current SIP approved version of Air Pollution Control Regulation No. 9 contains requirements for approval of a permit application for a major stationary source or major modification that are essentially the same as the current federal rule.

Therefore, Rhode Island maintains that if its rule is broader in scope with respect to major modifications than the current federal rule (i.e. more modifications would

be determined to be major modifications under the state rule), then logically its rule is more stringent than or at least as stringent as the current federal rule.

EPA adopted identical provisions for determining whether a change at an existing major stationary source would be considered a major modification for both the PSD and nonattainment NSR programs. The provisions for determining whether a change at an existing major stationary source would be considered a major modification in Air Pollution Control Regulation No. 9 are the same for both the PSD and nonattainment NSR programs. In the following discussion, Rhode Island provides a demonstration that its rule is broader in scope with respect to major modifications than the current federal rule for the PSD program. Since the provisions for determining whether a change at an existing major stationary source would be considered a major modification are the same in both programs, the demonstration provided would apply to Rhode Island's nonattainment NSR program as well.

This demonstration includes a discussion of two elements of the December 2002 rulemaking that we maintain should no longer be considered part of the current federal rule. The provisions for Pollution Control Projects and Clean Units were vacated by the U.S. Court of Appeals for the District of Columbia in *State of New York, et al., v. U.S. Environmental Protection Agency, et al.*, 413 F.3d 3 (D.C. Cir 2005), and should no longer be considered part of the federally revised New Source Review program. However, since Rhode Island did not have any specific guidance from EPA on how to treat these two elements in this required demonstration, we felt compelled to include them in this demonstration.

Current Rhode Island SIP for New Source Review

The NSR program is implemented in Rhode Island through its Air Pollution Control Regulation No. 9. The current SIP approved version of Air Pollution Control Regulation No. 9 (effective 19 August 1996) was approved in to the State Implementation Plan by EPA on 2 August 1999 (40 CFR 52.2087(c)(54)).

This version of Air Pollution Control Regulation No. 9 is not the current version in effect in the state. Air Pollution Control Regulation No. 9 has been revised three times since the 19 August 1996 version.

The first revision had an effective date of 30 July 1998. The revisions to the regulation added provisions to implement the requirements of Section 112(g) of the Clean Air Act. This revised regulation was submitted to EPA on 10 July 1998 as a formal revision to the Rhode Island SIP. EPA has not taken action on this SIP submission to-date.

The second revision had an effective date of 1 October 1999. This revision consisted of technical revisions to the regulation to correct a reference in the minor source permitting section of the regulation. No substantive changes were made to the regulation.

The third revision had an effective date of 27 April 2004. This is the current version of the regulation in effect in the state. The changes to the regulation revised the permitting thresholds for minor sources to be consistent with RI's air toxics regulation.

These three revisions did not change any of the major source permitting requirements in Air Pollution Control Regulation No. 9. Therefore the current SIP approved regulation is consistent with the current state approved regulation insofar as implementing the New Source Review program.

Discussion of 40 CFR 51.166(a)(7) and the Current SIP

Each State Implementation Plan (SIP) to prevent significant deterioration of air quality must contain procedures that incorporate the requirements in 40 CFR 51.166 (a)(7)(i) through (vi). The following is a demonstration that Rhode Island's current SIP contains these procedures or procedures that are at least as stringent as those procedures.

- **40 CFR 51.166 (a)(7)(i)** *The requirements of this section apply to the construction of any new major stationary source (as defined in paragraph (b)(1) of this section) or any project at an existing major stationary source in an area designated as attainment or unclassifiable under sections 107(d)(1)(A)(ii) or (iii) of the Act.*

The definition of major stationary source in Rhode Island's Air Pollution Control Regulation No. 9 can be found at subsection 9.5.1(f). This definition differs from the federal definition in only one respect. The scope of coverage is "any

air pollutant” whereas the federal definition is limited in scope to “regulated NSR pollutant”.

The definition of major stationary source in Rhode Island’s Air Pollution Control Regulation No. 9 is therefore broader in scope (i.e. more stationary sources could meet the Rhode Island definition than the federal definition).

Subsection 9.5.2 of Air Pollution Control Regulation No. 9 requires that major stationary sources or major modifications proposed in areas designated as attainment or unclassifiable for any pollutant must obtain a Major Source permit.

