

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

BUREAU OF AIR

DIVISION of AIR POLLUTION CONTROL

PERMIT SECTION

PROJECT SUMMARY for the
DRAFT REVISION/RENEWAL CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT*

Prairie Power Incorporated - Pearl Station
Highway 100 South, Pearl (Pike County)

Illinois EPA ID Number: 149817AAB

Application Number: 95080060

Start of Public Comment Period: October 28, 2009

Close of Public Comment Period: November 27, 2009

Permit Engineer/Technical Contact: Kaushal Desai, 217/782-2113

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This action revises the permit to reflect changes arising from the negotiated resolution of the permit appeal, Case No. PCB 2006-55; this permit action also addresses all necessary elements for renewal.

(This Project Summary generally describes the source and explains the draft permit. This document has been prepared pursuant to Section 39.5(8)(b) of the Illinois Environmental Protection Act, which requires "a statement that sets forth the legal and factual basis for the draft CAAPP permit conditions.")

I. INTRODUCTION

- a. This source has applied for a significant modification to and a renewal of the Clean Air Act Permit Program (CAAPP) operating permit issued on September 29, 2005. The source appealed this initial CAAPP permit to the Illinois Pollution Control Board on November 2, 2005, PCB No. 06-55, and this permitting transaction addresses the negotiated resolution to that appeal. The renewal request is addressed as part of the initial CAAPP permit as well.

The CAAPP is the program established in Illinois for operating permits for significant stationary sources as required by Title V of the federal Clean Air Act(CAA) and Section 39.5 of the Illinois Environmental Protection Act (Act). The conditions in a CAAPP permit are enforceable by the Illinois Environmental Protection Agency (Illinois EPA), the United States Environmental Protection Agency (USEPA), and the public. This document is for informational purposes only and does not shield the Permittee from enforcement actions or its responsibility to comply with applicable statutes or regulations. This document shall not constitute a defense to a violation of the Act, the CAA or any regulation nor does it constitute a requirement that is enforceable independent from the CAAPP permit or applicable law.

A CAAPP permit contains conditions identifying the applicable state and federal air pollution control requirements that apply to a source. The permit also establishes emission limits, appropriate compliance procedures, and specific operational flexibility. The appropriate compliance procedures may include monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the source is operating in accordance with the requirements of the permit.

- b. Further explanations of the specific provisions of the draft CAAPP permit are contained in the attachments to this document, which also identify the various emission units at the source. It should be noted as well that this document does not address administrative changes.

II. GENERAL SOURCE DESCRIPTION

- a. Nature of source

The Pearl power plant is located on State Highway 100 south of Pearl. The source operates one coal-fired boiler and one peaking turbine to produce electricity.

b. Ambient air quality status for the area

The source is located in an area that is currently designated attainment or unclassifiable for the National Ambient Air Quality Standards for all criteria pollutants (carbon monoxide, lead, nitrogen dioxide, ozone, PM_{2.5}, PM₁₀, sulfur dioxide).

c. Major source status

1. The source requires a CAAPP permit as a major source of PM/PM₁₀, nitrogen oxides (NO_x), carbon monoxide (CO), and sulfur dioxide (SO₂) emissions.
2. This permit is issued based on the source being a minor source for HAPs. To continue to ensure that the source is minor, limits on coal usage have been established in Condition 5.5.2 of the permit.

d. Source Emissions

The following table lists the amounts of emissions that the draft permit would allow the source to emit on an annual basis.

Permitted Emissions of Regulated Pollutants (tons/year)

Pollutant	Tons/Year
Volatile Organic Material (VOM)	4.40
Sulfur Dioxide (SO ₂)	8,316.34
Particulate Matter (PM)	152.14
Nitrogen Oxides (NO _x)	1,344.82
HAP, not included in VOM or PM	10.49
Total	9,896.30

The following table lists actual annual emissions of principal pollutants from this source, as reported in the Annual Emission Reports sent to the Illinois EPA.

Pollutant	Annual Emissions (tons)				
	2008	2007	2006	2005	2004
CO	26.4	26.2	25.1	36.7	24.2
NO _x	1,145.2	1,132.8	1,114.2	1,225.4	1,044.2
PM	9.74	9.6	17.5	5.2	2.17
SO ₂	1,715.7	1,699.6	1,817.5	1,697.2	1,682.3
VOM	3.6	3.2	3.5	3.8	2.9
Mercury	0.004	0.004	0.004	0.009	--
HCl	0.4	0.4	0.4	0.4	0.4
Totals	2,901.1	2,871.8	2,978.2	2,968.7	2,756.17

III. NEW SOURCE REVIEW/TITLE I CONDITIONS

As generally identified below, this CAAPP permit may contain certain conditions that relate to requirements arising from the construction or modification of emission units at this source. These requirements derive from permitting programs authorized under Title I of the Clean Air Act (CAA) and regulations there under, and Title X of the Illinois Environmental Protection Act (Act) and regulations implementing the same. Such requirements, including the New Source Review programs for both major (i.e., PSD and nonattainment areas) and minor sources, are implemented by the Illinois EPA pursuant to Section 39(a) and 39.5 of the Act.

This permit may contain conditions that reflect requirements originally established in construction permits previously issued for this source. These conditions include requirements from preconstruction permits issued pursuant to regulations approved or promulgated by USEPA under Title I of the CAA, as well as requirements contained within construction permits issued pursuant to state law authority under Title X of the Act. Accordingly, all such conditions are incorporated into this CAAPP permit by virtue of being either an "applicable Clean Air Act requirement" or an "applicable requirement" in accordance with Section 39.5 of the Act. These conditions are identifiable herein by a designation to their origin of authority.

This draft permit contains Title I requirements that are derived from Construction Permit #08070005 as T1 conditions.

IV. COMPLIANCE INFORMATION

The source has certified compliance with all applicable statutes and regulations; therefore, a compliance schedule is not required for this source. A review of the latest inspection report, compliance certification, stack test and other deviation information has revealed no indication of compliance problems at the source. In addition, the draft permit requires the source to certify its compliance status on an annual basis.

V. PROPOSED ILLINOIS EPA ACTION/REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this source's permit application meets the standards for issuance of a CAAPP permit. The Illinois EPA is therefore proposing to issue a CAAPP permit, subject to the conditions proposed in the draft permit.

