Statement of Basis

for the DRAFT CAAPP Permit for:

Source Name:

University of Chicago

Statement of Basis No.:	95080059-1212
I.D. No.:	031600FLT
Permit No.:	95080059
Date Prepared:	September 3, 2013

Permitting Authority:

Illinois Environmental Protection Agency
Bureau of Air, Permit Section
217/785-1705

This Statement of Basis is being provided to USEPA and any interested parties as required by Section 39.5(8)(b) of the Illinois Environmental Protection Act.

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PREFACE

Reason For This Document

This document is a requirement of the permitting authority in accordance with 502(a) of the Clean Air Act, 40 CFR 70.7(a)(5), and Section 39.5(8)(b) of the Illinois Environmental Protection Act. Section 39.5(8)(b) of the Illinois Environmental Protection Act states the following:

> "The Agency shall prepare a …… statement that sets forth the legal and factual basis for the Draft CAAPP permit conditions, including references to the applicable statutory or regulatory provisions."

Purpose Of This Document

The purpose of this Statement of Basis is to provide discussion regarding the development of this Draft CAAPP Permit. This document would also provide the permitting authority, the public, the source, and the USEPA with the applicability and technical matters that form the basis of the Draft CAAPP Permit.

Summary Of Historical Actions Leading Up To Today's Permitting Action

Since the last Renewal CAAPP Permit issued on February 9, 2004, the source has not been issued any modifications or amendments.

Limitations

This Statement of Basis is not enforceable and only sets forth the legal and factual basis for the Draft CAAPP Permit Conditions (Chapters I and II). Chapter III contains supplemental material that would assist in educating interested parties about this source and the Draft CAAPP Permit. The Statement of Basis does not shield the source from enforcement actions or its responsibility to comply with existing or future applicable regulations. Nor does the Statement of Basis constitute a defense to a violation of the Federal Clean Air Act or the Illinois Environmental Protection Act including implementing regulations.

This document does not purport to establish policy or guidance.

INTRODUCTION

The Clean Air Act Permit Program (CAAPP) is the operating permit program established in Illinois for major stationary sources as required by Title V of the federal Clean Air Act and Section 39.5 of the Illinois Environmental Protection Act. The Title V Permit Program (CAAPP) is the primary mechanism to apply the various air pollution control requirements established by the Clean Air Act to major sources, defined in accordance with Title V of the Clean Air Act. The Draft CAAPP Permit contains conditions identifying the state and federal applicable requirements that apply to the source. The Draft CAAPP Permit also establishes the necessary monitoring and compliance demonstrations. The source must implement this monitoring to demonstrate that the source is operating in accordance with the applicable requirements of the permit. The Draft CAAPP Permit identifies all applicable requirements for the various emission units as well as establishes detailed provisions for testing, monitoring, recordkeeping, and reporting to demonstrate compliance with the Clean Air Act. Further explanations of the specific provisions of the Draft CAAPP Permit are contained in the following Chapters of this Statement of Basis.

In addition, the Illinois EPA has committed substantial resources and effort in the development of an acceptable Statement of Basis (this document) that would meet the expectations of USEPA, Region 5. As a result, this document contains discussions that address applicability determinations, periodic monitoring, streamlining, prompt reporting, and SSM authorizations (as necessary). These discussions involve, where necessary, a brief description and justification for the resulting conditions and terms in this Draft CAAPP Permit. This document begins by discussing the legal basis for the contents of the Draft CAAPP Permit, moves into the factual description of the permit, and ends with supplemental information that has been provided to further assist with the understanding of the background and genesis of the permit content.

It is Illinois EPA’s preliminary determination that this source’s Permit Application meets the standards for issuance of a “Final” CAAPP Permit as stipulated in Section 39.5(10)(a) of the Illinois Environmental Protection Act (see Chapter I – Section 1.2 of this document). The Illinois EPA is therefore initiating the necessary procedural requirements to issue a Final CAAPP Permit. The Illinois EPA has posted the Draft CAAPP permit and this Statement of Basis on USEPA website:

http://www.epa.gov/reg5oair/permits/ilonline.html

CHAPTER I – LEGAL BASIS FOR THE PERMIT AND PERMIT CONDITIONS

1.1 Legal Basis for Program

The Illinois EPA's state operating permit program for major sources established to meet the requirements of 40 CFR Part 70 are found at Section 39.5 of the Illinois Environmental Protection Act [415 ILCS 5/39.5]. The program is called the Clean Air Act Permitting Program (CAAPP). The underlying statutory authority is found in the Illinois Environmental Protection Act at 415 ILCS 5/39.5. The CAAPP was given final full approval by USEPA on December 4, 2001 (see 66 FR 62946).

1.2 Legal Basis for Issuance of CAAPP Permit

In accordance with Section 39.5(10)(a) of the Illinois Environmental Protection Act, the Illinois EPA may only issue a CAAPP Permit if all of the following standards for issuance have been met:

- The applicant has submitted a complete and certified application for a permit, permit modification, or permit renewal consistent with Sections 39.5(5) and (14) of the Illinois Environmental Protection Act, as applicable, and applicable regulations (Section a. below);
- The applicant has submitted with its complete application an approvable compliance plan, including a schedule for achieving compliance, consistent with Section 39.5(5) of the Illinois Environmental Protection Act and applicable regulations (Section b. below);
- The applicant has timely paid the fees required pursuant to Section 39.5(18) of the Illinois Environmental Protection Act and applicable regulations (Section c. below); and
- The applicant has provided any additional information as requested by the Illinois EPA (Section d. below).

a. Application Status

The source submitted an application for a Renewal CAAPP Permit on May 9, 2008. The source is currently operating under an application shield resultant from a timely and complete renewal application submittal. This Draft CAAPP Permit addresses application content and necessary revisions to meet the requirements for issuance of the permit.

b. Present Compliance Status

At the time of this Draft CAAPP Permit, there were no pending State or Federal enforcement actions against the source; therefore, a Compliance Schedule is not required for this source. The source submitted an approvable Compliance Plan as part of its Certified Permit Application. The source has certified compliance with all applicable rules and regulations. In addition, the draft permit requires the source to certify its compliance status on an annual basis.

c. Payment of Fees

The source is current on payment of all fees associated with operation of the emission units.

d. Additional Information

The source provided all the necessary additional application material as requested by the Illinois EPA.

1.3 Legal Basis for Conditions in the CAAPP Permit

This industrial source is subject to a variety of Federal and SIP regulations, which are the legal basis for the conditions in this permit (see Sections a. and b. below). Also, the CAAPP provides the legal basis for additional requirements such as periodic monitoring, reporting, and recordkeeping. The following list summarizes those regulations that form the legal basis for the conditions in this Draft CAAPP Permit and are provided in the permit itself as the origin and authority.

a. Applicable Federal Regulations

This source operates emission unit that are subject to the following Federal regulations.

40 CFR Part 60 – Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Stream Generating Units
40 CFR Part 60 – Subpart IIII, Compression Ignition IC Engines
40 CFR Part 63 – Subpart CCCCCC, Gasoline Dispensing Facilities

b. Applicable SIP Regulations

This source operates emission units that are subject to the following SIP regulations:

35 IAC Part 201 - Permits And General Provisions
35 IAC Part 212 – Visible And Particulate Matter Emissions
35 IAC Part 214 – Sulfur Limitations
35 IAC Part 216 – Carbon Monoxide Emissions
35 IAC Part 217 – Nitrogen Oxides Emissions
35 IAC Part 218 – Organic Material Emis Stnds And Lmtns For The Chicago Area
35 IAC Part 244 – Episodes
35 IAC Part 254 – Annual Emissions Report

c. Other Applicable Requirements

The Illinois EPA promulgated a new NO_x RACT rule, which is required to be addressed as well in this permit. However, this rule has not yet been SIP approved by the USEPA and, as such, has been incorporated into this permit as a State Only Requirement at this time.

The source also has several applicable requirements that are based on SIP approved permits, which are listed and identified in Chapter II Section 2.8.

CHAPTER II – FACTUAL BASIS FOR THE PERMIT AND PERMIT CONDITIONS

2.1 Source History

There is no significant source history warranting discussion for this source.

2.2 Description of Source

SIC Code: 8221
County: Cook

The source considered an institution of higher learning and a medical center. Boilers produce steam to supply the campus, residence halls and hospitals with comfort heat, hot water, steam absorption chilling, humidification and sterilization. Emergency engines are tested and maintained to supply power when the source's main power supply is unavailable. A gasoline storage tank is used to supply fuel to the university's motor pool.

The source contains the following processes:

Emission Units	*Description*
Boilers	(4) 195.5 mmBtu/hr, (2) 300 mmBtu/hr all Natural Gas with Distillate Oil Back Up
Gasoline Storage/ Dispensing Tank	12,000 Gallon, submerged fill
Emergency Engines	(14), All Distillate Oil, Between 1183 kW and 2180 kW
Boilers	(2) 2.5 mmBtu/hr, (2) 3.0 mmBtu/hr Natural Gas Boilers

2.3 Single Source Status

This source does not have any collocated facilities that would be considered a single source with this facility based on information found in the certified application.

2.4 Ambient Air Quality Status for the Area

The source is located in an area that is currently designated nonattainment for the National Ambient Air Quality Standards for Ozone-1 hour-Severe, Ozone-8 hour-Marginal and $PM_{2.5}$-annual- and attainment or unclassifiable for all other criteria pollutants (carbon monoxide, SO_2, PM_{10}, nitrogen dioxide, Lead, $PM_{2.5}$ - 24 hour). (See 40 CFR Part 81 - Designation of Areas for Air Quality Planning Purposes)

2.5 Source Status

The source requires a CAAPP permit because this source is considered major (based on its PTE) for the following regulated pollutants: nitrogen oxides (NO_x), sulfur dioxide (SO_2) and green house gas (GHG).

This source is considered a natural minor for the following regulated pollutants: PM_{10}, $PM_{2.5}$, volatile organic material (VOM), carbon monoxide (CO), and/or hazardous air pollutant (HAP).

Based on available data, this source is a major source of emissions for GHG, with potential emissions of GHG that are more than 100,000 tons per year

(CO_2e). The University of Chicago submitted data in its application for which the Illinois EPA estimated the PTE of GHG emissions to be 739,114.84 tons per year. The emissions consist of 738,324.79 tons of CO_2, 1.56 tons of N_2O, and 14.52 tons of methane.

