

ENVIRONMENTAL RESOURCE MANAGEMENT DEPARTMENT

Environmental Quality Division



RECEIVED

JUN 22 2005

BUREAU OF AIR REGULATION

June 21, 2005

Mr. Jeff F. Koerner, P.E.  
Administrator, Permitting North  
Florida Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, FL, 32399-2400

RE: **Modification of Permit No. PSD-FL-310 (PA00-43)**  
**Brandy Branch Generating Station/Duval County**

Dear Mr. Koerner:

The Environmental Quality Division (EQD) received notice of the Proposed PSD Modification on or about June 15, 2005. The Proposed PSD Modification (Exhibit I), deals with the exclusion of CEMs data during the Dry Low NO<sub>x</sub> Tuning of the Brandy Branch turbines.

The EQD has numerous concerns regarding this proposed modification, and hence objects to the inclusion of the proposed modification (Exclusion of CEM data) into the Brandy Branch Permit.

The EQD concerns and objection revolve around the following points:

- A. Why and under what rule, regulation or statute can CEM data, under Dry Low NO<sub>x</sub> Tuning, be excluded from regulatory review and action?

On June 20, 2005 JEA representative, Bert Gianazza, P.E., advised EQD that Dry Low NO<sub>x</sub> Tuning was a "Routine" activity. Indeed, if such is a routine activity then such can not qualify under any of the startup, shutdown, or malfunction (SSM) provisions.

Therefore, under what provisions can a source arbitrarily request operating data be excluded from regulatory review and action?

Further, under which specific regulation can FDEP exclude routine operating data from regulatory review and action?

- B. Given that JEA has stated this Dry Low NO<sub>x</sub> Tuning is routine, such cannot be considered under any of the SSM guidelines.



117 West Duval Street, Suite 225 Jacksonville, Florida 32202  
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Groundwater: (904) 630-4900 Water Quality: (904) 630-3404 Web: www.coj.net

*"Recipient of the 2001 Governor's Sterling Award"*

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- C. EPA has noted and expressed (Rich Alonos, US EPA Washington – Speech, June 15, 2005 Charleston, SC) that excess emissions must be qualified, as cases arise where the excess emission exceed the source's permitted yearly rates.

The Proposed PSD Modification removes from regulatory review and action the excess emission from Brandy Branch's Dry Low NO<sub>x</sub> Tuning. Without such data how can FDEP insure that NAAQS are not violated? The EPA SSM Policy states that "Should" an exemption be provided, the State should analyze the potential worse case emissions that could occur, to insure that violations of the NAAQS or PSD Increments do not occur. Yet in the Public Notice of Intent to Issue PSD Permit Modification, such notice states that an Air Quality Impact was not required. The Proposed Permit Modification seems in conflict with the EPA Policy Statement regarding Impact Analysis; hence please provide clarification as to the basis of FDEP's action regarding Potential Air Quality Impact.

- D. The language of the Proposed Permit Modification is vague, or does not address:
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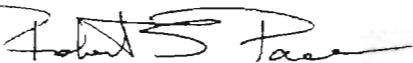
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FDEP's attention and response to this matter will be appreciated.

Respectfully,



Robert S. Pace, P.E., Manager  
Air Quality Branch

RSP/rdr

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R. Robinson, P.E., EQD  
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**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

**BACT EXCESS EMISSIONS APPROVAL**

Pursuant to the Rule 62-210.700 F.A.C., the Department through this BACT determination will allow excess emissions as follows: Valid hourly emission rates shall not include periods of startup, shutdown, or malfunction as defined in Rule 62-210.200 F.A.C., where emissions exceed the applicable standard. These excess emissions periods shall be reported as required in Specific Condition 27 of the Permit. A valid hourly emission rate shall be calculated for each hour in which at least two pollutant concentrations are obtained at least 15 minutes apart [Rules 62-4.070 F.A.C. and 62-210.700 F.A.C.].