Comments are requested by the Illinois EPA for the draft or proposed permit, pursuant to 35 IAC Part 252 and Sections 39.5(8) and (9) of the Illinois Environmental Protection Act. A final decision on the draft or proposed permit will not be made until the public, affected states, and USEPA have had an opportunity to comment. The Illinois EPA is not required to accept recommendations that are inconsistent with applicable

requirements. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 IAC Part 166.

ATTACHMENT 1: Discussion of Applicable Emission Control Programs

The following table indicates the source-wide emissions control programs and planning requirements that are applicable to this source. These programs are addressed in Sections 5 and 6 of the draft permit.

Program/Plan	Applicable
Emissions Reduction Market System (ERMS)	NO
Nitrogen Oxides (NO _x) Trading Program	NO
Acid Rain Program	NO
Compliance Assurance Monitoring (CAM) Plan ¹	YES
Fugitive Particulate Matter (PM) Operating Program ²	YES
Risk Management Plan (RMP)	NO
PM ₁₀ Contingency Measure Plan	NO

- 1 Compliance Assurance Monitoring (CAM) is a program governing pollutant-specific emission units which use an add-on control devices to achieve compliance with an emission limitation or standard. A CAM plan is required for such units that have potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than major source threshold levels, and are not specifically exempt by 40 CFR Part 64. Subject units and the CAM plans are identified in Attachment 10.5 of the draft permit.

A CAM plan has been added to this permit for SO₂ and PM. See Attachment 10.5 of the permit.

- 2 The fugitive PM operating program is required to significantly reduce fugitive particulate matter emissions from certain affected locations and facilities (35 IAC Part 212.309 - 212.312). Normally, elements of this program include, but are not limited to, addressing normal traffic pattern roads, parking facilities and material piles and handling through the use of water, oils, or chemical dust suppressants.

Section 5.0 Significant Modifications to Permit

Condition 5.1.2 - Added this condition to recognize that the source will assume limits to avoid becoming a major source for HAP emissions.

Condition 5.2.7 - This condition was deleted because the source, as part of the negotiated resolution of the permit appeal, is now subject to the requirements of CAM.

Condition 5.5.1 - Revised permitted emissions of HAPs, not included in VOM or PM, from 78.6 tpy to 10.49 tpy, to ensure the source remains minor for HAP emissions.

Condition 5.5.2 - Emissions of HAPs from the source were limited to 9.0 tpy for each individual HAP and to 20.0 tpy for all HAPs combined. Coal usage limitations were added to ensure the source remains minor for HAP emissions.

Condition 5.6.1 - Revised condition to remove the reporting requirement for mercury emissions since the source is not a major source for HAP emissions and thus not regulated under 35 IAC Part 225.

Condition 5.6.2(b) - To minimize any perceived timing burdens on the source while printing electronic records, the Illinois EPA made the language more consistent with its original intent. The Condition clarifies that Permittee shall print any records requested by the Illinois EPA or USEPA; the timing of any record request will occur during an Illinois EPA or USEPA inspection.

Condition 5.6.2(d) - For additional clarity to required periodic monitoring, this condition was deleted in conjunction with modifications elsewhere to the permit, particularly Conditions 7.2.6(a), 7.2.8(a), 7.2.9(b) and 7.2.9(d). The permit still requires records listing all emission points or affected operations accompanied by a second list identifying the applicable control practice for each affected operation.

Condition 5.7.2 Deleted reference to specific HAPs in this condition because Part 254 only requires reporting of pollutants for which there is a corresponding regulation.

Section 6.0 Significant Modifications to Permit

Condition 6.0 - Added non-applicability statements to show the source is not subject to CAIR or 35 IAC Part 225.

ATTACHMENT 2: Summary of Requirements for Specific Emission Units

The following tables include information on the requirements that apply to significant emission units at this source. The requirements are found in Section 7 of the draft permit, which is further divided into subsections, i.e., Section 7.1, 7.2, etc., for the different categories of units at the source. A separate table is provided for each subsection in Section 7 of the draft permit. An explanation of acronyms and abbreviations is contained in Section 2 of the draft permit.

Table 1 (Section 7.1 of the draft permit)

Emission Unit - Boiler B1	
Description	278 mmBtu/hr coal fired boiler with distillate fuel oil as auxiliary
Date Constructed	1967
Emission Control Equipment	Multiclone and Wet Scrubber (scrubbant is river water)
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.123 - Opacity • 35 IAC 212.202 - Particulate Matter • 35 IAC 214.186 - Sulfur Dioxide • 35 IAC 216.121 - Carbon Monoxide
Streamlining	Not Applicable
Title I Conditions	<ul style="list-style-type: none"> • The draft permit contains limits on operation and emissions in Conditions 7.1.5 and 7.1.6. These limits were incorporated from Permit 08070005. See descriptions below.
Non-applicability	<ul style="list-style-type: none"> • See the permit. Condition 7.1.5.
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • PM, CO & SO₂ annually for the first three years and if compliance has been demonstrated all three years testing may occur once every three years unless non-compliance has been demonstrated. In that event, annual testing will again be required.
Operational Monitoring	<ul style="list-style-type: none"> • Combustion Evaluations semi-annually for CO. • Continuous monitoring of scrubber liquid flow rate and differential pressure across the scrubber. • When relying on the scrubber for SO₂ control, weekly monitoring of ph and temperature of the water scrubbant.
Inspections	Detailed inspections of the emission control systems every 15 months.
Recordkeeping	See the permit. Condition 7.1.9.

Emission Unit - Boiler B1	
Basis	<p>Periodic Monitoring is sufficient for this emission unit because:</p> <ul style="list-style-type: none"> • For PM & SO₂ - Presumed as the source is subject to CAM. • The source has a substantial margin of compliance. • Emissions do not vary significantly under normal operation and/or vary slowly with time. • Source has not exhibited a history of non-compliance. • Monitoring is consistent with other sources in this source category. • Reference attachment 4 for further discussion.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Immediate notification if the PM standard is exceeded, if the operating parameters are exceeded or if opacity is exceeded for longer than six consecutive six minute periods. • All other deviations must be reported within 30 days. See Attachment 3.

Significant Modifications to the Permit

Condition 7.1.1 - Added a description, consistent with Construction Permit 08070005, recognizing that the wet scrubber has an inherent capability to control SO₂ emissions and also added language to denote the informational nature of the source description. Similar changes have been made elsewhere to the permit where the permit was previously silent.

Condition 7.1.2 - Removed the low NO_x burners and over-fire-air controls from the description, as per the negotiated resolution of the permit appeal issue found at the paragraph 6 of original petition. The source voluntarily installed these devices for testing but ultimately removed them upon discovery that the techniques did not work as anticipated.