This source is not currently subject to any "applicable requirements," as defined by Section 39.5(1) of the Act, for emissions of greenhouse gases (GHG) as defined by 40 CFR 86.1818-12(a), as referenced by 40 CFR 52.21(b)(49)(i). There are no GHG-related requirements under the Illinois Environmental Protection Act, Illinois' State Implementation Plan, or the Clean Air Act that apply to this facility, including terms or conditions in a Construction Permit addressing emissions of GHG or BACT for emissions of GHG from a major project at this facility under the PSD rules. In particular, the USEPA's Mandatory Reporting Rule for GHG emissions, 40 CFR Part 98, does not constitute an "applicable requirement" because it was adopted under the authority of Sections 114(a)(1) and 208 of the Clean Air Act. This permit also does not relieve the Permittee from the legal obligation to comply with the relevant provisions of the Mandatory Reporting Rule for this facility.

2.6 Annual Emissions

The following table lists annual emissions (tons) of criteria pollutants for this source, as reported in the Annual Emission Reports (AER) sent to the Illinois EPA:

Pollutant	*2011*	*2010*	*2009*
CO	78.15	77.40	78.06
NO_x	73.56	72.87	73.45
PM	5.14	4.62	4.65
SO_2	0.56	0.55	0.57
VOM	0.78	0.77	0.78
CO_{2E}	111,693.30	106,070.17	111,534.6
HAP	---	---	---

2.7 Fee Schedule

The following table lists the approved annual fee schedule (tons) submitted in the Source's permit application:

Pollutant		*Tons/Year*
Volatile Organic Material	(VOM)	14.62
Sulfur Dioxide	(SO_2)	116.10
Particulate Matter	(PM)	28.33
Nitrogen Oxides	(NO_x)	354.63
HAP, not included in VOM or	(HAP)	2.80
Total		516.48

2.8 SIP Permit Facts (T1 Limits)

CAAPP Permits must address all "applicable requirements," which includes the terms and conditions of preconstruction permits issued under regulations approved by USEPA in accordance with Title I of the CAA (*See* definition of applicable requirements in Section 39.5(1) of the Illinois Environmental Protection Act). Preconstruction permits, commonly referred to in Illinois as Construction Permits, derive from the New Source Review ("NSR") permit programs

required by Title I of the CAA. These programs include the two major NSR permit programs: (1) the Prevention of Significant Deterioration ("PSD") program[1] and (2) the nonattainment NSR program.[2] These programs also encompass state construction permit programs for projects that are not major.

In the CAAPP or Illinois's Title V permit program, the Illinois EPA's practice is to identify requirements that are carried over from an earlier Title I permit into a New or Renewed CAAPP Permit as "TI" conditions (i.e., Title I conditions). Title I Conditions that are revised as part of their incorporation into a CAAPP Permit are further designated as "TIR". Title I Conditions that are newly established through a CAAPP Permit are designated as "TIN". It is important that Title I Conditions be identified in a CAAPP Permit because these conditions will not expire when the CAAPP Permit expires. Because the underlying authority for Title I Conditions comes from Title I of the CAA and their initial establishment in Title I Permits, the effectiveness of T1 Conditions derives from Title I of the CAA rather than being linked to Title V of the A. For "changes" to be made to Title I Conditions, they must either cease to be applicable based on obvious circumstances, e.g., the subject emission unit is permanently shut down, or appropriate Title I procedures must be followed to change the conditions.

- There are no previously issued Construction Permits required to be incorporated into the CAAPP Permit.

- Newly Issued Construction Permits:

Permit No.	*Date Issued*	*Subject*
06080015	May 17, 2010	Boilers and Emergency Engine Generators
11100019	November 30, 2011	Four Diesel Emergency Engine Generators

- There are no newly issued Construction Permits for projects not yet constructed for this source.

- The following table lists the T1R Limit issued by the Illinois EPA and require incorporation into the CAAPP Permit prior to the proposal and issuance of this Draft CAAPP Permit.

T1 Type	*Condition*	*Subject*
T1R	Section 4 Condition 4.7.2(b)(i)(C)	PSD/NSR avoidance limit
T1R	Section 4 Condition 4.7.2(d)(i)(A)	PSD/NSR avoidance limit
T1R	Section 4 Condition 4.7.2(e)(i)(C)	PSD/NSR avoidance limit
T1R	Section 4 Condition 4.7.2(g)(i)(A) and (B)	PSD/NSR avoidance limit
T1R	Section 4 Condition 4.7.2(h)(i)(A)&(B)	PSD/NSR avoidance limit
T1R	Section 4 Condition 4.7.2(i)(i)(A)	PSD/NSR avoidance limit

- There are no extraneous or obsolete T1 conditions for the source.

CHAPTER III – SUPPLEMENTAL DISCUSSIONS REGARDING THE PERMIT

The information provided in this Chapter of the Statement of Basis is being provided to assist interested parties in understanding what additional information may have been relied on to support this draft CAAPP permit.

3.1 Environmental Justice Discussions

While the Illinois EPA is sensitive to the location of this facility in a potential EJ community, Title V does not provide for substantive emission control requirements beyond those arising under currently applicable regulations. Thus, when issuing a CAAPP Permit for this facility, the Illinois EPA does not have the authority to impose additional emission control requirements to reduce emissions beyond the levels provided for by applicable state and federal regulations. At the same time, CAAPP Permits do not allow for additional emissions.

Having a facility subject to a CAAPP Permit provides benefits for air quality, the public and the environment generally. CAAPP Permits require more reporting on a facility's compliance status than is required by underlying state operating permits. For example, the requirements for semi-annual reports for all monitoring and annual compliance certifications only become applicable upon the effectiveness of a CAAPP Permit. In addition, CAAPP Permits generally provide clarity and awareness of applicable regulations and the mechanisms by which sources must comply with these regulations. CAAPP Permits add to the compliance checks put on facilities. Where a facility has outstanding compliance deficiencies, CAAPP Permits may establish compliance schedules and other additional conditions for monitoring and reporting.

With this Statement of Basis, the Illinois EPA has made very clear the applicable emission limitations, standards, and other enforceable terms and conditions, as well as attendant monitoring, reporting, recordkeeping, and certifications to assure compliance. The Illinois EPA has provided an explanation of same, as well as a justification for why the conditions that assure compliance are appropriate. The level of detail in the Statement of Basis is atypically involved and is in recognition of the public interest in the permitting of this complex facility in a potential EJ community. The Statement of Basis has been provided to the USEPA for its review. The extremely detailed explanation of the requirements, particularly Periodic Monitoring, applicable to this source is intended to further meaningful public participation.

3.2 Emission Testing Results

The source has performed the following emission testing:

Unit	*Date*	*Pollutant*	*Reference Method avg*	*CEM avg*	*Relative Accuracy*
CEMS accuracy, West Plant Boiler 1	March 14, 2012	NO_x	0.029	0.030	3.93- Pass

Emission Unit	*Date*	*Pollutant*	*Results of Run #1 (lb/mmBtu)*	*Results of Run #2 (lb/mmBtu)*	*Results of Run #3 (lb/mmBtu)*	*3-Run Average (lb/mmBtu)*	*Compliance Margin %*
West Plant	March 18,	PM	0.00125	0.00195	0.00156	0.00159	100

Emission Unit	*Date*	*Pollutant*	*Results of Run #1 (lb/mmBtu)*	*Results of Run #2 (lb/mmBtu)*	*Results of Run #3 (lb/mmBtu)*	*3-Run Average (lb/mmBtu)*	*Compliance Margin %*
Boiler 1	2011						
		NO_x	0.0349	0.0348	0.0352	0.0349	100
		CO	0.0679	0.0825	0.0750	0.0751	100
		Opacity	0%	0%	0%	0%	100
West Plant Boiler 2	March 18, 2011	PM	0.00122	0.00140	0.00215	0.00159	100
		NO_x	0.0324	0.0336	0.0334	0.0331	100
		CO	0.00585	0.00576	0.00560	0.00574	100
		Opacity	0%	0%	0%	0%	100

Unit	*Date*	*Pollutant*	*Reference Method avg*	*CEM avg*	*Relative Accuracy*
CEMS accuracy, West Plant Boiler 1	March 11, 2011	NO_x	0.0331	0.0348	12.7- Pass
CEMS accuracy, West Plant Boiler 2	March 11, 2011	NO_x	0.0364	0.0361	8.72- Pass

3.3 Compliance Reports (Annual Certifications, Semiannual Monitoring, NESHAP, etc.)

A review of the source's compliance reports demonstrates the sources ability to comply with all applicable requirements.

3.4 Field Inspection Results

A review of the source's latest field inspection report dated January 18, 2012 demonstrates the source's ability to comply with all applicable requirements.

3.5 Historical Non-Compliance

Upon review of the source's historical compliance, a Violation Notice was issued on April 16, 2009 for failure to obtain construction permits, along with associated violations, for certain emergency engines. This issue was resolved on September 24, 2009. There was no enforcement case.

3.6 Source Wide Justifications and Rationale

Applicable Requirements Summary		
Applicable Requirement	Type	Location
Fugitive Particulate Matter (35 IAC 212.301 and 35 IAC 212.314)	Applicable Standard	See the Permit, Condition 3.1(a)

Particulate Matter Emission

- Monitoring as follows (Condition 3.1(a)(ii)))
  - If required, daily observations for a week for PM emissions.

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Monitoring is consistent with other sources in this source category.

Non-Applicability Discussion

Complex source-wide non-applicability determinations were not made for this source.

Prompt Reporting Discussion

Prompt reporting of deviations for source wide emission units has been established as 30 days. See rationale in Chapter III Section 3.9.

3.7 Emission Unit Justifications and Rationale

a. Boilers-Steam Plant (Boil 1-4, Natural Gas)		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123(a))	Applicable Standard	See the Permit, Condition 4.1.2(a)
CO Requirement (35 IAC 216.121)	Applicable Standard	See the Permit, Condition 4.1.2(b)
Operational and Production Requirements	Applicable Limits	See the Permit, Condition 4.1.2(c)
Work Practice Requirements	Applicable Work Practice	See the Permit, Condition 4.1.2(d)
Construction Permit Limits	Applicable Limits	See the Permit, Condition 4.1.2(e)

The Steam Plant boilers combust natural gas during normal operation. In emergency and back up situations, the Steam Plant boilers burn distillate oil. This section depicts the typical operation, natural gas mode.