Thus the requirements of Air Pollution Control Regulation No. 9 apply to the construction of any new major stationary source (as defined in 40 CFR 51.166 (b)(1)) or any project at an existing major stationary source in an area designated as attainment or unclassifiable under sections 107(d)(1)(A)(ii) or (iii) of the Act.

- **40 CFR 51.166 (a)(7)(ii)** *The requirements of paragraphs (j) through (r) of this section apply to the construction of any new major stationary source or the major modification of any existing major stationary source, except as this section otherwise provides.*
- **40 CFR 51.166 (a)(7)(iii)** *No new major stationary source or major modification to which the requirements of paragraphs (j) through (r)(5) of this section apply shall begin actual construction without a permit that states that the major stationary source or major modification will meet those requirements.*

The requirements of paragraphs (j) through (r) are the substantive requirements for approval of a permit application for a major stationary source or a major modification under the PSD program. The December 2002 revisions to the New Source Review programs did not substantively revise the provisions of paragraphs 40 CFR 51.166(j) through (r)(2). These provisions are essentially identical to those in effect on 2 August 1999 when Rhode Island’s Air Pollution Control Regulation No. 9 was approved into the SIP.

Air Pollution Control Regulation No. 9 includes provisions equivalent to those contained in 40 CFR 51.166(j) through (r)(2). The current requirements of 40 CFR 51.166(a)(7)(ii) and (iii) are essentially identical to those that were found at 40 CFR 51.166(i)(1) and (2) at the time Air Pollution Control Regulation No. 9 was approved in to the SIP.

Therefore Rhode Island maintains that it's current SIP meets the requirements of 40 CFR 51.166(a)(7)(ii) and (iii) for paragraphs (j) through (r)(2) of the current 40 CFR 51.166 since they are essentially the same standards for approval that were in effect at the time Air Pollution Control Regulation No. 9 was approved in to the SIP and no substantive changes have been made to paragraphs (j) through (r)(2) since then.

The remaining provisions of 40 CFR 51.166(r) (r(6) and r(7)) concern major stationary sources that elect to use the method specified in 40 CFR 51.166(b)(40)(ii)(a) through (c) for calculating projected emissions. Air Pollution Control Regulation No. 9 does not allow the use of "projected actual emissions" to estimate the emissions after a project. Rather it requires the use of the source's potential-to-emit.

The provisions of 40 CFR 51.166(r)(6) and (r)(7) are recordkeeping and reporting requirements to be followed *if* the circumstances described in paragraph (r)(6) occur. Since Air Pollution Control Regulation No. 9 requires the use of the source's potential-to-emit, these circumstances **cannot** occur and the resulting recordkeeping and reporting requirements are not needed.

Therefore Rhode Island maintains that the current SIP meets the requirements of 40 CFR 51.166(a)(7)(ii) and (iii) in its entirety.

- **40 CFR 51.166 (a)(7)(iv)** *Each plan shall use the specific provisions of paragraphs (a)(7)(iv)(a) through (f) of this section. Deviations from these provisions will be approved only if the State specifically demonstrates that the submitted provisions are more stringent than or at least as stringent in all respects as the corresponding provisions in paragraphs (a)(7)(iv)(a) through (f) of this section.*
- **40 CFR 51.166 (a)(7)(iv)(a)** *Except as otherwise provided in paragraphs (a)(7)(v) and (vi) of this section, and consistent with the definition of major*

modification contained in paragraph (b)(2) of this section, a project is a major modification for a regulated NSR pollutant if it causes two types of emissions increases—a significant emissions increase (as defined in paragraph (b)(39) of this section), and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section). The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase.

Air Pollution Control Regulation No. 9 does not use this two-step approach for determining if a modification is a major modification. Air Pollution Control Regulation No. 9 defines as a major modification any project that would result in a significant net emissions increase, without regard to whether the project increases are significant.

Under Air Pollution Control Regulation No. 9, if the project caused a significant emissions increase, but did not cause a significant net emissions increase, the project would not be a major modification. This is the same as the federal rule. If, however, the project did not cause a significant emissions increase, but did cause a significant net emissions increase, the project would be a major modification under Air Pollution Control Regulation No. 9. This is not the case in the federal rule. The federal regulations require that a project cause both types of emission increases to be a major modification.