Condition 7.1.4(c) - Corrected the emission limit and corresponding citation error, as per the negotiated resolution of the permit appeal issue found at paragraph 7 of original petition. In absence of an application for an increase in the SO₂ limit and a demonstration that the NAAQS would not be exceeded, the source is subject to 35 IAC 214.186, 6.0 lbs/mmBtu.

Condition 7.1.5(e) - Added a non-applicability statement for 112(j) case-by-case determination regarding the vacated Boiler NESHAP (40 CFR 63, Subpart DDDDD). The source is minor for HAP, with coal usage limitations to ensure that HAP emissions remain below the major source thresholds, 10.0 tons/year for each individual HAP and 25.0 tons/year for all HAPs combined.

Condition 7.1.6(b) - Added a requirement for the Permittee to conduct detailed inspections of the wet scrubber. This was added to satisfy the requirement for periodic monitoring.

Condition 7.1.6(c) - This condition was directly incorporated from Construction Permit #08070005. This construction permit allowed the source to revise the actual heat input limit for purposes of 35 IAC 214.186 based on the determination that the wet scrubber inherently controls SO₂ emissions.

Condition 7.1.7(a) - Enhanced the frequency of stack test requirements, as per negotiated resolution of permit appeal issue found at paragraph 8 of the petition. This permit modified the stack testing requirements from a sliding scale based on margin of compliance to an annual basis, except that the Permittee may conduct testing less frequently not to exceed three years, if testing demonstrates consecutive compliance for each pollutant.

Condition 7.1.7(a)(ii)(c) - After reconsidering the legal merits of the issue raised in this and related appeals, the Agency eliminated the requirement to conduct USEPA Method 202 testing for condensable PM.

Condition 7.1.8(a), (b) & (c) - These conditions were directly incorporated from construction permit #08070005. This construction permit allowed the source to revise the actual heat input limit for purposes of 35 IAC 214.186 based on the determination that the wet scrubber inherently controls SO₂ emissions. Of note here, the current language in the draft permit is the same language as previously existed in the appealed permit. The only difference of significance is the value at which the frequency of sampling switches from monthly to weekly. That value, as per the negotiated resolution of the permit appeal issue found at paragraph 9 of original petition, changed from 2.7 lbs/mmBtu to 2.4 lbs/mmBtu. This condition was required for the source to take advantage of the wet scrubber for SO₂ control; and hence, the original CAAPP condition that was appealed did not change.

Condition 7.1.8(d) - Added Compliance Assurance Monitoring (CAM) requirements, as per the negotiated resolution of the permit appeal.

Condition 7.1.9(a)(iv)(C) & (D) - These conditions were incorporated directly from Construction Permit #08070005. This construction permit allowed the source to revise the actual heat input limit for purposes of 35 IAC 214.186 based on the determination that the wet scrubber inherently controls SO₂ emissions.

Condition 7.1.9(a)(vi) - Clarified that for purposes of recordkeeping, the Permittee need not generate a distinct operating log, but may maintain an 'operating or maintenance and repair record or other documentation. Similar changes have been made elsewhere in the permit where the permit previously employed the term 'log'.

Condition 7.1.9(a)(vii) - This condition was incorporated directly from Construction Permit #08070005. This construction permit allowed the source to revise the actual heat input limit for purposes of 35 IAC 214.186 based on the determination that the wet scrubber inherently controls SO₂ emissions. This particular condition requires the Permittee to maintain records detailing the mode of SO₂ compliance while the boiler was in operation.

Condition 7.1.9(b)(iii)(C), (D) and (E) - These conditions were incorporated directly from Construction Permit #08070005. This construction permit allowed the source to revise the actual heat input limit for purposes of 35 IAC 214.186 based on the determination that the wet scrubber inherently controls SO₂ emissions. This particular condition requires the Permittee to maintain additional records for the wet gas scrubber.

Condition 7.1.9(b)(iv) - An additional recordkeeping requirement was added to the permit, a description of the multiclones and the wet scrubber.

Condition 7.1.9(c)(ii) - Added recordkeeping provision to reflect incorporation of CAM requirements.

Condition 7.1.9(d) - These conditions were directly incorporated from Construction Permit #08070005. This construction permit allowed the source to revise the actual heat input limit for purposes of 35 IAC 214.186 based on the determination that the wet scrubber inherently controls SO₂ emissions. These particular conditions incorporated additional recordkeeping requirements related to SO₂ emissions.

Condition 7.1.9(e)(i) - Eliminated the requirement to maintain records of PM emissions during typical startup given this information has been previously supplied by the Permittee to the Illinois EPA in its initial CAAPP application

Condition 7.1.9(e)(ii) - The requirement to maintain records from the initial firing of auxiliary fuel to achievement of stable operation has been substituted with the initial firing of principal fuel to achievement of stable operation. The Agency obtained additional information from the source to further its understanding of the appropriate definition of startup. Once a clear understanding was established it made more sense for the Agency to define startup in terms of the initial firing of principal fuel rather than the initial firing of auxiliary fuel. This is because the firing of primary fuel results in excess emissions while the firing of auxiliary fuel does not. These changes made the definition of startup consistent with the duration (i.e., hours) established in the appealed permit.

Condition 7.1.9(e)(ii)(c)(iv) - Clarification that the Agency is seeking a qualitative analysis based on the experience of the combustion expert rather than a detailed quantitative analysis. Similar changes have been made elsewhere in the permit where the permit previously employed the phrase "estimates of magnitude".

Condition 7.1.10-2(a)(i)(e) - Eliminated requirement to submit certain records identifying date and time the upper bound was exceeded given the permit now incorporates CAM.

Condition 7.1.10-2(a)(iii) - Clarified that supplemental material describing previous incidents may be submitted in quarterly reports.

Condition 7.1.10-2(c)(i) - Clarified the Permittee's obligation to submit monitoring reports that do not address the upper bound given the permit now incorporates CAM.

Condition 7.1.10-2(c)(ii) and (d) - Incorporated CAM reporting requirements; eliminated duplicate reporting requirements.

Condition 7.1.10-3(a)(i) - Eliminated requirement to report parameters of the wet scrubber outside of the upper bound due to insertion of CAM requirements.