Visible Emissions (i.e., Opacity)

- Monitoring as follows (Condition 4.1.2(a)(ii)(A) and (d)(ii)(A) and (B))
  - Quarterly Method 22 observations
  - If required, Method 9 measurements
  - Monthly Inspections
  - Annual tune-ups

- Recordkeeping as follows (Condition 4.1.2(a)(ii)(B) and (d)(ii)(C) and (D)):
  - Records of each Method 22 observation
  - If required, records of each Method 9 measurement
  - Records of each inspection and tune-up

- Reporting as follows (Condition 4.1.5):
  - Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- Performing quarterly observations of opacity and keeping records of these observations, are sufficient to verify compliance with the 30% opacity limit for boilers that combust natural gas with distillate fuel oil as emergency backup. The likelihood of a boiler combusted with pipeline quality natural gas violating opacity is small. The source is required to perform monthly inspections and annual tune-ups ensuring combustion efficiency. Finally, the source is required to maintain records of the type and quantity of fuel used, maintain inspection records, and maintain maintenance and repair logs. These records would help the Illinois EPA determine whether the boilers are being operated properly and emission limits are met.

Carbon Monoxide Emissions

- Monitoring as follows (Condition 4.1.2(d)(ii)(A) and (B)
  - Monthly inspections of the boilers
  - Annual tune-ups

- Recordkeeping as follows (Condition 4.1.2(d)(ii)(C) and (D)):
  - Records of each inspection and tune-up

- Reporting as follows (Condition 4.1.5):
  - Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- The likelihood of a natural gas boiler violating the CO limit is unlikely. The use of pipeline quality natural gas is sufficient to demonstrate compliance. The source is required to perform monthly inspections and annual tune-ups ensuring combustion efficiency. It should also be noted that the source is also required to maintain the type and quantity of fuel used, maintain inspection records, and maintain maintenance and repair logs of the natural gas boiler. These records would help the Illinois EPA determine whether the natural gas boilers are being operated properly and emission limits are met.

Construction Permit #06080015 Formaldehyde and Hexane Emissions

- Monitoring as follows (Condition 4.1.2(d)(ii)(A) and (B))
  - Monthly inspections
  - Annual tune-ups

- Testing as follows (Condition 4.1.2(e)(ii)(A)):
  - Formaldehyde testing

- Recordkeeping as follows (Condition 4.1.2(e)(ii)(C) and 4.1.2(d)(ii)(C) and (D)):
  - Records of formaldehyde and hexane emissions with supporting calculations
  - Records of monthly inspections and annual inspections

- Reporting as follows (Condition 4.1.5):
  - Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- It is unlikely that the natural gas fired boiler with distillate oil back up will violate the formaldehyde and hexane limits. The source is required to perform monthly inspections and annual tune-ups, thereby maintaining combustion efficiency. The source is required to test for formaldehyde emissions and keep records of formaldehyde and hexane emissions. The source is also required to maintain the type and amount of fuel used, maintain inspection records, and maintain maintenance and repair logs of the natural gas boiler. These records would help the Illinois EPA determine whether the natural gas boilers are being operated properly and emission limits are met.

Non-Applicability Discussion

The boilers are not subject to the National Emission Standards for Hazardous Air Pollution (NESHAP) for Industrial-Commercial-Institutional Boilers Area Sources, 40 CFR Part 63 Subpart JJJJJJ because they meet the Federal definition of a gas-fired boiler: *Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.*

The source is limited to use pipeline quality natural gas when firing natural gas. This is normal operation. The source is also limited to burn liquid fuel supporting the definition above.

Prompt Reporting Discussion

Prompt reporting of deviations has been established as 30 days. See rationale in Chapter III Section 3.9.

b. Boilers-Steam Plant (Boil 1-4, Distillate Oil)		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123(a)	Applicable Standard	See the Permit, Condition 4.2.2(a)
PM Requirement (35 IAC 212.206)	Applicable Standard	See the Permit, Condition 4.2.2(b)

Applicable Requirements Summary		
Applicable Requirement	Type	Location
SO_2 Requirement (35 IAC 214.161(b))	Applicable Standard	See the Permit, Condition 4.2.2(c)
CO Requirement (35 IAC 216.121)	Applicable Standard	See the Permit, Condition 4.2.2(d)
Operational and Production Requirements	Applicable Limits	See the Permit, Condition 4.2.2(e)
Work Practice Requirement	Applicable Work Practice	See the Permit, Condition 4.2.2(f)
Construction Permit #06080015 Requirement	Applicable Limit	See the Permit, Condition 4.2.2(g)

The Steam Plant boilers combust natural gas during normal operation. In emergency and back up situations, the Steam Plant boilers burn distillate oil. This section depicts operation in distillate oil mode. The source is required to maintain records indicating the reason for and amount of time of distillate oil use.

Visible Emissions (i.e., Opacity)

- Monitoring as follows (Condition 4.2.2(a)(ii)(A) and (f)(ii)(A))
  - Method 22 observations when burning diesel fuel
  - If required, Method 9 measurements
  - Monthly Inspections

- Recordkeeping as follows (Condition 4.2.2(a)(ii)(B), (f)(ii)(B):
  - Records of each Method 22 observation
  - If required, records of each Method 9 measurement
  - Records of each inspection

- Reporting as follows (Condition 4.2.5):
  - Prompt reporting within 30 day.

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- Method 22 observations of opacity when distillate fuel is combusted are sufficient to verify compliance with the 30% opacity limit for boilers that combust natural gas with distillate fuel oil as emergency backup. The source is required to perform monthly inspections and annual tune-ups ensuring combustion efficiency. The source is required to maintain the type and quantity of fuel used, maintain inspection records, and maintain maintenance and repair logs of the natural gas boiler with distillate fuel oil as emergency backup. These records would help the Illinois EPA determine whether the boilers are operated properly and emission limits are met.

Particulate Matter Emission

- Monitoring as follows (Condition 4.2.2(f)(ii)(A)
  - Monthly inspections

- Testing as follows Condition 4.2.2(b)(ii)(A)
  - Method 5 testing after 48 hours of operation

- Recordkeeping as follows (Condition 4.2.2(b)(ii)(C) and (f)(ii)(B):
  - PM emissions
  - Records of each inspection

- Reporting as follows (Condition 4.2.5):
  - Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- The likelihood of these boilers violating the PM standard is small. The source is required to test for particulate matter after 48 hours of operation in distillate mode. The source is required to combust very low sulfur distillate oil producing fewer PM emissions. The source is required to perform monthly maintenance inspections. Also the source is required to maintain records of fuel type and quantity, inspection records and maintenance and repair logs. These records would help the Illinois EPA determine whether the boilers are operated properly and emission limits are met.

Sulfur Emissions

- Monitoring as follows (Condition 4.2.2(f)(ii)(A))
  - Monthly inspections

- Recordkeeping as follows (Condition 4.2.2(c)(ii)(A) and (f)(ii)(B):
  - Type, amount and sulfur content of fuel used
  - Records of each inspection
  - SO_2 emissions

- Reporting as follows (Condition 4.2.5):
  - Prompt reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- The likelihood of these boilers violating SO_2 standard is small. The source is required combust very low sulfur diesel fuel. The source is required to perform monthly maintenance inspections. The source is required to maintain records of the amount of time the boilers are fired using distillate oil. It is limited to 48 hours per calendar year. The source is required to maintain records of the type, amount, and sulfur content of fuel used, maintain inspection records, and maintain maintenance/repair logs. These records would help the Illinois EPA determine whether the boilers are being operated properly and whether emission totals are met.

Carbon Monoxide Emissions

o Monitoring as follows (Condition 4.2.2(f)(ii)(A))
  o Monthly inspections

o Recordkeeping as follows (Condition 4.2.2(f)(ii)(B)
  o Records of each inspection

o Reporting as follows (Condition 4.2.5):
  o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- The likelihood of these boilers violating the CO standard is small. The source is required to perform monthly maintenance inspections. The source is limited in the type and amount of fuel to be used, as well as, the amount of time in distillate oil mode. The source is required to maintain records of the type and amount of fuel used, hours of operation, inspection records, and maintenance and repair logs. These records would help the Illinois EPA determine whether the boilers are being operated properly and emission limits are met.

Construction Permit #06080015 Formaldehyde and Hexane Emissions

o Monitoring as follows (Condition 4.2.2(f)(ii)(A)
  o Monthly inspections

o Testing as follows (Condition 4.2.2(g)(ii)(A)
  o Formaldehyde testing once, then every five years if the compliance margin less than 40%

o Recordkeeping as follows (Condition 4.2.2(g)(ii)(C) and 4.2.2(f)(ii)(B):
  o Records of formaldehyde and hexane emissions with supporting calculations
  o Records of each inspection

o Reporting as follows (Condition 4.2.5):

o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- The likelihood of the source violating the HAP emission limits is small. The source is required to test for formaldehyde emissions. The source is required to perform monthly inspections, thereby maintaining combustion efficiency. The source is limited to the time the boilers are fired using distillate oil. The source is required to maintain records of the type and quantity of fuel used, hours of operation, inspection records, and maintenance and repair logs. The source is required to maintain records indicating the reason for distillate oil use, as well as, the hours of operation using distillate oil. These records would help the Illinois EPA determine whether boiler the boilers are being operated properly and emission limits are met.

Non-Applicability Discussion

Permit condition 4.2.2(e)(i)(D), supports non-applicability to the National Emission Standards for Hazardous Air Pollution (NESHAP) for Industrial-Commercial-Institutional Boilers Area Sources, 40 CFR Part 63 Subpart JJJJJJ, depicted in the gas-fired mode non-applicability section (Permit Condition 4.1.3).

