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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 20 1999

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MEMORANDUM

SUBJECT: State Implementation Plans: Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown

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TO: Regional Administrators, Regions I - X

EPA's policy for state implementation plans (SIPs) regarding excess emissions during malfunctions, startup, shutdown, and maintenance is contained in memoranda from Kathleen Bennett, formerly Assistant Administrator for Air, Noise and Radiation dated September 28, 1982 and February 15, 1983. A recent review of SIPs suggests that several contain provisions that appear to be inconsistent with this policy, either because they were inadvertently approved after EPA issued the 1982-1983 guidance or because they were part of the SIP at that time and have never been removed. In order to address these provisions in a consistent manner, today we are reaffirming and supplementing the 1982-83 policy. In so doing, we are taking this opportunity to clarify several issues of interpretation that have arisen since that time. The attached updated policy will clarify the types of excess emissions provisions states may incorporate into SIPs so that they can in turn provide greater certainty to the regulated community.

As EPA stated in its 1982 memorandum, because excess emissions might aggravate air quality so as to prevent attainment or interfere with maintenance of the ambient air quality standards, EPA views all excess emissions as violations of the applicable emission limitation. Nevertheless, EPA recognizes

that imposition of a penalty for sudden and unavoidable malfunctions caused by circumstances entirely beyond the control of the owner or operator may not be appropriate. Accordingly, a state or EPA can exercise its "enforcement discretion" to refrain from taking an enforcement action in these circumstances.

The main question of interpretation that has arisen regarding the old policy is whether a state may go beyond this "enforcement discretion" approach and include in its SIP a provision that would, in the context of an enforcement action for excess emissions, excuse a source from penalties if the source can demonstrate that it meets certain objective criteria (an "affirmative defense"). This policy clarifies that states have the discretion to provide such a defense to actions for penalties brought for excess emissions that arise during certain malfunction, startup, and shutdown episodes.

In the context of malfunctions, EPA recognizes that even equipment that is properly designed and maintained can sometimes fail. At the same time, EPA has a fundamental responsibility under the Clean Air Act to ensure that SIPs provide for attainment and maintenance of the national ambient air quality standards ("NAAQS") and protection of PSD increments. Thus, EPA cannot approve an affirmative defense provision that would undermine the fundamental requirement of attainment and maintenance of the NAAQS, or any other requirement of the Clean Air Act. See sections 110(a) and (l) of the Clean Air Act, 42 U.S.C. § 7410(a) and (l).[1] Accordingly, an acceptable affirmative defense provision may only apply to actions for penalties, but not to actions for injunctive relief. This restriction insures that both state and federal authorities remain able to protect air quality standards and PSD increments.

Furthermore, this approach is appropriate only when the respective contributions of individual sources to pollutant concentrations in ambient air are such that no single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments.[2] Where a single source or small

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[1] Pursuant to Section 110(l), EPA may not approve a SIP revision if "the revision would interfere with any applicable requirement concerning attainment and reasonable further progress, or any other applicable requirement of this chapter." See also CAA § 193, 42 U.S.C. § 7515, and the definitions of "emission limitation" and "emission standard" contained in CAA § 302(k), 42 U.S.C. § 7602(k).

[2] In the case of lead and sulfur dioxide, attainment problems usually are caused by one or a few sources and an

group of sources has the potential to cause an exceedance of the NAAQS or PSD increments, EPA believes an affirmative defense approach will not be adequate to protect public health and the environment, and the only appropriate means of dealing with excess emissions during malfunction, startup, and shutdown episodes is through an enforcement discretion approach.[3]

EPA is also taking this opportunity to clarify that it does not intend to approve SIP revisions that would recognize a state director's decision to bar EPA's or citizens' ability to enforce applicable requirements. Such an approach would be inconsistent with the regulatory scheme established in Title I of the Clean Air Act. EPA is also adding contemporaneous record keeping and notification criteria to make its policy regarding these types of events consistent with its enforcement approach.