If the Rhode Island definition of significant net emissions increase is more stringent than or at least as stringent as the federal definition, then the Rhode Island definition of major modification is logically broader in scope than that adopted by EPA, i.e. more projects could be major modifications under the Rhode Island definition than the EPA definition. As a result more projects may be subject to major source permitting requirements in the Rhode Island rules than in the current federal rules.

Later in this demonstration we provide a discussion supporting the conclusion that the Rhode Island definition of significant net emissions increase is more stringent than or at least as stringent as the federal definition.

Therefore, because Rhode Island's definition of major modification is broader in scope than the federal definition, it maintains that the current SIP is more

stringent than or at least as stringent as the federal regulations with respect to the requirements of 40 CFR 51.166(a)(7)(iv)(a) and (b).

- **40 CFR 51.166 (a)(7)(iv)(b)** *The procedure for calculating (before beginning actual construction) whether a significant emissions increase (i.e., the first step of the process) will occur depends upon the type of emissions units being modified, according to paragraphs (a)(7)(iv)(c) through (f) of this section. The procedure for calculating (before beginning actual construction) whether a significant net emissions increase will occur at the major stationary source (i.e., the second step of the process) is contained in the definition in paragraph (b)(3) of this section. Regardless of any such preconstruction projections, a major modification results if the project causes a significant emissions increase and a significant net emissions increase.*
- **40 CFR 51.166 (a)(7)(iv)(c)** *Actual-to-projected-actual applicability test for projects that only involve existing emissions units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the projected actual emissions (as defined in paragraph (b)(40) of this section) and the baseline actual emissions (as defined in paragraphs (b)(47)(i) and (ii) of this section) for each existing emissions unit, equals or exceeds the significant amount for that pollutant (as defined in paragraph (b)(23) of this section).*
- **40 CFR 51.166 (a)(7)(iv)(d)** *Actual-to-potential test for projects that only involve construction of a new emissions unit(s). A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the potential to emit (as defined in paragraph (b)(4) of this section) from each new emissions unit following completion of the project and the baseline actual emissions (as defined in paragraph (b)(47)(iii) of this section) of these units before the project equals or exceeds the significant amount for that pollutant (as defined in paragraph (b)(23) of this section).*
- **40 CFR 51.166 (a)(7)(iv)(e)** *Emission test for projects that involve Clean Units. For a project that will be constructed and operated at a Clean Unit without causing the emissions unit to lose its Clean Unit designation, no emissions increase is deemed to occur.*

- **40 CFR 51.166 (a)(7)(iv)(f)** *Hybrid test for projects that involve multiple types of emissions units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the emissions increases for each emissions unit, using the method specified in paragraphs (a)(7)(iv)(c) through (e) of this section as applicable with respect to each emissions unit, for each type of emissions unit equals or exceeds the significant amount for that pollutant (as defined in paragraph (b)(23) of this section). For example, if a project involves both an existing emissions unit and a Clean Unit, the projected increase is determined by summing the values determined using the method specified in paragraph (a)(7)(iv)(c) of this section for the existing unit and determined using the method specified in paragraph (a)(7)(iv)(e) of this section for the Clean Unit.*

The terms "significant" and "net emissions increase" are defined as separate terms in both the current federal rule and Air Pollution Control Regulation No. 9.

A "net emissions increase" (i.e. the second step of the process) is the sum of the "emissions increase" associated with the proposed modification (i.e. the first step of the process) *plus* any other contemporaneous emissions increases at the major stationary source *minus* any other contemporaneous emissions decreases at the source.

"First step of the process" - Air Pollution Control Regulation No. 9

The "emissions increase" associated with a proposed modification is the difference between the emissions after the proposed modification (future emissions) and the baseline emissions (i.e., the emissions before the change).

In Air Pollution Control Regulation No. 9, the major stationary source would generally establish its baseline emissions by examining its average annual rate of actual emissions during the 24 months immediately preceding the change. The source has the option of using another time period to establish the baseline emissions, if it demonstrated, to the satisfaction of the RI DEM, that a different time period was more representative of normal source operation.

To estimate the emissions after the proposed modification, the source would use the potential to emit after project completion as representing the post-project emissions.