The following emission levels represent excess emission *estimates* during startup and shutdown periods:

STARTUP TYPE	TIME REQUIRED	ESTIMATED EMISSION MAXIMUM LEVELS BY POLLUTANT FOR EACH CT (TOTAL lbm)		
		NO <sub>x</sub>	CO	PM
Hot	60 minutes	104	652	18
Warm	129 minutes	283	1360	38
Cold	228 minutes	768	2365	68

The following emissions (TPY) are shown for informational purposes only. They represent a *conservative* estimate of annualized startup emissions, which are largely controllable through best operating practices. Since each startup requires many hours of preceding shutdown time where emissions are zero, there will likely be *no annual net emission increase* from the previously estimated TPY:

STARTUP TYPE	NO. REQUIRED	NO <sub>x</sub>	CO	PM
Hot	100	10.4	65.2	1.8
Warm	50	14.2	68	1.9
Cold	10	7.7	23.7	0.7
Total	310	32.2	156.9	4.4

Excess emissions may occur under the following startup scenarios, subject to Rule 62-210.700, F.A.C.:

Hot Start: One hour following a HRSG shutdown less than or equal to 24 hours.

Warm Start: Three hours following a HRSG shutdown greater than 24 hours.

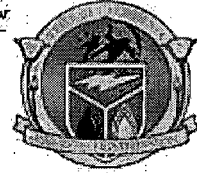
Cold Start: Four hours following a HRSG shutdown greater than or equal to 72 hours.

STATE OF CALIFORNIA - THE RESOURCES AGENCY

Arnold Schwarzenegger, Governor

**California Energy Commission**

1516 Ninth Street  
Sacramento, CA 95814  
Website: [www.energy.ca.gov](http://www.energy.ca.gov)  
Consumer Website: [www.ConsumerEnergyCenter.org](http://www.ConsumerEnergyCenter.org)  
Children's Website: [www.energyquest.ca.gov](http://www.energyquest.ca.gov)



**STATE OF CALIFORNIA  
State Energy Resources  
Conservation and Development Commission**

In the Matter of:	)	Docket No. 98-AFC-3C
	)	Order No.
Delta Energy Center, LLC	)	
the Owners and Operators of	)	ORDER APPROVING a Petition
DELTA ENERGY CENTER	)	to Amend Start-Up and Tuning
	)	Emissions
	)	

Delta Energy Center, LLC /operator of the Delta Energy Center power plant (DEC) has requested approval to modify various Air Quality Conditions of Certification to reflect a change in the cold start-up and tuning emissions.

The Energy Commission approves DEC's amendment and the modified conditions in accordance with Title 20, Section 1769 (a) (3) of the California Code of Regulations.

**COMMISSION FINDINGS**

Based on staff's analysis, the Energy Commission concludes that the proposed changes will not result in any significant impact to public health and safety, or the environment. The Energy Commission finds that:

1. There will be no new or additional unmitigated significant environmental impacts associated with the proposed change since the daily, quarterly and annual emissions limits are not changing.
2. The facility will remain in compliance with all applicable laws, ordinances, regulations, and standards.
3. The modification will be beneficial to the project owner in that it will allow them to comply with the conditions of certification for this project.
4. At the time the Application for Certification was filed, the applicant believed that mass emission rates during turbine cold startup and tuning would be low enough to comply with the normal operating limits. Therefore, no separate mass-based emissions limits were requested for the startup and tuning process. During the performance testing of the new gas turbines, the operators determined that during startup and tuning, the turbines cannot comply with the existing hourly mass emissions limits for NOx, and need separate limitations for the startup and tuning processes.

**CONCLUSION AND ORDER**

As a result of the needed modifications to emissions limitations, the Bay Area Air Pollution control District has made changes to existing district permit conditions that are consistent with staff's modified Conditions of Certification below.



The California Energy Commission hereby adopts the following changes to the Delta Energy Center Decision:

**CHANGES TO AIR QUALITY CONDITIONS OF CERTIFICATION**

(New language is shown as bold and underlined, deleted language is shown as strikethrough.)

**Definitions:** Add the following definitions to the Definitions Section

Steam Turbine Cold Start-up Period: The lesser of the first 360 minutes of continuous fuel flow to the gas turbine after fuel flow is initiated or the period of time from gas turbine fuel flow initiation until the gas turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of conditions 27(b) and 27(d), following a steam turbine shut down of at least 72 hours.

Combustor Tuning Activities: Any testing, adjustment, tuning, and calibration activities recommended by the gas turbine manufacturer to insure safe and reliable steady state operation of the gas turbines following replacement of the combustor components, during seasonal tuning events, when recommended by the turbine manufacturer, or as necessary to maintain low emissions performance. This includes, but is not limited to, adjusting the amount of fuel distributed between the combustion turbine's staged fuel systems to simultaneously minimize NOx and CO production while minimizing combustor dynamics and ensuring combustor stability.