Finally, EPA is clarifying how excess emissions that occur during periods of startup and shutdown should be addressed. In general, because excess emissions that occur during these periods are reasonably foreseeable, they should not be excused. However, EPA recognizes that, for some source categories, even the best available emissions control systems might not be consistently effective during startup or shutdown periods. In areas where the respective contributions of individual sources to pollutant concentrations in ambient air are such that no single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments, these technological limitations may be addressed in the underlying standards themselves through narrowly-tailored SIP revisions that take into account the potential impacts on ambient air quality caused by the inclusion of these allowances. In these instances, as part of its justification of the SIP revision, the state should analyze the

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affirmative defense is not appropriate. This situation can be particularly aggravated where a short-term standard (e.g., where exceedances or violations are based on a few hour period) is also in place. Although this policy is generally applicable for other NAAQS, enforcement discretion is the only appropriate approach for dealing with excess emissions during startup, shutdown, and malfunction in a specific area where a single source or a small group of sources has the potential to cause nonattainment of a short-term NAAQS.

[3] In American Trucking Association v. EPA, 175 F. 3d 1027 (D.C. Circ., 1999), the court remanded the PM2.5 NAAQS to the EPA. The Agency has not determined whether this policy is appropriate for PM2.5 NAAQS.

impact of the potential worst-case emissions that could occur during startup and shutdown.[4]

In addition to this approach, states may address this problem through the use of enforcement discretion or they may include a general affirmative defense provision in their SIPs for short and infrequent startup and shutdown periods along the lines outlined in the attachment. As mentioned above, however, in those areas where a single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments, issues relating to excess emissions arising during startup and shutdown may only be addressed through an enforcement discretion approach.

All Regions should review the SIPs for their states in light of this clarification and take steps to insure that excess emissions provisions in these SIPs are consistent with the attached guidance.

Attachment

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[4]States may account for such emissions by including them in their routine rule effectiveness estimates. Rule effectiveness estimates may be prepared in accordance with an EPA policy document entitled "Guidelines for Estimating and Applying Rule Effectiveness for Ozone/Carbon Monoxide State Implementation Plan Base Year Inventories." (EPA-452/R-92-010) November 1992.

Attachment

POLICY ON EXCESS EMISSIONS DURING MALFUNCTIONS, STARTUP, AND SHUTDOWN

Introduction

This policy specifies when and in what manner state implementation plans (SIPs) may provide for defenses to violations caused by periods of excess emissions due to malfunctions,[1] startup, or shutdown. Generally, since SIPs must provide for attainment and maintenance of the national ambient air quality standards and the achievement of PSD increments, all periods of excess emissions must be considered violations. Accordingly, any provision that allows for an automatic exemption[2] for excess emissions is prohibited.

However, the imposition of a penalty for excess emissions during malfunctions caused by circumstances entirely beyond the control of the owner or operator may not be appropriate. States may, therefore, as an exercise of their inherent enforcement discretion, choose not to penalize a source that has produced excess emissions under such circumstances.

This policy provides an alternative approach to enforcement discretion for areas and pollutants where the respective contributions of individual sources to pollutant concentrations in ambient air are such that no single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments. Where a single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments, as is often the case for sulfur dioxide and lead,[3] EPA believes approaches other than enforcement discretion are not appropriate. In such cases, any excess emissions may have a significant chance of causing an exceedance or violation of the applicable standard or PSD increment.

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[1]The term <u>excess emission</u> means an air emission level which exceeds any applicable emission limitation. <u>Malfunction</u> means a sudden and unavoidable breakdown of process or control equipment.

[2]The term <u>automatic exemption</u> means a generally applicable provision in a SIP that would provide that if certain conditions existed during a period of excess emissions, then those exceedances would not be considered violations.

[3]This policy also does not apply for purposes of PM2.5 NAAQS. In American Trucking Association v. EPA, 175 F. 3d 1027 (D.C. Circ., 1999), the court remanded the PM2.5 NAAQS to the EPA. The Agency has not determined whether this policy is appropriate for PM2.5 NAAQS.