Prompt Reporting Discussion

Prompt reporting of deviations has been established as 30 days. See rationale in Chapter III Section 3.9.

c. Boilers-West Plant (NSPS Db)(Boil-5 & 6, Natural Gas)		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity and PM/PM_{10} Requirement (35 IAC 212.122(a) and Construction Permit #06080015)	Applicable Standard and Limit	See the Permit, Condition 4.3.2(a)
CO and VOM Requirement (35 IAC 216.121 and Construction Permit #06080015)	Applicable Standard and Limit	See the Permit, Condition 4.3.2(b)
NO_x Requirement (40 CFR 60.44b(1)(1))	Applicable Standard	See the Permit, Condition 4.3.2(c)
SO_2 Requirements (Construction Permit Limit)	Applicable Limit	See the Permit Condition 4.3.2(d)
HAP Requirements (Construction Permit Limit)	Applicable Limit	See the Permit Condition 4.3.2(e)

Applicable Requirements Summary		
Applicable Requirement	Type	Location
Operational and Production Requirement	Applicable Limits	See the Permit, Condition 4.3.2(f)
Work Practice Requirement	Applicable Work Practice	See the Permit, Condition 4.3.2(g)

The West Plant boilers combust natural gas. In emergency and back up situations, the West Plant boilers burn distillate oil. This section depicts operation in natural gas mode.

Visible and PM Emissions (i.e., Opacity)

- Monitoring as follows (Condition 4.3.2(a)(ii)(A) and (B), Condition 4.3.2(g)(ii)(A) and (B)
  - Quarterly Method 22 observations
  - At least annual Method 9 observations
  - Monthly inspections and annual tune-ups

- Recordkeeping as follows (Condition 4.3.2(a)(ii)(C), (D) and (E) and 4.3.2(g)(ii)(C), (D) and (E):
  - Visual emissions and Method 9 observations
  - PM emissions
  - Each inspection and tune up
  - Annual Capacity Factor (actual vs. potential heat input)

- Reporting as follows (Condition 4.3.5):
  - Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- The source has a substantial margin of compliance.
- There is a small likelihood of an exceedance.
- Emissions do not vary significantly under normal operation and/or vary slowly with time.
- Source has not exhibited a history of non-compliance.
- The likelihood of pipeline quality natural gas boiler with distillate fuel oil as emergency backup violating opacity and PM limits is small. The source is required to perform visible emissions testing via Method 9 at least once per year. Monthly inspections and annual tune-ups maintain combustion efficiency. The source is limited to the amount of heat input and fuel used by the boilers. The source is also required to maintain inspection records, maintenance and repair logs, fuel usage and heat input logs and emission totals. These records would help the Illinois EPA determine whether the boilers are operated properly and emission limits are met.

CO and VOM Emissions

- Monitoring as follows (Condition 4.3.2(g)(ii)(A) and (B)
  - Monthly inspections
  - Annual tune-ups

- Recordkeeping as follows (Condition 4.3.2(b)(ii)(B) and 4.3.2(g)(ii)(C)(D) and (E):
  - CO and VOM emissions
  - Records of each inspection and tune-up
  - Annual Capacity Factor

- Reporting as follows (Condition 4.3.5):
  - Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- The source has a substantial margin of compliance for CO.
- There is a small likelihood of an exceedance.
- 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.
- The likelihood of pipeline quality natural gas boiler with distillate fuel oil as emergency backup violating CO and VOM limits is small. The source is required to perform monthly inspections and annual tune-ups, maintaining combustion efficiency. The source is limited to the amount heat input and fuel used by the boilers. The source is required to maintain inspection/tune-up records, maintenance and repair logs, fuel type and amount, heat input and emission totals. These records would help the Illinois EPA determine whether the boilers are operated properly and emission limits are met.

Nitrogen Oxides Emissions

- Monitoring as follows (Condition 4.3.2(c)(ii)(C) and (D) and 4.3.2(g)(ii)(A) and (B)
  - NO_x Continuous Emissions Monitor (CEMS)
  - CEMS maintenance inspections and calibration
  - Monthly boiler inspections and annual tune-ups

- Recordkeeping as follows (Condition 4.3.2(c)(ii)(F), (G), (H), (I) and (J) and 4.3.2(g)(ii)(C),(D) and (E):
  - CEMS output
  - 1 hour average and 30 day average NO_x emission rates and NO_x span values
  - NO_x emissions
  - Records of each inspection and tune-up
  - Annual capacity factor

- Reporting as follows (Condition 4.3.5(a) and (b)):
  - Prompt reporting within 30 days
  - Semiannual CEMS performance report
  - Semiannual reporting of Condition 4.3.2(c)(ii)(I) records

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- The source has a substantial margin of compliance.

- There is a small likelihood of an exceedance.
- 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.
- Continuous emission monitoring is required. Maintenance and calibration of the monitor, itself, ensures its reliability. The source is required to perform monthly maintenance inspections with annual tune-ups maintaining combustion efficiency. The source is limited to the amount of heat input and fuel used by the boilers. The source is required to maintain CEMS records, inspection/tune-up records, maintenance and repair logs, fuel type and amount logs, heat input and emission totals. These records would help the Illinois EPA determine whether boilers are operated properly and emission limits are met.

Sulfur Emissions

o Monitoring as follows (Condition 4.3.2(g)(ii)(A) and (B)
  o Monthly inspections and annual tune ups

o Recordkeeping as follows (Condition 4.3.2(d)(ii)(A) and 4.3.2(g)(ii)(C), (D) and (E):
  o SO_2 emissions
  o Records of each inspection and tune-up
  o Annual capacity factor

o Reporting as follows (Condition 4.3.5(a) and (b):
  o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- The likelihood of these boilers violating SO_2 standard is small. The source is required to perform monthly maintenance inspections with annual tune-ups maintaining combustion efficiency. The source is limited to the amount of heat input and fuel used by the boilers. The source is required to maintain inspection/tune-up records, maintenance and repair logs, fuel type and amount, heat input and emission totals. These records would help the Illinois EPA determine whether the boilers are being operated properly and emission limits are met.

Construction Permit #06080015 Emissions

o Monitoring as follows (Condition 4.3.2(g)(ii)(A) and (B)
  o Monthly inspections and annual tune-ups

o Record Keeping as follows (Condition 4.3.2(e)(ii)(A) and 4.3.2(g)(ii)(C), (D) and (E):
  o Records of formaldehyde and hexane emissions

- Records of each inspection and tune-up

- Reporting as follows (Condition 4.3.3):
  - Prompt reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- It is unlikely that the natural gas fired boiler with distillate oil back up will violate the formaldehyde and hexane limits. The source is limited the amount of heat input and fuel used by each boiler. The source is required to perform monthly inspections and annual tune-ups, thereby maintaining combustion efficiency. The source is also required to maintain the type and amount of fuel used, maintain inspection records, and maintain maintenance and repair logs of the natural gas boiler. These records would help the Illinois EPA determine whether the natural gas boilers are operated properly and emission limits are met.

Non-Applicability Discussion

The boilers are not subject to the National Emission Standards for Hazardous Air Pollution (NESHAP) for Industrial-Commercial-Institutional Boilers Area Sources, 40 CFR Part 63 Subpart JJJJJJ because they meet the Federal definition of a gas-fired boiler: *Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.*

The source is limited to use pipeline quality natural gas when firing natural gas. This is normal operation. The source is also limited to burn liquid fuel supporting the definition above.

Prompt Reporting Discussion

Prompt reporting of deviations has been established as 30 days. See rationale in Chapter III Section 3.9.

d. Boilers-West Plant (NSPS Db) (Boil 5 & 6, Distillate Oil)		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (40 CFR 60.43b(f) and 35 IAC 212.122(a))	Applicable Standards	See the Permit, Condition 4.4.2(a)
PM Requirement (40 CFR 60.43b(h)(5), 35 IAC 212.206 and CP #06080015)	Applicable Standards and Limit	See the Permit, Condition 4.4.2(b)
SO_2 Requirement (40 CFR 60.42b(k)(2), 35 IAC 214.121(b)(2) and CP #06080015)	Applicable Standards and Limits	See the Permit, Condition 4.4.2(c)

Applicable Requirements Summary		
Applicable Requirement	Type	Location
CO and VOM Requirement (35 IAC 216.121 and CP 06080015.)	Applicable Standard and Limit	See the Permit, Condition 4.4.2(d)
NO_x Requirement (40 CFR 60.44b(l)(1) and CP #06080015)	Applicable Standard and Limit	See the Permit, Condition 4.4.2(e)
HAPs Requirement (CP #06080015)	Applicable Limit	See the Permit, Condition 4.4.2(f)
Operational and Production Requirements	Applicable Limit	See the Permit, Condition 4.4.2(g)
Work Practice Requirement	Applicable Work Practice	See the Permit, Condition 4.4.2(h)

The West Plant boilers combust natural gas. In emergency and back up situations, the Steam Plant boilers burn distillate oil. This section depicts operation in distillate oil mode.

Visible Emissions (i.e., Opacity)

- Monitoring as follows (Condition 4.4.2(a)(ii)(A-D) and Condition 4.4.2(h)(ii)(A)
  - Method 22 observations
  - Method 9 observations if necessary
  - Monthly inspections

- Recordkeeping as follows (Condition 4.4.2(a)(ii)(E) and Condition 4.4.2(h)(ii)(B) and (C):
  - Method 22 and Method 9 tests
  - Annual Capacity Factor (actual vs. potential heat input)

- Reporting as follows (Condition 4.4.3):
  - Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- The source has a substantial margin of compliance.
- There is a small likelihood of an exceedance.
- 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.
- Method 9 testing is required at least once per year. Method 22 observations are conducted whenever the distillate oil is combusted. Monthly inspections maintain combustion efficiency. The source is limited to the amount of heat input and fuel used by the boilers. The source is also required to maintain inspection records, maintenance and repair logs, fuel usage and heat input logs and emission totals. These records would help the Illinois EPA determine whether the boilers are operated properly and emission limits are met.

Particulate Matter Emission

- Monitoring as follows (Condition 4.4.2(h)(ii)(A)
  - Monthly inspections

- Testing as follows (Condition 4.4.2(b)(ii)(A)
  - Method 5 testing after operation of 48 hours

- Recordkeeping as follows (Condition 4.4.2(b)(ii)(C) and (D) and Condition 4.4.2(h)(ii)(B) and (C):
  - PM emissions
  - Records of each inspection
  - Records of sulfur content of distillate oil
  - Annual Capacity Factor

- Reporting as follows (Condition 4.4.5):
  - Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- The source has a substantial margin of compliance.
- There is a small likelihood of an exceedance.
- 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.
- The likelihood of these boilers violating the PM standard is small. The source is required to test for particulate matter after 48 hours of operation in distillate oil mode. The source is required to combust very low sulfur distillate oil producing fewer PM emissions. The source is required to perform monthly maintenance inspections. Also the source is required to maintain records of fuel type, quantity, sulfur content, as well as, inspection records, maintenance and repair logs, hours of operation and heat input. These records would help the Illinois EPA determine whether the boilers are operated properly and emission limits are met.