Condition 7.1.11(c)(ii) - Certified that the source is allowed to employ other agricultural seed as a permitted alternative fuel, in addition to an existing practice of using off-specification corn seed. Agricultural seed is broadly defined under state law, (e.g. 505 ILCS 110/2.102) and the various seed types are recognized as having similar genetic characteristics. Given the homogenous nature of agricultural seed, together with the consistency in combustion properties associated with the various seed types, the condition is modified to authorize the use of grass seed, soybean seed or other agricultural seed as permitted alternative fuels.

Condition 7.1.11(d) - Deleted the Petroleum Coke Demonstration Project as per the negotiated resolution of the permit appeal issue found at the paragraph 11 of the original petition, because the source never went forward with the demonstration and does not have any plans to implement it in the future.

Condition 7.1.12(b) - As per the negotiated resolution of the permit appeal issue found at paragraph 12 of the original petition these conditions were directly incorporated from Construction Permit #08070005. This construction permit allowed the source to revise the actual heat input limit for purposes of 35 IAC 214.186 based on the determination that the wet gas scrubber inherently controls SO₂ emissions. This particular condition sets forth the alternative compliance procedures for the SO₂ emission limit.

Compliance assurance monitoring requirements were added to this permit in Attachment 5. Indicator, scrubber, liquid flow and indicator, pressure differential across the scrubber, seek to ensure compliance with the SO₂ and PM limit, respectively for Boiler B1.

Table 2 (Section 7.2 of the draft permit)

Emission Unit - Coal Handling Equipment	
Description	Truck unloading, coal transfer conveyors, coal storage piles and bunkers.
Emission Control Equipment	Moisture content of the coal and enclosures.
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.123 - Opacity • 35 IAC 212.301 - Fugitive Opacity
Streamlining	Not Applicable
Title I Conditions	None.
Non-applicability	<ul style="list-style-type: none"> • See the permit. Condition 7.2.5.
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • Opacity using Method 22 annually.
Inspections	Detailed inspections of the emission control systems monthly.
Recordkeeping	See the permit. Condition 7.2.9.
Basis	<p>Periodic Monitoring is sufficient for this emission unit because:</p> <ul style="list-style-type: none"> • The source has a substantial margin of compliance. • Source has not exhibited a history of non-compliance. • Monitoring is consistent with other sources in this source category. • Reference attachment 4 for further discussion.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Immediate notification if the opacity limit is exceeded for longer than two consecutive six minute periods. • All other deviations must be reported within 30 days. See Attachment 3.

Significant Modifications to the Permit

Condition 7.2.6 - As previously discussed in conjunction with the deletion of 5.6.2(d), this condition was revised to further clarify what constitutes an "established" control measure.

Condition 7.2.8(a) - As previously discussed in conjunction with the deletion of 5.6.2(d), this condition eliminated the reference to "associated control measures". This deletion was necessary to be consistent with the new terminology employed in Condition 7.2.6(a), "established control measures".

Similar changes have been made elsewhere to the permit where the permit references the phrase "associated control measures".

Condition 7.2.8(a) - Clarified that supervisory personnel or management shall certify inspections to confirm compliance with applicable requirements.

Condition 7.2.9(b) - As previously discussed in conjunction with the deletion of 5.6.2(d), this condition was revised to reflect the earlier definition of "established" control measure and to require the submittal of related records to the Illinois EPA.

Condition 7.2.9(d)(i)(D) - This condition was deleted in order to avoid redundancy with Condition 7.2.9(b).

Table 3 (Section 7.3 of the draft permit)

Emission Unit - Coal Processing Equipment	
Description	Crusher house and Coal Mills A and B
Emission Control Equipment	Enclosures and covers.
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.123 - Opacity • 35 IAC 212.301 - Fugitive Opacity • 35 IAC 212.322 - Particulate Matter
Streamlining	Not Applicable
Title I Conditions	None
Non-applicability	<ul style="list-style-type: none"> • See the permit. Condition 7.3.5.
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • Opacity using Method 22 annually.
Inspections	Detailed inspections of the emission control systems monthly.
Recordkeeping	See the permit. Condition 7.3.9.
Basis	<p>Periodic Monitoring is sufficient for this emission unit because:</p> <ul style="list-style-type: none"> • The source has a substantial margin of compliance. • Source has not exhibited a history of non-compliance. • Monitoring is consistent with other sources in this source category. • Reference attachment 4 for further discussion.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Immediate notification if the opacity limit is exceeded for longer than two consecutive six minute periods. • All other deviations must be reported within 30 days. See attachment 3.

Significant Modifications to the Permit

Condition 7.3.7(b) - Given no stacks or vents exist on the coal processing equipment, the Illinois EPA deleted the requirement to conduct PM testing at the stacks or vents of coal processing equipment.

Condition 7.3.8(a) - Clarified that supervisory personnel or management shall certify inspections to confirm compliance with applicable requirements.

Condition 7.3.9(a)(ii) and 7.3.9(d) - For additional clarification and to remove redundancy, merged the recordkeeping requirements of Condition 7.3.9(d) into Condition 7.3.9(a)(ii).

Condition 7.3.9(b)(iii) - As previously discussed in conjunction with deletion of Condition 5.6.2(d), the reference was changed from Condition 5.6.2(d) to Condition 7.2.9(b)(i).

Table 4 (Section 7.4 of the draft permit)

Emission Unit - Fly Ash Equipment	
Description	Ash Transfer, Storage Silo and Loadout
Emission Control Equipment	Baghouse.
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.123 - Opacity • 35 IAC 212.301 - Fugitive Opacity • 35 IAC 212.321 - Particulate Matter
Streamlining	Not Applicable
Title I Conditions	None.
Non-applicability	<ul style="list-style-type: none"> • See the permit. Condition 7.4.5.
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • Opacity using Method 22 annually.
Inspections	Detailed inspections of the emission control systems bi-weekly.
Recordkeeping	See the permit. Condition 7.4.9.
Basis	<p>Periodic Monitoring is sufficient for this emission unit because:</p> <ul style="list-style-type: none"> • Source has not exhibited a history of non-compliance. • Monitoring is consistent with other sources in this source category. • Reference attachment 4 for further discussion.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Immediate notification if the opacity limit is exceeded for longer than two consecutive six minute periods. • All other deviations must be reported within 30 days. See attachment 3.

Significant Modifications to the Permit

Condition 7.4.8(a) - Clarified that supervisory personnel or management shall certify inspections to confirm compliance with applicable requirements.

Condition 7.4.8(b) - Detailed inspections of the dust collection equipment at fly ash handling equipment shall now be performed at least once every fifteen months. This change was made to coordinate the inspections with the source's anticipated maintenance schedule.