"First step of the process" - Federal Rules

Paragraphs (a)(7)(iv)(c) through (f) describe the procedures for calculating the "emissions increase" associated with a proposed modification (i.e., the first step of the process) under the current federal regulations.

In 40 CFR 51.166(a)(7)(iv)(c), the "emissions increase" is the sum of the difference between the projected actual emissions (as defined in paragraph (b)(40) of 40 CFR 51.166) and the baseline actual emissions (as defined in paragraphs (b)(47)(i) and (ii) of 40 CFR 51.166).

Future emissions or projected actual emissions (as defined in paragraph (b)(40) of 40 CFR 51.166) will always be less than or equal to an emission unit's potential-to-emit (the measure of future emissions in the Air Pollution Control Regulation No. 9) since potential-to-emit, by definition is the "maximum capacity of a stationary source to emit a pollutant under its physical or operational design".

Baseline actual emissions (as defined in paragraphs (b)(47)(i) and (ii) of 40 CFR 51.166) is determined from the average annual rate of actual emissions during any consecutive 24 months during the 5-year [(b)(47)(i)] or 10-year [(b)(47)(ii)] period immediately preceding the change. In Air Pollution Control Regulation No. 9, baseline actual emissions are determined from the average annual rate of actual emissions during the 24 months immediately preceding the change. Logically, a source would choose the 24 month period with the highest rate of actual emissions to minimize its "emissions increase". Therefore the longer look-back period in the federal rule will only increase baseline actual emissions over that in Air Pollution Control Regulation No. 9.

Since future emissions will always be higher in Air Pollution Control Regulation No. 9 than the federal rule and baseline actual emissions will be lower in Air Pollution Control Regulation No. 9 than the federal rule, the sum of the difference between the two will always be greater in Air Pollution Control Regulation No. 9 than the federal rule.

Thus "emissions increase", as calculated in Air Pollution Control Regulation No. 9, will always be greater than that calculated in 40 CFR 51.166(a)(7)(iv)(c).

In 40 CFR 51.166(a)(7)(iv)(d), the "emissions increase" is the sum of the difference between the potential to emit (as defined in paragraph (b)(4) of 40 CFR 51.166) and the baseline actual emissions (as defined in paragraphs (b)(47)(iii) of 40 CFR 51.166).

Future emissions under Air Pollution Control Regulation No. 9 and the federal rule will be the same (potential to emit).

Baseline actual emissions (as defined in paragraphs (b)(47)(iii) of 40 CFR 51.166) and under Air Pollution Control Regulation No. 9 would equal zero.

Thus "emissions increase", as calculated in Air Pollution Control Regulation No. 9, will be equal to that calculated in 40 CFR 51.166(a)(7)(iv)(d).

In 40 CFR 51.166(a)(7)(iv)(e), no "emissions increase" is deemed to occur for a project that will be constructed and operated at a Clean Unit. Since Air Pollution Control Regulation No. 9 does not contain provisions for Clean Units, an "emissions increase" at such a facility would always be greater under Air Pollution Control Regulation No. 9 than that calculated in 40 CFR 51.166(a)(7)(iv)(e).

40 CFR 51.166(a)(7)(iv)(f) simply states that one should use the methods specified in paragraphs (c) through (e) as applicable to determine the "emissions increase" for a source that has multiple types of emission units. Since we have shown that individually, an "emissions increase" under Air Pollution Control Regulation No. 9 would be equal to or greater than that calculated in paragraphs (c) through (e) then summing the individual values will also be equal to or greater.

Thus, under RI's Air Pollution Control Regulation No. 9, an "emissions increase" (the first step of the process) will always be equal to or greater than that calculated using the procedures in 40 CFR 51.166(a)(7)(iv)(c) through (f).

"Second step of the process"

The second step of the process is determining the "net emissions increase". A "net emissions increase" is the sum of the "emissions increase" associated with the proposed modification (i.e. the first step of the process) *plus* any other contemporaneous emissions increases at the source *minus* any other contemporaneous emissions decreases at the source.

The procedures for determining contemporaneous emissions increases and decreases at the source are similar in both Air Pollution Control Regulation No. 9 (subsection 9.1.24) and the federal rule (40 CFR 51.166(b)(3), paragraphs (i)(b) and (ii) through (viii)). The only significant difference is the determination of baseline actual emissions for calculating increases and decreases.