Sulfur Emissions

- Monitoring as follows (Condition 4.4.2(h)(ii)(A)
  - Monthly inspections

- Recordkeeping as follows (Condition 4.4.2(c)(ii)(A), (B) and (C) and Condition 4.4.2(h)(ii)(B) and (C):
  - Sulfur content of fuel
  - SO_2 emissions
  - Monthly inspections
  - Annual Capacity Factor

- Reporting as follows (Condition 4.4.3):
  - Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- The source has a substantial margin of compliance.
- There is a small likelihood of an exceedance.
- 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.
- The likelihood of these emergency boilers violating SO_2 standard and limits is small. The source is required to use very low sulfur diesel fuel. The source is required to perform monthly maintenance inspections maintaining combustion efficiency. The source is required to maintain records of the amount of time the boilers are fired using distillate oil. It is limited to 48 hours per calendar year. The source is required to maintain records of the type, amount, and sulfur content of fuel used, maintain inspection records, and maintain maintenance/repair logs, hours of operation and heat input. These records would help the Illinois EPA determine whether the boilers are being operated properly and emission limits are met.

Carbon Monoxide and Volatile Organic Material Emissions

- Monitoring as follows (Condition 4.4.2(h)(ii)(A))
  - Monthly Inspections

- Recordkeeping as follows (Condition 4.4.2(h)(ii)(B) and (C) and 4.4.2(d)(ii)(B):
  - Monthly inspections
  - CO and VOM emissions
  - Annual capacity factor

- Reporting as follows (Condition 4.4.3):
  - Prompt reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- The source has a substantial margin of compliance for CO.
- There is a small likelihood of an exceedance.
- 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.
- The likelihood of these boilers violating the CO and VOM standard/limit is small. The source is required to perform monthly maintenance inspections ensuring combustion efficiency. The source is limited in the type, amount and sulfur content of fuel to be used, as well as, the amount of time in distillate oil mode. The source is also limited to the amount of heat input to the boilers. The source is required to maintain records of the type, amount and sulfur content of fuel used, hours of operation, inspection records, maintenance and repair logs and heat

input. These records would help the Illinois EPA determine whether the boilers are being operated properly and emission limits are met.

Nitrogen Oxides Emissions

- Monitoring as follows (Condition 4.4.2(e)(ii)(A)-(E) and Condition 4.4.2(h)(ii)(A)
  - NO_x Continuous Emissions Monitor (CEMS)
  - CEMS maintenance inspections
  - Monthly boiler inspections

- Recordkeeping as follows (Condition 4.4.2(e)(ii)(F)-(J) and Condition 4.4.2(h)(ii)(B) and (C):
  - CEMS output
  - 1 hour and 30 day average NO_x emission rates and NO_x span values
  - NO_x emissions
  - Records of each inspection
  - Annual capacity factor

- Reporting as follows (Condition 4.4.3):
  - Prompt reporting within 30 days
  - Semiannual CEMS performance report
  - Semiannual reporting of Condition 4.4.2(e)(ii)(I) records

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- The source has a substantial margin of compliance.
- There is a small likelihood of an exceedance.
- 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.
- Continuous emission monitoring is required. Maintenance and calibration of the monitor, itself, ensures its reliability. The source is required to perform monthly maintenance inspections maintaining combustion efficiency. The source is limited to the amount of heat input and hours of operation. The source is also limited to the amount and type of fuel usage. The source is required to maintain CEMS records, inspection/tune-up records, maintenance and repair logs, fuel type and amount logs, heat input, and emission totals. These records would help the Illinois EPA determine whether boilers are operated properly and emission limits are met.

Construction Permit #06080015 Formaldehyde and Hexane Emissions

- Monitoring as follows (Condition 4.4.2(h)(ii)(A)
  - Monthly inspections

- Record Keeping as follows (Condition 4.4.2(f)(ii)(A) and Condition 4.4.2(h)(B) and (C):
  - Records of formaldehyde and hexane emissions
  - Monthly inspections
  - Annual capacity factor

- Reporting as follows (Condition 4.4.3):
  - Prompt reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- It is unlikely that the boiler will violate the formaldehyde and hexane limits. The source is required to perform monthly inspections, thereby maintaining combustion efficiency. The source is limited to the amount and type of fuel used, as well as, the heat input and hours of operation. The source is required to maintain records of the type and amount of fuel used, heat input, emissions and hours of operation. These records would help the Illinois EPA determine whether the boilers are being operated properly and emission limits are met.

Non-Applicability Discussion

Permit condition 4.4.2(g)(i)(B), supports the non-applicability to the National Emission Standards for Hazardous Air Pollution (NESHAP) for Industrial-Commercial-Institutional Boilers Area Sources, 40 CFR Part 63 Subpart JJJJJJ, depicted in the gas-fired mode non-applicability section.

Prompt Reporting Discussion

Prompt reporting of deviations has been established as 30 days. See rationale in Chapter III Section 3.9.

e. Gasoline Storage Tank		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
VOM Requirements (35 IAC 218.122(b) and 218.583(a)&(c))	Applicable Standards	See the Permit, Condition 4.5.2(a)
Operational and Production Requirement	Applicable Limit	See the Permit, Condition 4.5.2(b)
Work Practice Requirement	Applicable Work Practice	See the Permit, Condition 4.5.2(c)

Organic Material Emissions

- Monitoring as follows (Condition 4.5.2(a)(ii)(A) and Condition 4.5.2(c)(ii)(
  - Monthly inspections of vapor control system and gauges
  - Testing for leaks
  - Safe dispensing and storing procedures

- Testing as follows (Condition 4.5.2(a)(ii)(B):
  - Annually measure gauge pressure upon fuel delivery into the tank

- Recordkeeping as follows (Condition 4.5.2(a)(ii)(C)-(G) and Condition 4.5.2(c)(ii)(C):
  - Tank Pipe Pressure
  - Presence of submerged loading pipe
  - Inspection and Maintenance log
  - Records of spills

- Reporting as follows (Condition 4.5.5):
  - Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- There is a small likelihood of an exceedance.
- 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.
- Monitoring is thorough enough to ensure the presence and integrity of VOM vapor control/recovery devices/practices during times of filling, dispensing, as well as, times idle. In addition, the source has limited operations as to the amount of monthly gasoline throughput for the tank and is required to keep records of such.

Non-Applicability Discussion

Complex non-applicability determinations were not made for this emission unit. All non-applicability discussions can be found in the Draft CAAPP Permit.

Prompt Reporting Discussion

Prompt reporting of deviations has been established as 30 days. See rationale in Chapter III Section 3.9.

f. Emergency Engines-DCAM, GCIS, Comer		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123(a)	Applicable Standard	See the Permit, Condition 4.6.2(a)
SO_2 Requirement (35 IAC 214.301)	Applicable Standard	See the Permit, Condition 4.6.2(b)
Operational and Production Requirement	Applicable Limits	See the Permit, Condition 4.6.2(c)
Work Practice Requirements	Applicable Work Practice	See the Permit, Condition 4.6.2(d)

Since 2004, each one of these engines has been used for less than 1 hour per calendar year related to a non-emergency situation. They have also been used for testing. Since 2004, the engines have not been used at all for an emergency.

Visible Emissions (i.e., Opacity)

- Monitoring as follows (Condition 4.6.2(a)(ii)(A) and Condition 4.6.2(d)(ii)(A)

- Annual Method 9 observations
- Monthly Inspections

- Recordkeeping as follows (Condition 4.6.2(b)(ii)(B) and Condition 4.6.2(d)(ii)(B):
  - Method 9 opacity tests
  - Records of Inspections

- Reporting as follows (Condition 4.6.5):
  - Prompt reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for emergency engines that combust distillate fuel oil. The likelihood of distillate fuel oil fired engines violating opacity is small. The source is limited to the amount of time the engines can be used in non-emergency situations. The source is required to use ultra low sulfur diesel, thereby reducing potential PM emissions contributing to opacity. The source is also required to maintain records of the type of fuel used, inspection records, maintain maintenance and repair logs, hours of operation and purpose of use. These records would help the Illinois EPA determine whether the engines are being operated properly and opacity standard is met.

Sulfur Emissions

- Monitoring as follows (Condition 4.6.2(b)(ii)(A) and Condition 4.6.2(d)(ii)(A)
  - Use of ultra low sulfur diesel
  - Monthly inspections

- Recordkeeping as follows (Condition 4.6.2(b)(ii)(B) and Condition 4.6.2 (d)(ii)(B):
  - Records of fuel invoices
  - Records of inspections

- Reporting as follows (Condition 4.6.5):
  - Prompt reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- The likelihood of distillate fuel oil fired emergency engines violating the sulfur limit is unlikely. The distillate fuel oil has sulfur content limited to levels that would result in SO_2 emissions less than the limit. The source is limited to the amount of time the engines can be used in non-emergency situations. The source is also required to maintain records of the type of fuel used, inspection records, maintain maintenance and repair logs, hours of operation and purpose of use. These records would help the Illinois EPA determine whether the distillate fuel oil fired engines are being operated properly and emission limits are met.

Non-Applicability Discussion

Complex non-applicability determinations were not made for this emission unit. All non-applicability discussions can be found in the Draft CAAPP Permit.

Prompt Reporting Discussion

Prompt reporting of deviations has been established as 30 days. See rationale in Chapter III Section 3.9.

g. Emergency Engines -West Plant, New Hospital Pavilion (NSPS IIII)		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123(a) and 40 CFR 60.4205(b))	Applicable Standard	See the Permit, Condition 4.7.2(a)
PM Requirement (40 CFR 60.4205(b), 40 CFR 60.4202(a)(2), 40 CFR 89.112, 40 CFR 60.4205(e) and CP 06080015)	Applicable Standard and Limit	See the Permit, Condition 4.7.2(b)
SO_2 Requirement (35 IAC 214.301 and CP 11100019)	Applicable Standard and Limit	See the Permit, Condition 4.7.2(c)
VOM Requirement CP 06080015 and CP 11100019	Applicable Limits	See the Permit, Condition 4.7.2(d)
CO Requirement (40 CFR 60.4205(b), 40 CFR 60.4202(a)(2), 40 CFR 89.112, 40 CFR 60.4205(e) and CP 06080015) and CP 11100019)	Applicable Standard and Limit	See the Permit, Condition 4.7.2(e)
NMHC + NO_x Requirement (40 CFR 60.4205(b), 40 CFR 60.4202(a)(2), 40 CFR 89.112, 40 CFR 60.4205(e)	Applicable Standard	See the Permit, Condition 4.7.2(f)
NO_x Requirement (CP 06080015 and CP 11100019)	Applicable Limit	See the Permit, Condition 4.7.2(g)
HAP Requirement (CP 06080015)	Applicable Limit	See the Permit, Condition 4.7.2(h)

Since 2004, these engines have not been used in an emergency situation. They have only been used during testing.