Condition 7.4.9(a)(ii) and 7.4.9(d) - For additional clarification and to remove redundancy, merged the recordkeeping requirements of Condition 7.4.9(d) into 7.4.9(a)(ii).

Condition 7.4.9(b)(iii) - As previously discussed in conjunction with the deletion of Condition 5.6.2(d), the reference was changed from 5.6.2(d) to 7.2.9(b)(i).

Table 5 (Section 7.5 of the draft permit)

Emission Unit - Lime Handling Equipment	
Description	Lime Receiving and Storage Silo
Emission Control Equipment	Baghouse. BGH 2
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.123 - Opacity • 35 IAC 212.301 - Fugitive Opacity • 35 IAC 212.321 - Particulate Matter
Streamlining	Not Applicable
Title I Conditions	None.
Non-applicability	<ul style="list-style-type: none"> • See the permit. Condition 7.5.5.
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • Opacity using Method 22 every 18 months.
Inspections	Detailed inspections of the emission control systems every 6 months.
Recordkeeping	See the permit. Condition 7.5.9.
Basis	<p>Periodic Monitoring is sufficient for this emission unit because:</p> <ul style="list-style-type: none"> • Emissions do not vary significantly under normal operation. • Source has not exhibited a history of non-compliance. • Monitoring is consistent with other sources in this source category. • Reference attachment 4 for further discussion.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Immediate notification if the opacity limit is exceeded for longer than two consecutive six minute periods. • All other deviations must be reported within 30 days. See attachment 3.

Significant Modifications to the Permit

Condition 7.5.8(a) - Clarified that supervisory personnel or management shall certify inspections to confirm compliance with applicable requirements.

Condition 7.5.9(a)(ii) - Deleted requirement to maintain records of operations during a malfunction or breakdown given Permittee has not requested and thus, has not received malfunction or breakdown authorization for lime handling equipment.

Condition 7.5.9(b)(iii) - As previously discussed in conjunction with deletion of Condition 5.6.2(d), the reference was changed from Condition 5.6.2(d) to Condition 7.2.9(b)(i).

Table 6 (Section 7.6 of the draft permit)

Emission Unit - Combustion Turbine	
Description	Distillate Oil Fired Turbine Nominal 273 mmBtu/hr
Emission Control Equipment	None.
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.123 - Opacity • 35 IAC 214.301 - Sulfur Dioxide
Streamlining	Not Applicable
Title I Conditions	None.
Non-applicability	<ul style="list-style-type: none"> • See the permit. Condition 7.6.5.
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • Opacity using Method 22 every 1000 hours of operation.
Operational Monitoring	<ul style="list-style-type: none"> • Fuel Oil Sampling for sulfur content for each shipment of distillate fuel oil.
Recordkeeping	See the permit. Condition 7.6.9.
Basis	<p>Periodic Monitoring is sufficient for this emission unit because:</p> <ul style="list-style-type: none"> • The source has a substantial margin of compliance. • Source has not exhibited a history of non-compliance. • Monitoring is consistent with other sources in this source category. • Reference attachment 4 for further discussion.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Immediate notification if the opacity is exceeded for longer than three consecutive six minute periods. • All other deviations must be reported within 30 days. See attachment 3.

Significant Modifications to the Permit

Any changes made to Section 7.6 have been explained previously in this Project Summary.

Table 7 (Section 7.7 of the draft permit)

Emission Unit - Heating Boiler	
Description	Distillate Oil-Fired Fired Boiler Nominal 3.5 mmBtu/hr
Emission Control Equipment	None.
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.123 - Opacity • 35 IAC 212.206 - Particulate Matter • 35 IAC 214.161 - Sulfur Dioxide
Streamlining	Not Applicable
Title I Conditions	None.
Non-applicability	<ul style="list-style-type: none"> • See the permit. Condition 7.7.5.
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • USEPA Method 9 upon request.
Operational Monitoring	<ul style="list-style-type: none"> • Combustion Evaluations for each year the boiler operates longer than 100 hours for CO. • Fuel Oil Sampling for sulfur content for each shipment of distillate fuel oil.
Recordkeeping	See the permit. Condition 7.7.9.
Basis	<p>Periodic Monitoring is sufficient for this emission unit because:</p> <ul style="list-style-type: none"> • The source has a substantial margin of compliance. • Emissions do not vary significantly under normal operation and/or vary slowly with time. • Source has not exhibited a history of non-compliance. • Monitoring is consistent with other sources in this source category. • Reference attachment 4 for further discussion.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Immediate notification if the opacity is exceeded for longer than four consecutive six minute periods. • All other deviations must be reported within 30 days. See attachment 3.

Significant Modifications to the Permit

Any changes made to Section 7.7 have been explained previously in this Project Summary.

ATTACHMENT 3: Prompt Reporting of Deviations

Prompt reporting of deviations is critical in order to have timely notice of deviations and the opportunity to respond, if necessary. The effectiveness of the permit depends upon, among other important elements, timely and accurate reporting. The Illinois EPA, USEPA and the public rely on timely and accurate reports submitted by the Permittee to measure compliance and to direct investigation and follow-up activities. Prompt reporting is evidence of a Permittee's good faith in disclosing deviations and describing the steps taken to return to compliance and prevent similar incidents.

Any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in this CAAPP permit is a deviation subject to prompt reporting. Additionally, any failure to comply with any permit term or condition is a deviation of that permit term or condition and must be reported to the Illinois EPA as a permit deviation. The deviation may or may not be a violation of an emission limitation or standard. A permit deviation can exist even though other indicators of compliance suggest that no emissions violation or exceedance has occurred. Reporting permit deviations does not necessarily result in enforcement action. The Illinois EPA has the discretion to take enforcement action for permit deviations that may or may not constitute an emission limitation or standard or the like, as necessary and appropriate.

Section 39.5(7)(f)(ii) of the Illinois Environmental Protection Act, which mirrors 40 CFR 70.6(a)(3)(iii)(B), requires prompt reporting of deviations from the permit requirements. The permitting authority (in this case, Illinois EPA) has the discretion to define "prompt" in relation to the degree and type of deviation likely to occur. Furthermore, Section 39.5(7)(f)(i) of the Illinois Environmental Protection Act, which mirrors 40 CFR 70.6(a)(3)(iii)(A) requires that monitoring reports must be submitted at least every 6 months. Therefore, USEPA generally considers anything less than 6 months to be "prompt" as long as the selected time frame is justified appropriately (60 Fed. Reg. 36083, 36086 (July 13, 1995)).