As was discussed in the previous section, baseline actual emissions under the federal rule will be equal to or greater than that determined using the procedures in Air Pollution Control Regulation No. 9. This means that contemporaneous emissions increases will be smaller and contemporaneous decreases will be larger under the federal rule.

A "net emissions increase" is the sum of the "emissions increase" associated with the proposed modification (equal to or greater under the state rule) *plus* any other contemporaneous emissions increases (equal to or greater under the state rule) at the source *minus* any other contemporaneous emissions decreases (equal to or less under the state rule) at the source. Therefore a "net emissions increase" under the state rule will always be equal to or greater than that calculated under the federal rule.

"Significant net emissions increase"

The Rhode Island definition of "significant" has associated emission rates for each named pollutant that are more stringent than or at least as stringent as those in the federal definition.

As a result, the Rhode Island definition of significant net emissions increase is more stringent than or at least as stringent as the federal definition in that the "net emissions increase" under the state rule will always be equal to or

greater than that calculated under the federal rule and therefore more modifications will be major modifications under the state rule than under the federal rule.

Since the Rhode Island definition of significant net emissions increase is more stringent than or at least as stringent as the federal definition, then the Rhode Island definition of major modification will always be broader in scope than the federal definition.

- **40 CFR 51.166 (a)(7)(v)** *The plan shall require that for any major stationary source for a PAL for a regulated NSR pollutant, the major stationary source shall comply with requirements under paragraph (w) of this section.*

Air Pollution Control Regulation No. 9 does not contain specific requirements for PALs. Therefore the requirements under paragraph (w) are not applicable to the Rhode Island rule.

The preamble to the December 2002 revisions describes a PAL as "...a voluntary option that will provide you with the ability to manage facility-wide emissions without triggering major NSR review...". In other words, a PAL allows a facility to avoid the major source permitting process when making certain changes to its facility. In a program without a PAL option, these same changes could be subject to the major source permitting process.

Therefore a major source permitting program without a PAL option is broader in scope (i.e. more sources would be subject to major source permitting) than a program with the PAL option.

Therefore Rhode Island maintains that the current SIP is more stringent than or at least as stringent as the federal regulations with respect to the requirements of 40 CFR 51.166(a)(7)(v).

- **40 CFR 51.166 (a)(7)(vi)** *The plan shall require that an owner or operator undertaking a PCP (as defined in paragraph (b)(31) of this section) shall comply with the requirements under paragraph (v) of this section.*

Air Pollution Control Regulation No. 9 does not contain specific requirements for PCPs. Therefore the requirements under paragraph (v) are not applicable to the Rhode Island rule.

The preamble to the December 2002 rulemaking states that "...Installation of a PCP is not subject to the major modification provisions...". In other words, installation of a PCP allows a facility to avoid the major source permitting process when making certain changes to its facility. In a program without a PCP option, these same changes could be subject to the major source permitting process.

Therefore a major source permitting program without a PCP option is broader in scope (i.e. more sources would be subject to major source permitting) than a program with the PCP option.

Therefore Rhode Island maintains that the current SIP is more stringent than or at least as stringent as the federal regulations with respect to the requirements of 40 CFR 51.166(a)(7)(vi).

Conclusion

- The current SIP approved version of Air Pollution Control Regulation No. 9 contains requirements for determining if a newly constructed, "greenfield" source (major stationary source) is subject to the NSR program that are identical to the current federal rule.
- The current SIP approved version of Air Pollution Control Regulation No. 9 contains requirements for determining if a proposed modification at an existing major stationary source is subject to the NSR program that are broader in scope than the current federal rule (i.e. more modifications would be considered major modifications and subject to the NSR program).
- The requirements for determining if a proposed modification at an existing major stationary source is subject to the NSR program are identical for both the PSD and nonattainment NSR programs in Air Pollution Control Regulation No. 9.

- The requirements for determining if a proposed modification at an existing major stationary source is subject to the NSR program are identical for both the PSD and nonattainment NSR programs in the federal rule.
- The current SIP approved version of Air Pollution Control Regulation No. 9 contains requirements for approval of a permit application for a major stationary source or major modification that are essentially the same as the current federal rule.

Based on the foregoing, Rhode Island maintains that the current SIP is more stringent than or at least as stringent as the current federal regulations for NSR programs.