Except where a single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments, states may include in their SIPs affirmative defenses[4] for excess emissions, as long as the SIP establishes limitations consistent with those set out below. If approved into a SIP, an affirmative defense would be available to sources in an enforcement action seeking penalties brought by the state, EPA, or citizens. However, a determination by the state not to take an enforcement action would not bar EPA or citizen action.[5]

In addition, in certain limited circumstances, it may be appropriate for the state to build into a source-specific or source-category-specific emission standard a provision stating that the otherwise applicable emission limitations do not apply during narrowly defined startup and shutdown periods.

I. AUTOMATIC EXEMPTIONS AND ENFORCEMENT DISCRETION

If a SIP contains a provision addressing excess emissions, it cannot be the type that provides for automatic exemptions. Automatic exemptions might aggravate ambient air quality by excusing excess emissions that cause or contribute to a violation of an ambient air quality standard. Additional grounds for disapproving a SIP that includes the automatic exemption approach are discussed in more detail at 42 Fed. Reg. 58171 (November 8, 1977) and 42 Fed. Reg. 21372 (April 27, 1977). As a result, EPA will not approve any SIP revisions that provide automatic exemptions for periods of excess emissions.

The best assurance that excess emissions will not interfere with NAAQS attainment, maintenance, or increments is to address excess emissions through enforcement discretion. This policy provides alternative means for addressing excess emissions of criteria pollutants. However, this policy does not apply where a single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments. Moreover,

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[4]The term <u>affirmative defense</u> means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

[5]Because all periods of excess emissions are violations and because affirmative defense provisions may not apply in actions for injunctive relief, under no circumstances would EPA consider periods of excess emissions, even if covered by an affirmative defense, to be "federally permitted releases" under EPCRA or CERCLA.

nothing in this guidance should be construed as requiring states to include affirmative defense provisions in their SIPs.

II. AFFIRMATIVE DEFENSES FOR MALFUNCTIONS

EPA can approve a SIP revision that creates an affirmative defense to claims for penalties in enforcement actions regarding excess emissions caused by malfunctions as long as the defense does not apply to SIP provisions that derive from federally promulgated performance standards or emission limits, such as new source performance standards (NSPS) and national emissions standards for hazardous air pollutants (NESHAPS).[6] In addition, affirmative defenses are not appropriate for areas and pollutants where a single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments. Furthermore, affirmative defenses to claims for injunctive relief are not allowed. To be approved, an affirmative defense provision must provide that the defendant has the burden of proof of demonstrating that:

1. The excess emissions were caused by a sudden, unavoidable breakdown of technology, beyond the control of the owner or operator;

2. The excess emissions (a) did not stem from any activity or event that could have been foreseen and avoided, or planned for, and (b) could not have been avoided by better operation and maintenance practices;

3. To the maximum extent practicable the air pollution control equipment or processes were maintained and operated in a manner consistent with good practice for minimizing emissions;

4. Repairs were made in an expeditious fashion when the operator knew or should have known that applicable emission limitations were being exceeded. Off-shift labor and overtime must have been utilized, to the extent practicable, to ensure that such repairs were made as expeditiously as practicable;

5. The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;

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[6]To the extent a state includes NSPS or NESHAPS in its SIP, the standards should not deviate from those that were federally promulgated. Because EPA set these standards taking into account technological limitations, additional exemptions would be inappropriate.