The USEPA has stated that, for purposes of administrative efficiency and clarity, it is acceptable to define prompt in each individual permit. The Illinois EPA has elected to follow this approach and defines prompt reporting on a permit by permit basis. In instances where the underlying applicable requirement contains "prompt" reporting, this frequency or a shorter frequency of reporting is the required timeframe used in this permit. Where the underlying applicable requirement fails to explicitly set forth the timeframe for reporting deviations, the Illinois EPA has developed a structured manner to determine the reporting approach used in this permit.

The Illinois EPA generally uses a time frame of 30 days to define prompt reporting of most deviations. Also, for certain permit conditions in individual permits, the Illinois EPA may require an alternate timeframe that is less than 30 days if the permit requirement justifies a shorter reporting time period. Under certain circumstances, EPA may establish a deviation reporting period longer than 30 days, but, in no event exceeding 6 months. Where it has established a deviation reporting period other than 30 days in an individual permit (specifically Section 7.x.10), the Illinois EPA has explained the reason for the alternative timeframe. (See Attachment 2 of this Project Summary.)

The timing for certain deviation reporting may be different when a source or emission unit at a source warrants reporting to address operation, independent of the occurrence of any deviations. This is the case for a source that is required to perform continuous monitoring for the emission unit, for which quarterly or semi-annual "monitoring" reports are appropriate. Where appropriate, reporting of deviations has generally been combined in, or coordinated with these quarterly or semi-annual reports, so that the overall performance of the plant can be reviewed in a comprehensive fashion. This will allow a more effective and efficient review of the overall performance of the source by the Illinois EPA and other interested parties, as well as by the source itself.

At the same time, there are certain deviations for which quicker reporting is appropriate. These are deviations for which individual attention or concern may be warranted by the Illinois EPA, USEPA, and other interested parties. Under this scenario, emphasis has been placed primarily on deviations that could represent substantial violations of applicable emission standards or lapses in control measures at the source. For these purposes, depending on the deviation, immediate notification may be required and preceded by a follow-up report submitted within 15 days, during which time the source may further assess the deviation and prepare its detailed plan of corrective action.

In determining the timeframe for prompt reporting, the Illinois EPA assesses a variety of criteria such as:

- historical ability to remain in continued compliance,
- level of public interest in a specific pollutant and/or source,
- seriousness of the deviation and potential to cause harm,
- importance of applicable requirement to achieving environmental goals,
- designation of the area (i.e., non-attainment or attainment),
- consistency among industry type and category,
- frequency of required continuous monitoring reports (i.e., quarterly),
- type of monitoring (inspection, emissions, operational, etc.), and
- air pollution control device type and operation

These prompt reporting decisions reflect the Illinois EPA's consideration of the possible nature of deviations by different emission units and the responses that might be required or taken for those different types of deviations. As a consequence, the conditions for different emission units may identify types of deviations which include but are not limited to: 1) Immediate (or very quick) notification; 2) Notification within 30 days as the standard; or 3) Notification with regular quarterly or semi-annual monitoring reports.

The Illinois EPA's decision to use the above stated prompt reporting approach for deviations as it pertains to establishing a shorter timeframe in certain circumstances reflects the criteria discussed as well as USEPA guidance on the topic.

- 40 CFR 71.6(a)(3)(iii)(B) specifies that certain potentially serious deviations must be reported within 24 or 48 hours, but provides for semi-annual reporting of other deviations. (Serious or severe consequences)
- FR Vol. 60, No. 134, July 13, 1995, pg. 36086 states that prompt should generally be defined as requiring reporting within two to ten days of the

deviation, but longer time periods may be acceptable for a source with a low level of excess emissions. (intermediate consequences)

- Policy Statement typically referred to as the "Audit Policy" published by the USEPA defines prompt disclosure to be within 21 days of discovery. (Standard for most "pollutant limiting" related conditions)
- Responses to various States by USEPA regarding other States' definition of prompt.

As a result, the Illinois EPA's approach to prompt reporting for deviations as discussed herein is consistent with the requirements of 39.5(7)(f)(ii) of the Act as well as 40 CFR part 70 and the CAA. This reporting arrangement is designed so that the source will appropriately notify the Illinois EPA of those events that might warrant individual attention. The timing for these event-specific notifications is necessary and appropriate as it gives the source enough time to conduct a thorough investigation into the causes of an event, collecting any necessary data, and to develop preventative measures, to reduce the likelihood of similar events, all of which must be addressed in the notification for the deviation.

ATTACHMENT 4: Periodic Monitoring Discussion

The Illinois EPA must evaluate whether sufficient monitoring is contained in each source's CAAPP permit to assure compliance with regulations developed to meet Clean Air Act requirements. Under the CAAPP permit program, periodic monitoring is required for each emission point at a source subject to Clean Air Act requirements. No emission points are categorically exempt from this requirement.

Significant benefits of Title V include compliance assurance and public access to data. Periodic monitoring provides data sources can use to promptly identify and correct compliance problems and to certify compliance. This data is also reported to the Illinois EPA and available to the USEPA and to the public. Periodic monitoring provides information and compliance tools to the public that may not otherwise always be available under state law.

USEPA has not mandated specific monitoring or protocols for developing monitoring to meet the above requirements. Periodic monitoring determinations are therefore made on a case-by-case basis. Because of the case-by-case nature of periodic monitoring determinations, it is important that the determinations are made consistent with Section 39.5 of the Act.

What is Periodic Monitoring?

In addition to gathering all requirements that apply to a source into one document, the CAAPP permit is meant to enable the public, USEPA, and the Illinois EPA to know whether the source can comply with those requirements. To achieve that goal, every CAAPP permit must include adequate "periodic monitoring." What this means is that the CAAPP permit must require the source to perform monitoring, recordkeeping and reporting so that it can assure the Illinois EPA, USEPA and the public that it is complying with its CAAPP permit or that it is identifying, reporting and addressing non-compliance. Ensuring that a CAAPP permit includes adequate periodic monitoring is the most important aspect of permit development.

Monitoring is a broad term that describes a source's ongoing activities to determine how it is operating in relation to its emission limitations and standards. Monitoring provisions must be set forth in the permit. The monitoring must be done at the source's initiative and a requirement to prepare or maintain a "monitoring plan" is not enough. Inspections by the Illinois EPA are also not sufficient.