Construction Permit #06080015, was revised and issued on May 17, 2010 with an operational limit and emission limits for PM/PM_{10}, VOM, CO, NO_x, and HAPS regarding two emergency diesel engine generators. Since this time, one engine was decommissioned. The source requested that the operational limit and emission limits now be half the amount for the remaining engine, Engine 8. These new limits are reflected as T1-R conditions in the permit, Section 4.7.

Visible Emissions (i.e., Opacity)

- Monitoring as follows (Condition 4.7.2(a)(ii)(A) and 4.7.2(j)(ii)(A-C)
  - Opacity measured annually in accordance with specific Federal test procedures
  - Monthly inspections
  - Manufacturer maintenance procedures

- Recordkeeping as follows (Condition 4.7.2(a)(ii)(B) and 4.7.2(j)(ii)(F)&(G):
  - Opacity measurements
  - Inspections and maintenance
  - Manufacturer maintenance procedures

- Reporting as follows (Condition 4.7.5):
  - Prompt reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- Annual observations of opacity, are sufficient to verify compliance with the 20% opacity limit during acceleration mode for the emergency engines fired with distillate oil. The likelihood of distillate fuel oil fired engines violating opacity is small. The source is limited to the amount of time used in non-emergency situations. Monthly maintenance inspection and manufacturer maintenance ensures combustion efficiency. Use of ultra low sulfur diesel fuel reduces PM emissions, thereby reduces likelihood of non-compliant opacity. The source is required to maintain records of opacity, the type of fuel used, inspection records, maintenance and repair logs, hours of operation per a non-resettable hour meter and purpose for operation. These records would help the Illinois EPA determine whether the engines are being operated properly and emission limits are met.

Particulate Matter Emission

- Monitoring as follows (Condition 4.7.2(b)(ii)(A-D) and Condition 4.7.2(j)((ii)(A)
  - Engines certified to PM emission standard
  - Installation per manufacturer’s instructions

- Monthly inspections
- Manufacturer maintenance procedures

- Recordkeeping as follows (Condition 4.7.2(b)(ii)(E-I) and Condition 4.7.2(j)((ii)(F) and (G):
  - PM emissions
  - Manufacturer maintenance procedures
  - Certification records
  - Inspections and maintenance

- Reporting as follows (Condition 4.7.5):
  - Prompt reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- The source is limited to the amount of time used in non-emergency situations. Monthly maintenance inspection and manufacturer maintenance ensures combustion efficiency. Electrical output capacity is limited for engines 11-14. Use of ultra low sulfur diesel fuel reduces PM emissions. The source is required to maintain records of PM emissions, the type of fuel used, inspection records, maintain maintenance and repair logs, hours of operation per a non-resettable hour meter and purpose of operation. These records would help the Illinois EPA determine whether the engines are being operated properly and emission limits are met.

Sulfur Emissions

- Monitoring as follows (Condition 4.7.2(j)(ii)(A-C)
  - Monthly inspections
  - Manufacturer maintenance procedures

- Recordkeeping as follows (Condition 4.7.2(c)(ii)(A) and Condition 4.7.2(j)(ii)(F) and (G):
  - SO_2 emissions
  - Inspections and maintenance
  - Manufacturer’s maintenance procedures

- Reporting as follows (Condition 4.7.5):
  - Prompt reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission unit because:

- There is a small likelihood of an exceedance.
- 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.
- The source is limited to the amount of time used in non-emergency situations. Monthly maintenance inspection and manufacturer maintenance ensures combustion efficiency. Electrical output capacity is limited for engines 11-14. Use of ultra low sulfur diesel fuel reduces SO_2 emissions. The source is required to maintain records of SO_2 emissions, the type of fuel used, inspection records, maintain maintenance and repair logs, hours of operation per a non-resettable hour meter and for what purpose. These records would help the Illinois EPA determine whether the engines are being operated properly and emission limits are met.

Organic Material Emission

- Monitoring as follows (Condition 4.7.2(j)(ii)(A-C)
  - Monthly inspections

- Recordkeeping as follows (Condition 4.7.2(d)(ii)(A) and 4.7.2(j)(ii)(F) & (G):
  - VOM emissions
  - Inspections and maintenance
  - Manufacturer's maintenance procedures

- Reporting as follows (Condition 4.7.5):
  - Prompt reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- The source is limited to the amount of time used in non-emergency situations. Electrical output capacity is limited for engines 11-14. Monthly inspection and manufacturer maintenance ensures combustion efficiency. The source is required to maintain records of the type of fuel used, inspection records, maintain maintenance and repair logs, hours of operation per a non-resettable hour meter and for what purpose. These records would help the Illinois EPA determine whether the engines are being operated properly and emission limits are met.

Carbon Monoxide Emissions

- Monitoring as follows (Condition 4.7.2(e)(ii)(A-D) and 4.7.2(j)(ii)(A), (B) and (C)
  - Engines certified to CO emission standard
  - Installation per manufacturer's instructions
  - Monthly inspections
  - Manufacturer maintenance procedures

- Recordkeeping as follows (Condition 4.7.2(e)(ii)(E-I) and Condition 4.7.2(j)(ii)(F) and (G):
  - CO emissions

- Manufacturer maintenance procedures
- Certification records
- Inspections and maintenance

- Reporting as follows (Condition 4.7.5):
  - Prompt reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- The source is limited to the amount of time used in non-emergency situations. Monthly maintenance inspection and manufacturer maintenance ensures combustion efficiency. Electrical output capacity is limited for engines 11-14. The source is required to maintain records of CO emissions, the type of fuel used, inspection records, maintain maintenance and repair logs, hours of operation per a non-resettable hour meter and for what purpose. These records would help the Illinois EPA determine whether the engines are being operated properly and emission limits are met.

Non-Methane Hydrocarbons + Nitrogen Oxide Emissions

- Monitoring as follows (Condition 4.7.2(f)(ii)(A-D) and 4.7.2(j)(ii)(A), (B) and (C)
  - Engines certified to emission standard
  - Installation per manufacturer's instructions
  - Monthly inspections
  - Manufacturer maintenance procedures

- Recordkeeping as follows (Condition 4.7.2(f)(ii)(E-H) and Condition 4.7.2(j)(ii)(F) and (G):
  - $NMHC + NO_x$ emissions
  - Manufacturer maintenance procedures
  - Certification records
  - Inspections and maintenance

- Reporting as follows (Condition 4.7.3):
  - Prompt Reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.

- The source is limited to the amount of time used in non-emergency situations. Monthly maintenance inspection and manufacturer maintenance ensures combustion efficiency. Electrical output capacity is limited for engines 11-14. The source is required to maintain records of NMHC + NO_x emissions, the type of fuel used, inspection records, maintain maintenance and repair logs, hours of operation per a non-resettable hour meter and for what purpose. These records would help the Illinois EPA determine whether the engines are being operated properly and emission limits are met.

NO_x Emissions

- Monitoring as follows (Condition 4.7.2(j)(ii)
  - Monthly inspections

- Recordkeeping as follows (Condition 4.7.2(g)(ii)(A) and Condition 4.7.2(j)(ii)(F) and (G):
  - NO_x emissions
  - Inspections and maintenance
  - Manufacturer's maintenance procedures

- Reporting as follows (Condition 4.7.5):
  - Prompt reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- The source is limited to the amount of time used in non-emergency situations. Monthly inspection and manufacturer maintenance ensures combustion efficiency. Electrical output capacity is limited for engines 11-14. The source is required to maintain records of the type of fuel used, inspection records, maintain maintenance and repair logs, hours of operation per a non-resettable hour meter and for what purpose. These records would help the Illinois EPA determine whether the engines are being operated properly and emission limits are met.

Hazardous Air Pollutant Emissions (Engine 8)

- Monitoring as follows (Condition 4.7.2(j)(ii)(A)
  - Monthly inspections

- Recordkeeping as follows (Condition 4.7.2(h)(ii)(A) and 4.7.2(j)(ii)(F) and (G):
  - HAP emissions
  - Inspections and maintenance
  - Manufacturer's maintenance procedures

- Reporting as follows (Condition 4.7.5):
  - Prompt Reporting in 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- There is a small likelihood of an exceedance.
- 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.
- The source is limited to the amount of time used in non-emergency situations. Monthly inspection and manufacturer maintenance ensures combustion efficiency. Electrical output capacity is limited for engines 11-14. The source is required to maintain records of the type of fuel used, inspection records, maintain maintenance and repair logs, hours of operation per a non-resettable hour meter and for what purpose. These records would help the Illinois EPA determine whether the engines are being operated properly and emission limits are met.

Non-Applicability Discussion

Complex non-applicability determinations were not made for this emission unit. All non-applicability discussions can be found in the Draft CAAPP Permit.

Prompt Reporting Discussion

Prompt reporting of deviations has been established as 30 days. See rationale in Chapter III Section 3.9.

h. Natural Gas Boiler		
Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity 35 IAC 212.123(a)	Applicable Standard	See the Permit, Condition 4.8.2(a)
Natural Gas Limitation	Applicable Limitation	See the Permit, Condition 4.8.2(c)
Work Practice Requirements	Applicable Work Practice	See the Permit, Condition 4.8.2(d)

Visible Emissions (i.e., Opacity)

- Monitoring as follows (Condition 4.8.2(a)(ii)(A) and 4.8.2(c)(ii)(A))
  - Method 22 annually
  - If required, Method 9 measurements
  - Monthly Inspections

- Recordkeeping as follows (Condition 4.8.2(a)(ii)(B) and (C), 4.8.2(c)(ii)(A):
  - Records of each Method 22 observation
  - If required, records of each Method 9 measurement
  - Records of each inspection

- Reporting as follows (Condition 4.8.5):
  - Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for this emission unit because:

- There is a small likelihood of an exceedance.
- 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.
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for boilers that combust natural gas. The likelihood of natural gas boilers violating opacity is small. Monthly inspections maintain combustion efficiency. The source is also required to maintain the type of fuel used, maintain inspection records, and maintain maintenance and repair logs of the natural gas boiler. These records would help the Illinois EPA determine whether the natural gas boilers are is being operated properly and opacity standard is met.