Combustor Tuning Period: The period, not to exceed 360 minutes, during which combustor tuning activities are taking place.

**Revised Conditions of Certification:**

**AQ-27**

The owner/operator shall ensure that the Gas Turbines (S-1, S-3 & S-5) and HRSGs (S-2, S-4, & S-6) shall comply with requirements (a) through (h) under all operating scenarios, including duct burner firing mode and steam injection power augmentation mode. Requirements (a) through (h) do not apply during a gas turbine start-up or shutdown, a steam turbine cold start-up, or a gas turbine combustor tuning period. (BACT, PSD, and Toxic Risk Management Policy) All other parts of this condition of certification remain unchanged.

**AQ-28**

The owner/operator shall ensure that the regulated air pollutant mass emission rates from each of the Gas Turbines (S-1, S-3 and S-5) during a start-up or a shutdown, or during a combustor tuning period do not exceed the limits established below (PSD).

	Start-Up	Steam Turbine Cold Start-up or Combustor Tuning Periods	Shutdown
	(lb./start-up)	(lb./period)	(lb./shutdown)
Oxides of Nitrogen (as NO2)	240	<u>300</u>	80

Carbon Monoxide (CO)	2,514	<u>9,750</u>	902
Precursor Organic Compounds (as CH <sub>4</sub> )	48	<u>96</u>	16

All other parts of this condition of certification remain unchanged.

#### AQ-29

The owner/operator shall ensure that no more than one of the Gas Turbines (S-1, S-3, & S-5) shall be in start-up mode, supporting a steam turbine cold start-up or undergoing combustor tuning at any one time. (PSD)

The total number of hours during which the gas turbines (S-1, S-3, & S-5) may be operated to support a steam turbine cold start-up or may undergo combustor tuning shall not exceed 30 hours per year per gas turbine.

**Verification:** ~~In the annual/semiannual report the owner/operator shall indicate how this condition is being implemented~~ The project owner shall report the date, time and duration of each steam turbine cold start-up or combustor tuning event during the year in the Annual and Semiannual Air Quality Reports.

#### AQ-48

The owner/operator shall ensure that the total combined emissions from the Gas Turbines and HRSGs (S-1, S-2, S-3, S-4, S-5 and S-6), including emissions generated during Gas Turbine start-ups and shutdowns, steam turbine cold start-ups and combustor tuning activities do not exceed the following limits during any calendar day:

All other parts of this condition of certification remain unchanged.

#### AQ-49

The owner/operator shall ensure that the cumulative combined emissions from the Gas Turbines and HRSGs (S-1, S-2, S-3, S-4, S-5, and S-6), including emissions generated during gas turbine start-ups and shutdowns, steam turbine cold start-ups and combustor tuning activities shall not exceed the following limits during any consecutive twelve-month period: All other parts of this condition of certification remain unchanged.

#### AQ-51

The owner/operator shall demonstrate compliance with conditions 20 through 23, 27(a) through 27(d), 28, 29, 32 through 34, 37(a) through 37(d), 46, 47, 48(a), 48(b), 49(a) and 49(b) by using properly operated and maintained continuous monitors (during all hours of operation including equipment start-up and shutdown and combustor tuning periods) for all of the following parameters: All other parts of this condition of certification remain unchanged.

#### AQ-52

To demonstrate compliance with conditions 27(f), 27(g), 27(h), 28, 48(c) through 48(e), and 49(c) through 49(e), the owner/operator shall calculate and record on a daily basis, the Precursor Organic Compound (POC) mass emissions, Fine Particulate Matter (PM<sub>10</sub>) mass emissions (including condensable particulate matter), and Sulfur Dioxide (SO<sub>2</sub>) mass emissions from each power train. The owner/operator shall use the actual Heat Input Rates

calculated pursuant to condition 39, actual Gas Turbine Start-up Times, actual Gas Turbine Shutdown Times, actual steam turbine cold start-up times, actual gas turbine combustor tuning times and CEC and District-approved emission factors to calculate these emissions. The calculated emissions shall be presented as follows: All other parts of this condition of certification remain unchanged.