The most obvious type of pollution monitoring is the direct measurement of smokestack emissions. Sometimes, a source is equipped with continuous emissions monitoring systems (CEMS) or continuous opacity monitoring systems (COMS). As their name implies, these systems are designed to directly measure smokestack emissions on a continuous basis. While continuous monitoring is one of the best ways to assure sources are in compliance with an emission limitation, installation of CEMS and COMS may be technically or economically infeasible compared to frequent manual monitoring. If a source has CEMS and COMS, these systems are identified in the source's CAAPP permit. If a source lacks CEMS and COMS, the source may be required to install these systems. However, the Illinois EPA may decide that some other type of monitoring is sufficient to assure the source's compliance with applicable requirements.

Periodic monitoring must be included with all types of permit conditions, not just those that directly limit pollution levels. For example, a CAAPP permit is likely to include conditions that require equipment maintenance and work practices. For these types of conditions, recordkeeping, and inspections is usually necessary to satisfy the periodic monitoring requirement. Monitoring includes activities such as:

- Continuous Emission Monitoring Systems (CEMS)
- Continuous Opacity Monitoring Systems (COMS)
- Parametric Emissions Monitoring (PEMS)
- Parametric Monitoring (continuous or at specified intervals)
- Periodic Source Testing
- Readings/Inspections
- Recordkeeping

Periodic Monitoring, a term used in 39.5(7)(d)(ii) of the Act, describes the combination of monitoring required by the applicable requirements and monitoring created in the CAAPP permit as necessary to meet the CAA requirement that the permit that assure compliance with the applicable requirements. Periodic monitoring is required because some applicable requirements do not contain adequate provisions for determining whether a source is in compliance with its emissions limitations or how this is to be accomplished.

In addition to the requirement for periodic monitoring, permits must contain "conditions as are necessary to assure compliance." This requirement is reflected in 39.5(7)(d)(ii) of the Act, which requires "monitoring sufficient to yield reliable data from the relevant time period that are representative of the sources compliance" and 39.5(7)(a) of the Act, which requires all CAAPP permits to contain "testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit."

If the permit contains good periodic monitoring, the source can most certainly be held accountable if it violates applicable air quality requirements. Without adequate periodic monitoring, it may be more difficult for the Illinois EPA, USEPA and a member of the public to determine whether a source is violating an air quality requirement. Also, good periodic monitoring will provide the source with information necessary to identify and minimize compliance problems and assist the source with the annual certification of compliance.

When is Periodic Monitoring Presumed in a Rule?

Sometimes, the underlying statute or regulation explicitly requires a source to perform a particular kind of monitoring. Any monitoring that is specifically required by statute or regulation must be included in the CAAPP permit. However, many air quality statutes and regulations do not identify a monitoring method. And, even when a monitoring method is specified, there is often no indication of how often the monitoring must be performed. Many statutes and regulations require a source to perform an initial test to demonstrate compliance, but never require any additional monitoring.

Periodic monitoring is not required unless the applicable requirement "requires no periodic testing, specifies no frequency, or requires only a one-time test."

If the underlying State or federal standard requires a source to perform a specific type of testing or monitoring from time to time (yearly, monthly, weekly, daily, hourly), then this satisfies the periodic monitoring requirement of 40 CFR 70.6(a)(3)(i)(B). If an underlying requirement (1) has no periodic testing or monitoring, (2) does not mention how frequently testing or monitoring should be done, or (3) requires just a one-time test, then periodic monitoring is added to the CAAPP permit. The basic types of scenarios that are presumed to already contain sufficient monitoring requirements are those such as:

- NSPS and NESHAP promulgated after November 15, 1990
- When the Pollutant Specific Emission Unit is subject to a CAM Plan
- Federal or SIP standards specifying a continuous compliance determination method
- Acid Rain/CAIR/CAMR rules

What is the Process for Evaluating Periodic Monitoring?

In evaluating periodic monitoring, Illinois EPA determines whether a source's applicable requirements already contain adequate monitoring, and, if not, identifies additional necessary monitoring after consideration of certain factors. Review each applicable requirement emission limit or standard to determine what monitoring, recordkeeping and reporting (MRR) is associated with the emission limit. Note that periodic monitoring is only required if there is an applicable emission limit or standard. The term emission limit includes mass, rate and concentration limits, technology requirements, percent reduction requirements, work practice standards, process or control device parameters, and design, operational, or maintenance requirements. Determine whether the monitoring yields reliable data from the relevant time period that are representative of the source's compliance, and will assure compliance with the emissions limit or standard. Even if the MRR is not presumptively acceptable, it may still be acceptable. If the monitoring is not adequate to assure compliance, monitoring must be added to the permit. There are often various monitoring options that would satisfy the periodic monitoring requirement.

The frequency and averaging period of the emission limit of the monitoring must be made clear (periodic = e.g., hourly, daily, annual, etc.). When the emission limit has no time element (e.g., 0.5 grains/dscf), the relevant time period is the time needed to conduct an emission test. The relevant time period can be instantaneous as well (e.g., no holes or cracks in a lid for any amount of time). The data collected should provide for a reasonable assessment of the sources compliance status with permit emission limits.

Factors Considered in Evaluating Periodic Monitoring

- Likelihood of violating an applicable requirement. (Margin of compliance with the applicable requirement)
- Presence of add-on controls to comply with underlying rules. (If controls are required, consider whether the controls will assure compliance with the emission limit. If so, the best option may be to monitor the control equipment for proper operation instead of or in addition to the process.)
- Variability of emission level over time. (Consider how close a unit's emissions are to the emission limits during normal and anticipated upset operations.)

- Consider how emissions may vary. (Emissions may vary day to day under normal operation, e.g., as a turbine or engine increases or decreases load emissions change. Emissions may vary slowly over time, e.g., SCR catalyst may degrade over time. Emissions may vary quickly due to malfunction, e.g., a baghouse bag may break.)
- Monitoring data already available. (The source often maintains monitoring, process, maintenance, or control equipment data of emission units even if not required under an applicable requirement. Consider whether these activities would assure compliance; if so, they may be the best fit monitoring option for that source.)
- Technical and economic feasibility
- Monitoring done for similar emission Units/Emissions. (Existing CAAPP and construction permits, Federal, State and Local rules, CAM Guidelines Document)
- Will the monitoring method yield reliable data with respect to the emission limit?
- Will the monitoring method provide data that can be related to the relevant time period over which compliance with the emission limit is determined?
- Will the monitoring data be collected at a frequency that will provide information that is representative of the sources compliance with the permit?
- Is the monitoring condition written in a way that is practically enforceable? (Practical Enforceability involves ensuring that the following items are present: Frequency of monitoring, Data averaging period, Procedures for checking data validity, Minimum period of data availability, Recordkeeping, Prompt deviation and summary reports)

What is the Periodic Monitoring Criterion?