Non-Applicability Discussion

All non-applicability discussions can be found in the draft CAAPP permit.

Prompt Reporting Discussion

Prompt reporting of deviations has been established as 30 days. See rationale in Chapter III Section 8.

3.8 Insignificant Activities Discussion

Applicable Requirements Summary		
Applicable Requirement	Type	Location
NSPS Requirement (40 CFR 60 Subpart IIII)	Applicable Standard	See the Permit, Condition 6.1(a)(i)(A)
NSPS Requirement (40 CFR 60 Subpart JJJJ)	Applicable Standard	See the Permit, Condition 6.1(a)(i)(B)
NESHAP Requirement (40 CFR 63 Subpart ZZZZ)	Applicable Standard	See the Permit, Condition 6.1(a)(ii)(A)

National Emission Standards for Hazardous Air Pollutants (NSPS)

- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- New engines establish compliance with 40 CFR 63 Subpart ZZZZ by complying with 40 CFR 60 Subpart IIII and 40 CFR 60 Subpart JJJJ.

3.9 Prompt Reporting Discussion

Among other terms and conditions, CAAPP Permits contain reporting obligations to assure compliance with applicable requirements. These reporting obligations are generally four-fold. More specifically, each CAAPP Permit sets forth any reporting requirements specified by state or federal law or regulation, requires prompt reports of deviations from applicable requirements, requires

reports of deviations from required monitoring and requires a report certifying the status of compliance with terms and conditions of the CAAPP Permit over the calendar year.

The number and frequency of reporting obligations in any CAAPP Permit is source-specific. That is, the reporting obligations are directly related to factors, including the number and type of emission units and applicable requirements, the complexity of the source and the compliance status. This four-fold approach to reporting is common to virtually all CAAPP Permits as described below. Moreover, this is the approach established in the Draft CAAPP Permit for this source.

Regulatory Reports

Many state and federal environmental regulations establish reporting obligations. These obligations vary from rule-to-rule and thus from CAAPP source to CAAPP source and from CAAPP Permit to CAAPP Permit. The variation is found in the report triggering events, reporting period, reporting frequency and reporting content. Regardless, the CAAPP makes clear that all reports established under applicable regulations shall be carried forward into the CAAPP Permit as stated in Section 39.5(7)(b) of the Illinois Environmental Protection Act. Generally, where sufficiently detailed to meet the exacting standards of the CAAPP, the regulatory reporting requirements are simply restated in the CAAPP Permit. Depending on the regulatory obligations, these regulatory reports may also constitute a deviation report as described below.

The Draft CAAPP Permit for this source would embody all regulatory reporting as promulgated under federal and state regulations under the Clean Air Act and the Illinois Environmental Protection Act. Depending on the frequency of the report, the regulatory report may also satisfy the prompt reporting obligations discussed below. These reports must be certified by a responsible official.

These reports are generally found in the reporting sections for each emission unit group. The various regulatory reporting requirements are summarized in the table at the end of this Reporting Section.

Deviation Reports (Prompt Reporting)

Section 39.5(7)(f)(ii) of the Illinois Environmental Protection Act mandates that each CAAPP Permit require prompt reporting of deviations from the permit requirements.

Neither the CAAPP nor the federal rules upon which the CAAPP is based and was approved by USEPA define the term “prompt”. Rather, 40 CFR Part 70.6(a)(3)(iii)(B) intended that the term have flexibility in application. The USEPA has acknowledged for purposes of administrative efficiency and clarity that 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 at a particular source. The Illinois EPA follows this approach and defines prompt reporting on a permit-by-permit basis. In instances where the underlying applicable requirement contains “prompt” reporting, the Illinois EPA typically incorporates the pre-established timeframe in the CAAPP permit (e.g. a NESHAP or NSPS deviation report). Where the underlying applicable requirement fails to explicitly set forth the timeframe for reporting deviations, the Illinois EPA generally uses a timeframe of 30 days to define prompt reporting of deviations.

This approach to prompt reporting of deviations as discussed herein is consistent with the requirements of Section 39.5(7)(f)(ii) of the Illinois Environmental Protection Act as well as 40 CFR Part 70 and the CAA. The reporting arrangement is designed so that the source will appropriately notify the Illinois EPA of those events that might warrant 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 developing preventive measures, to reduce the likelihood of similar events, all of which must be addressed in the notification for the deviation, while at the same time affording regulatory authority and the public timely and relevant information. The approach also affords the Illinois EPA and USEPA an opportunity to direct investigation and follow-up activities, and to make compliance and enforcement decisions in a timely fashion.

The Draft CAAPP Permit for this source would require prompt reporting as required by the Illinois Environmental Protection Act in the fashion described in this subsection. In addition, pursuant to Section 39.5(7)(f)(i) of the Illinois Environmental Protection Act, this Draft CAAPP Permit would also require the source to provide a summary of all deviations with the Semi-Annual Monitoring Report. These reports must be certified by a responsible official, and are generally found in the reporting sections for each emission unit group.

Semi-Annual Monitoring Reports

Section 39.5(7)(f)(i) of the Illinois Environmental Protection Act mandates that each CAAPP Permit require a report relative to monitoring obligations as set forth in the permit. Depending upon the monitoring obligation at issue, the semi-annual monitoring report may also constitute a deviation report as previously discussed. This monitoring at issue includes instrumental and non-instrumental emissions monitoring, emissions analyses, and emissions testing established by state or federal laws or regulations or as established in the CAAPP Permit. This monitoring also includes recordkeeping. Each deviation from each monitoring requirement must be identified in the relevant semi-annual report. These reports provide a timely opportunity to assess for compliance patterns of concern. The semi-annual reports shall be submitted regardless of any deviation events. Reporting periods for semi-annual monitoring reports are January 1 through June 30 and July 1 through December 31 of each calendar year. Each semi-annual report is due within 30 days after the close of reporting period. The reports shall be certified by a responsible official. The Draft CAAPP Permit for this source would require such reports at Condition 3.5(b).

Annual Compliance Certifications

Section 39.5(7)(p)(v) of the Illinois Environmental Protection Act mandates that each CAAPP Permit require a source to submit a certification of its compliance status with each term and condition of its CAAPP Permit. The reports afford a broad assessment of a CAAPP sources compliance status. The CAAPP requires that this report be submitted, regardless of compliance status, on an annual basis. Each CAAPP Permit requires this annual certification be submitted by May 1 of the year immediately following the calendar year reporting period. The report shall be certified by a responsible official. The Daft CAAPP Permit for this source would require such a report at Condition 2.6(a).

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 source to measure compliance and to direct investigation and follow-up activities. Prompt reporting is evidence of the source'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 Draft 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 a deviation from an emission limitation or standard or the like, as necessary and appropriate.

As a result, the Illinois EPA's approach to prompt reporting of deviations as discussed herein is consistent with the requirements of Section 39.5(7)(f)(ii) of the Illinois Environmental Protection 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.

3.10 Greenhouse Gas Provisions

On June 3, 2010, USEPA adopted rules for the initial permitting of major sources of emissions of greenhouse gases (GHG). *See*, 75 FR 31514-31608. Prompted by the earlier adoption of GHG emissions standards for motor vehicles under Title II of the CAA, the USEPA's rules implement a two-phased program for permitting major sources of GHG under Title V permit programs.[3] As Illinois EPA is planning to issue a permit to this source during the second phase of the rules, GHG emissions must be addressed during this CAAPP permitting action.[4] Annual Emission Reports submitted to the Illinois EPA by this source and/or estimated GHG emissions by the Illinois EPA, which detail the source's actual annual emissions of GHG, provide the necessary data to appropriately address emissions of GHG in the Draft CAAPP Permit. The data in these reports clearly show the source is a major source for emissions of GHG.

The new federal rules also require subject Title V sources to comply with any applicable GHG-related requirements that arise from other CAA programs.[5] However, there are currently no emission standards or other regulatory obligations relating to GHG that constitute "applicable requirements" for this source. For this reason, the Draft CAAPP Permit for this source does not contain any substantive requirements for GHG. At the federal level, the only venue that could potentially establish GHG-related requirements at this time is the PSD program. As of January 2, 2011, sources triggering PSD must evaluate GHG emissions resulting from projects that trigger the major source or major modification rules.[6] This source has neither constructed such a project, nor received a permit authorizing such a project, since January 2, 2011, to the present, and therefore has not triggered any GHG-related requirements under the PSD program.

There are no other GHG-related requirements established under the CAA that are applicable to this source at this time. In particular, the mandatory reporting rule for GHG promulgated by USEPA in 2009 [*see generally*, 40 CFR Part 98] is not an applicable requirement and therefore would not be included in the Draft CAAPP Permit for this source. There are also no GHG-related requirements under the Illinois Environmental Protection Act or contained within Illinois' SIP that apply to the source at this time. Other state laws or regulations in Illinois relating to GHG, including efforts to reduce emissions of GHG under authority other that the Illinois Environmental Protection Act, do not constitute applicable requirements under the CAAPP.

3.11 Periodic Monitoring General Discussions

Pursuant to Section 504(c) of the Clean Air Act, a Title V permit must set forth monitoring requirements, commonly referred to as "Periodic Monitoring," to assure compliance with the terms and conditions of the permit. A general discussion of Periodic Monitoring is provided below. The Periodic Monitoring that is proposed for specific operations and emission units and at this source is discussed in Chapter III of this Statement of Basis. Chapter III provides a narrative discussion of and justification for the elements of Periodic Monitoring that would apply to the different emission units and types of emission units at the facility.

As a general matter, the required content of a CAAPP Permit with respect to such Periodic Monitoring is addressed in Section 39.5(7) of the Illinois Environmental Protection Act.[7] Section 39.5(7)(b) of the Illinois Environmental Protection Act[8] provides that in a CAAPP Permit:

> The Agency shall include among such conditions applicable monitoring, reporting, record keeping and compliance certification requirements, as authorized by paragraphs d, e, and f of this subsection, that the Agency deems necessary to assure compliance with the Clean Air Act, the regulations promulgated thereunder, this Act, and applicable Board regulations. When monitoring, reporting, record keeping and compliance certification requirements are specified within the Clean Air Act, regulations promulgated thereunder, this Act, or applicable regulations, such requirements shall be included within the CAAPP Permit.