6. All possible steps were taken to minimize the impact of the excess emissions on ambient air quality;

7. All emission monitoring systems were kept in operation if at all possible;

8. The owner or operator's actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs, or other relevant evidence;

9. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

10. The owner or operator properly and promptly notified the appropriate regulatory authority.

EPA interprets these criteria narrowly. Only those malfunctions that are sudden, unavoidable, and unpredictable in nature qualify for the defense. For example, a single instance of a burst pipe that meets the above criteria may qualify under an affirmative defense. The defense would not be available, however, if the facility had a history of similar failures because of improper design, improper maintenance, or poor operating practices. Furthermore, a source must have taken all available measures to compensate for and resolve the malfunction. If a facility has a baghouse fire that leads to excess emissions, the affirmative defense would be appropriate only for the period of time necessary to modify or curtail operations to come into compliance. The fire should not be used to excuse excess emissions generated during an extended period of time while the operator orders and installs new bags, and relevant SIP language must limit applicability of the affirmative defense accordingly.

III. EXCESS EMISSIONS DURING STARTUP AND SHUTDOWN

In general, startup and shutdown of process equipment are part of the normal operation of a source and should be accounted for in the planning, design, and implementation of operating procedures for the process and control equipment. Accordingly, it is reasonable to expect that careful and prudent planning and design will eliminate violations of emission limitations during such periods.

A. SOURCE CATEGORY SPECIFIC RULES FOR STARTUP AND SHUTDOWN

For some source categories, given the types of control technologies available, there may exist short periods of emissions during startup and shutdown when, despite best efforts regarding planning, design, and operating procedures, the

otherwise applicable emission limitation cannot be met. Accordingly, except in the case where a single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments, it may be appropriate, in consultation with EPA, to create narrowly-tailored SIP revisions that take these technological limitations into account and state that the otherwise applicable emissions limitations do not apply during narrowly defined startup and shutdown periods. To be approved, these revisions should meet the following requirements:

1. The revision must be limited to specific, narrowly-defined source categories using specific control strategies (e.g., cogeneration facilities burning natural gas and using selective catalytic reduction);

2. Use of the control strategy for this source category must be technically infeasible during startup or shutdown periods;

3. The frequency and duration of operation in startup or shutdown mode must be minimized to the maximum extent practicable;

4. As part of its justification of the SIP revision, the state should analyze the potential worst-case emissions that could occur during startup and shutdown;

5. All possible steps must be taken to minimize the impact of emissions during startup and shutdown on ambient air quality;

6. At all times, the facility must be operated in a manner consistent with good practice for minimizing emissions, and the source must have used best efforts regarding planning, design, and operating procedures to meet the otherwise applicable emission limitation; and

7. The owner or operator's actions during startup and shutdown periods must be documented by properly signed, contemporaneous operating logs, or other relevant evidence.

B. GENERAL AFFIRMATIVE DEFENSE PROVISIONS RELATING TO STARTUP AND SHUTDOWN

In addition to the approach outlined in Section II(A) above, states may address the problem of excess emissions occurring during startup and shutdown periods through an enforcement discretion approach. Further, except in the case where a single source or small group of sources has the potential to cause an exceedance of the NAAQS or PSD increments, states may also adopt for their SIPs an affirmative defense approach. Using this

approach, all periods of excess emissions arising during startup and shutdown must be treated as violations, and the affirmative defense provision must not be available for claims for injunctive relief. Furthermore, to be approved, such a provision must provide that the defendant has the burden of proof of demonstrating that:

1. The periods of excess emissions that occurred during startup and shutdown were short and infrequent and could not have been prevented through careful planning and design;

2. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

3. If the excess emissions were caused by a bypass (an intentional diversion of control equipment), then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

4. At all times, the facility was operated in a manner consistent with good practice for minimizing emissions;

5. The frequency and duration of operation in startup or shutdown mode was minimized to the maximum extent practicable;

6. All possible steps were taken to minimize the impact of the excess emissions on ambient air quality;

7. All emission monitoring systems were kept in operation if at all possible;

8. The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs, or other relevant evidence; and

9. The owner or operator properly and promptly notified the appropriate regulatory authority.

If excess emissions occur during routine startup or shutdown periods due to a malfunction, then those instances should be treated as other malfunctions that are subject to the malfunction provisions of this policy. (Reference Part I above).