Compliance Assurance Monitoring that assures compliance is designed to:

- Monitor key parameters which determine compliance
- Be done at a frequency consistent with the likely variability of emissions and margin of compliance
- Detect deviations within specific timeframes (provide information to operator to correct problems promptly)
- Provide information that the Illinois EPA, USEPA and the public could use for enforcement

Margin of compliance: Amount of monitoring varies based on how a unit is operating with respect to emission limits (x% of emission limit); less monitoring if there is a comfortable margin of compliance. In determining margin of compliance, consider accuracy of emission estimation method - less monitoring if reliable emission factors exist. Consider reference method accuracy range. AP-42 or other emission factor accuracy, e.g., rating and range of emission factor.

Consider existence of control equipment and variability:

- Look at emissions over time under normal/upset conditions (within an individual unit)
- More variability more monitoring; less variability less monitoring. Variability within margin of compliance is acceptable.

- Also consider variability within a source category.
- Equipment failure or degradation.

Source size: Vary monitoring based on unit size as a lb/day or ton/year threshold based on potential uncontrolled emissions, e.g., more monitoring if uncontrolled emissions exceed major source threshold.

Burden/Cost to Permittee: Cost of equipment, personnel (training, time spent on job, etc), administrative costs (e.g., time and expense of MRR), burden on agency (i.e., inspections, record review), reasonableness (does it make sense?), time to implement condition, technical feasibility of monitoring and test methods (e.g., stack testing of fugitive emissions), existing burden for monitoring.

Consistency: Consistency means monitoring may be different but consistently meets the established criteria. Consistency is important between similar or identical sources, e.g., with regard to size, source emission unit category, types of emissions and emission limits.

Historical capability to demonstrate compliance: A source that has a history of violating emission limitations is likely to be required more frequent monitoring than a source that has a strong record of compliance.

Step Description

Preliminary investigation. The first step toward establishing appropriate monitoring is to identify the need for additional monitoring for the emitting processes or applicable requirements at this point.

Brainstorm possible MRR types. Next, brainstorm potential monitoring proposals. Ideas for monitoring proposals may come from experience, from the source, be developed by applying technologies used for similar source categories, or they may be innovative.

Choose MRR method and frequency. Choose the most appropriate monitoring method and frequency. Some of the criteria, such as technical feasibility and data necessary to determine compliance on an ongoing basis will be mandatory. A monitoring method that is not technologically feasible, or that will not provide necessary data cannot be chosen. For other criteria such as cost and consistency, there is not the mandatory element. The relative merits of each option with respect the criteria must be considered. Keep in mind that periodic monitoring can include a mix of monitoring techniques. For example, a sources permit might require daily or weekly inspections of pollution control equipment in addition to a stack test every few months or years.

Also, instead of requiring a source to monitor emissions coming from its smokestack, a permit might allow a source to monitor some other aspect of its operations instead. This type of monitoring is called "surrogate" (e.g., substitute) monitoring. Surrogate monitoring is allowed when (1) monitoring of actual emissions is technically or economically infeasible and/or impractical, and (2) surrogate monitoring is adequate to assure compliance with the underlying applicable requirement. The CAA "does not prohibit the use of an appropriate surrogate pollutant for individual species to confirm compliance. "A surrogate may be used to regulate pollutants if it is 'reasonable' to do so. "A surrogate may attribute characteristics of a subclass of substances to an

entire class of substances if doing so is scientifically reasonable"; (NRDC v. EPA, 822 F.2d 104, 125 (D.C. Cir. 1987))

A three part analysis is generally used for determining whether the use of a surrogate is reasonable: (1) "the emissions are invariably present or characterized by the surrogate (i.e., demonstrate and quantify a consistent correlation between PM stack emissions and their HAP metal content)," (2) "the control technology indiscriminately captures the target pollutant along with the surrogate or characterizes the effect on the target pollutant;" and (3) "the only means by which facilities 'achieve' reductions in the target pollutant." If these criteria are satisfied then the surrogate may be considered given the potential impact upon emissions." A surrogate is not a reasonable surrogate where other factors (for instance, the HAP content of a raw material affects HAP metal emissions.)" play a role in the reduction of emissions in the target pollutant (for instance, "PM might not be an appropriate surrogate for HAP metals if switching fuels would decrease HAP metal emissions without causing a corresponding reduction in total PM emissions.") The use of a surrogate "eliminates the cost of performance testing to comply with numerous standards for individual species." 64 Fed. Reg. at 31,916/3.

Conclusions

Where the periodic monitoring does not fall within one of the below categories for the basic periodic monitoring established in the majority of the permits, further explanation is provided in the emission unit specific section of this Statement of Basis (Project Summary). Each emission unit specific section in this Project Summary has a section that is identified as "Justification for Periodic Monitoring" that will give the basis for the type of periodic monitoring described in the tables. Based upon the information provided in the above discussion and analysis that is performed to evaluate periodic monitoring, the results generally fall into a set of specific categories as follows:

1. Work practice standards are generally assured through the use of periodic inspections and the frequency is established based on the emission unit size, capability to comply, historical compliance and margin of compliance.
2. Production limits are generally assured through the use of recordkeeping for the specific raw material or finished product.
3. Emission limits are generally assured by means of a couple different methodologies (the choice of methodology is based on the evaluation of the factors described above):
 - a. Performance testing on a set frequency based on the factors identified above,
 - b. Emission factors/engineering calculations based on specific recordkeeping requirements that are representative of the scientific units for which the emission factor/calculation is based,
 - c. Surrogate monitoring such as fuel sampling or raw material testing.

4. Control requirements are generally assured through the use of establishing operating parameters to be monitored that ensure proper functioning of the control device and are representative of the operation.

The mechanism by which the data is collected is also generally established such as a specific reference method (i.e., Method 9 or Method 311) or generally accepted test procedure such as an ASTM or ANSI test method. It also generally will identify the type of monitoring such as pressure sensor, thermocouple or flow gauge. The relevant timeframe is generally established by looking to the likelihood of an exceedance, the margin of compliance and historical capability to comply with a particular standard. These timeframes generally fall into specific slots when a CEM or COM is not available and can be hourly, daily, weekly, monthly or annual. The averaging periods are generally a rolling average commensurate with the monitoring frequency and the established limit.

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