**AQ-61**

The owner/operator of the DEC shall maintain all records and reports on site for a minimum of 5 years. These records shall include but are not limited to: continuous monitoring records (firing hours, fuel flows, emission rates, monitor excesses, breakdowns, etc.), source test and analytical records, natural gas sulfur content analysis results, emission calculation records, records of steam turbine cold start-up and gas turbine combustor tuning activities, records of plant upsets and related incidents. The owner/operator shall make all records and reports available to District and the CEC CPM staff upon request. (Regulation 2-6-501)

**Verification:** During site inspection, the owner/operator shall make all records and reports available to the District, ARB, EPA or CEC staff.

IT IS SO ORDERED.

Date: September 8, 2004

STATE OF CALIFORNIA  
ENERGY RESOURCES CONSERVATION AND  
DEVELOPMENT COMMISSION

\_\_\_\_\_  
signed  
WILLIAM J. KEESE, Chairman

# ENVIRONMENTAL RESOURCE MANAGEMENT DEPARTMENT

## Environmental Quality Division



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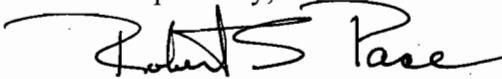
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EXHIBIT I,

June 15, 2005

Mr. Bert Gianazza, P.E.  
JEA  
21 West Church Street  
Jacksonville, Florida 32202

Re: DEP File No. 0310485-014-AC; Modification of Permit No. PSD-FL-310 (PA 00-43)  
Brandy Branch Generating Station / Duval County

The applicant, JEA, applied on June 15, 2005, to the Department for a modification to PSD permit number PSD-FL-310 for its Brandy Branch Generating Station located in Duval County. The modification is to incorporate the language for Dry Low NOx (DLN) combustor tuning as an authorized exclusion (subject to the below provisions) for the demonstration of compliance via CEMS. The Department has reviewed the modification request. The referenced permit is hereby modified as follows:

III. Emissions Unit(s) Specific Conditions  
Applicable Standards And Regulations:

~~25.A. CEMS Data Exclusion - DLN Tuning: CEMS data collected during initial or other major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. A major tuning session would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, the permittee shall provide the Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail. (Design Rule 62-4070(3), F.A.C.)~~

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permit modification is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order (permit modification) has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

\_\_\_\_\_  
Michael G. Cooke, Director  
Division of Air Resources  
Management



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

September 20, 1999

MEMORANDUM

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

FROM: Steven A. Herman  
Assistant Administrator for Enforcement and Compliance Assurance

Robert Perciasepe  
Assistant Administrator for Air and Radiation

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 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 (1) of the Clean Air Act, 42 U.S.C. § 7410(a) and (1).<sup>1</sup> 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. Where a single source or small

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<sup>1</sup>Pursuant to Section 110(1), 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).

<sup>2</sup> In the case of lead and sulfur dioxide, attainment problems usually are caused by one or a few sources and an affirmative defense is not appropriate. This situation can be

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.<sup>3</sup>

EPA is also taking this opportunity to clarify that it does not intend to approve SIP revisions that would allow 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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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.

<sup>3</sup> In *American Trucking Association v. EPA*, 175 F. 3d 1027 (D.C. Circ., 1999), the court remanded the PM<sub>2.5</sub> NAAQS to the EPA. The Agency has not determined whether this policy is appropriate for PM<sub>2.5</sub> NAAQS.

Impact of the potential worst case emissions that could occur during startup and shutdown.

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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"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.

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## 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,<sup>1</sup> 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<sup>2</sup> 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, 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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<sup>1</sup>The term excess emission means an air emission level which exceeds any applicable emission limitation. Malfunction means a sudden and unavoidable breakdown of process or control equipment.

<sup>2</sup>The term automatic exemption 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.

<sup>3</sup>This policy also does not apply for purposes of PM<sub>2.5</sub> NAAQS. In *American Trucking Association v. EPA*, 175 F. 3d 1027 (D.C. Circ., 1999), the court remanded the PM<sub>2.5</sub> NAAQS to the EPA. The Agency has not determined whether this policy is appropriate for PM<sub>2.5</sub> 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<sup>4</sup> 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.<sup>5</sup>

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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<sup>4</sup>The term affirmative defense 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.

<sup>5</sup>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).<sup>6</sup> 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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<sup>6</sup>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.

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- 4 -

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



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- 6 -

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).