Section 39.5(7)(d)(ii) of the Illinois Environmental Protection Act further provides that a CAAPP Permit shall:

> Where the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), require Periodic Monitoring sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit …

Accordingly, the scope of the Periodic Monitoring that must be included in a CAAPP Permit is not restricted to monitoring requirements that were adopted through rulemaking or imposed through permitting. When applicable regulatory emission standards and control requirements or limits and control requirement in relevant Title 1 permits are not accompanied by compliance procedures, it is necessary for Monitoring for these standards, requirements or limits to be established in a CAAPP Permit.[9, 10] Monitoring requirements must also be established when standards and control requirement are accompanied by

compliance procedures but those procedures are not adequate to assure compliance with the applicable standards or requirements.[11, 12] For this purpose, the requirements for Periodic Monitoring in a CAAPP Permit may include requirements for emission testing, emissions monitoring, operational monitoring, non-instrumental monitoring, and recordkeeping for each emission unit or group of similar units at a facility, as required by rule or permit, as appropriate or as needed to assure compliance with the applicable substantive requirements. Various combinations of monitoring measures will be appropriate for different emission units depending on their circumstances, including the substantive emission standards, limitations and control requirements to which they are subject.

What constitutes sufficient Periodic Monitoring for particular emission units, including the timing or frequency associated with such Monitoring requirements, must be determined by the permitting authority based on its knowledge, experience and judgment.[13] For example, as Periodic Monitoring must collect representative data, the timing of Monitoring requirements need not match the averaging time or compliance period of the associated substantive requirements, as set by the relevant regulations and permit provisions. The timing of the various requirements making up the Periodic Monitoring for an emission unit is something that must be considered when those Monitoring requirements are being established. For this purpose, Periodic Monitoring often consists of requirements that apply on a regular basis, such as routine recordkeeping for the operation of control devices or the implementation of the control practices for an emission unit. For certain units, this regular monitoring may entail “continuous” monitoring of emissions, opacity or key operating parameters of a process or its associated control equipment, with direct measurement and automatic recording of the selected parameter(s). As it is infeasible or impractical to require emissions monitoring for most emission units, instrumental monitoring is more commonly conducted for the operating parameters of an emission unit or its associated control equipment. Monitoring for operating parameter(s) serves to confirm proper operation of equipment, consistent with operation to comply with applicable emission standards and limits. In certain cases, an applicable rule may directly specify that a particular level of an operating parameter be maintained, consistent with the manner in which a unit was being operated during emission testing. Periodic Monitoring may also consist of requirements that apply on a periodic basis, such as inspections to verify the proper functioning of an emission unit and its associated controls.

The Periodic Monitoring for an emission unit may also include measures, such as emission testing, that would only be required once or only upon specific request by the Illinois EPA. These requirements would always be accompanied by Monitoring requirements would apply on a regular basis. When emission testing or other measure is only required upon request by the Illinois EPA, it is included as part of the Periodic Monitoring for an emission unit to facilitate a response by the Illinois EPA to circumstances that were not contemplated when Monitoring was being established, such as the handling of a new material or a new mode of operation. Such Monitoring would also serve to provide further verification of compliance, along with other potentially useful information. As emission testing provides a quantitative determination of compliance, it would also provide a determination of the margin of compliance with the applicable limit(s) and serve to confirm that the Monitoring required for an emission unit on a regular basis is reliable and appropriate. Such testing might also identify specific values of operating parameters of a unit or its associated control equipment that accompany compliance and can be relied upon as part of regular Monitoring.

There are a number of considerations or factors that are or may be relevant when evaluating the need to establish new monitoring requirements as part of the Periodic Monitoring for an emission unit. These factors include: (1) The nature of the emission unit or process and its emissions; (2) The variability in the operation and the emissions of the unit or process over time; (3) The use of add-on air pollution control equipment or other practices to control emissions and comply with the applicable substantive requirement(s); (4) The nature of that control equipment or those control practices and the potential for variability in their effectiveness; (5) The nature of the applicable substantive requirement(s) for which Periodic Monitoring is needed; (6) The nature of the compliance procedures that specifically accompany the applicable requirements; (7) The type of data that would already be available for the unit; (8) The effort needed to comply with the applicable requirements and the expected margin of compliance; (9) The likelihood of a violation of applicable requirements; (10) The nature of the Periodic Monitoring that may be readily implemented for the emission unit; (11) The extent to which such Periodic Monitoring would directly address the applicable requirements; (12) The nature of Periodic Monitoring commonly required for similar emission units at other facilities and in similar circumstances; (13) The interaction or relationship between the different measures in the Periodic Monitoring for an emission unit; and (14) The feasibility and reasonableness of requiring additional measures in the Periodic Monitoring for an emission unit in light of other relevant considerations.[14]

CHAPTER IV - CHANGES FROM PREVIOUSLY ISSUED CAAPP PERMITS

4.1 Major Changes Summary

This renewal CAAPP draft is presented in a new format. The new format is the result of recommendations by the USEPA, comments made by sources, and interactions with the public.

	Previous CAAPP Permit Layout	*New CAAPP Permit Layout*
Section 1	Source Identification	Source Information
Section 2	List Of Abbreviations/Acronyms	General Permit Requirements
Section 3	Insignificant Activities	Source Requirements
Section 4	Significant Emission Units	Emission Unit Requirements
Section 5	Overall Source Conditions	Title I Requirements
Section 6	Emission Control Programs	Insignificant Activities
Section 7	Unit Specific Conditions	Other Requirements
Section 8	General Permit Conditions	State Only Requirements
Section 9	Standard Permit Conditions	---
Section 10	Attachments	Attachments

4.2 Specific Permit Condition Changes

- Two ethylene oxide sterilizers decommissioned
- One ATS Building boiler decommissioned
- One pathological waste incinerator decommissioned
- One emergency engine decommissioned
- Significant Modification application information incorporated
- Two construction permits' limits incorporated
- Additional State and Federal rule applicability

Endnotes

[1] The federal PSD program, 40 CFR 52.21, applies in Illinois. The Illinois EPA administers PSD permitting for major projects in Illinois pursuant to a delegation agreement with USEPA.

[2] Illinois has a state nonattainment NSR program, pursuant to state rules, Major Stationary Sources Construction and Modification ("MSSCM"), 35 IAC Part 203, which have been approved by USEPA as part of the State Implementation Plan for Illinois.

[3] The new rules apply the first phase of permitting to sources already subject to Title V by virtue of their conventional, non-GHG pollutants. As noted above, these sources are expected to address GHG in their permitting applications and to comply with any substantive requirements for GHG that have been established through other CAA programs such as PSD. The second phase of permitting that begins July 1, 2011, essentially applies the same requirements to sources who will become subject to Title V based on their GHG emissions alone (i.e., existing or newly constructed sources with a potential to emit of equal to or greater than 100,000 tons per year of CO2*e* and 100 tons per year of GHG on a mass basis).

[4] USEPA has stated that the first phase of its new rules requires existing Title V sources to address GHG in their Title V applications by citing to any pollutants for which the Title V source is major and to all regulated air pollutants. *See,* PSD and Title V Permitting Guidance for Greenhouse Gases, prepared by the Office of Air Quality Planning and Standards, page 51 (November 2010).

[5] *See generally,* PSD and Title V Permitting Guidance for GHG at pages 53-56.

[6] A major source subject to PSD based on potential emissions of a non-GHG pollutant and potential emissions of GHG equal or greater than 75,000 tons per year of CO_2e is required to address GHG emissions in evaluating control options and associated monitoring, reporting, etc, for any construction of a new major source or a major modification of an existing major source.

[7] The provisions of the Act for Periodic Monitoring in CAAPP permits reflect parallel requirements in the federal guidelines for State Operating Permit Programs, 40 CFR 70.6(a)(3)(i)(A), (a)(3)(i)(B), and (c)(1).

[8] Section 39.5(7)(p)(i) of the Act also provides that a CAAPP permit shall contain "Compliance certification, testing, monitoring, reporting and record keeping requirements sufficient to assure compliance with the terms and conditions of the permit."

[9] The classic example of regulatory standards for which Periodic Monitoring requirements must be established in a CAAPP permit are state emission standards that pre-date the 1990 Clean Air Act Amendments that were adopted without any associated compliance procedures. Periodic Monitoring must also be established in a CAAPP permit when standards and limits are accompanied by compliance procedures but those procedures are determined to be inadequate to assure compliance with the applicable standards or limits.

[10] Another example of emission standards for which requirements must be established as part of Periodic Monitoring is certain NSPS standards that require initial performance testing but do not require periodic testing or other measures to address compliance with the applicable limits on a continuing basis.

[11] The need to establish Monitoring requirements as part of Periodic Monitoring when existing compliance procedures are determined to be inadequate, as well as when they are absent, was confirmed by the federal appeals court in Sierra Club v. Environmental Protection Agency, 536 f. 3d 673, 383 U.S. App. D.C. 109.

[12] The need to establish Monitoring requirements as part of Periodic Monitoring is also confirmed in USEPA's Petition Response. USEPA explains that "…if there is periodic monitoring in the applicable requirements, but that monitoring is not sufficient to assure compliance with permit terms and conditions, permitting authorities must supplement monitoring to assure such compliance." Petition Response, page 6.

[13] The test for the adequacy of "Periodic Monitoring" is a context-specific determination, particularly whether the provisions in a Title V permit reasonably address compliance with relevant substantive permit conditions. 40 CFR 70.6(c)(1); *see also* 40 CFR 70.6(a)(3)(i)(B); *see also, In the Matter of CITGO Refinery and Chemicals Company L.P.,* Petition VI-2007-01 (May 28, 2009); *see also, In the Matter of Waste Management of LA. L.L.C. Woodside Sanitary Landfill & Recycling Center, Walker, Livingston Parish, Louisiana,* Petition VI-2009-01 (May 27, 2010); *see also, In the Matter of Wisconsin Public Service Corporation's JP Pulliam Power Plant,* Petition V-2009-01 (June 28, 2010).

[14] A number of these factors are specifically listed by USEPA in its Petition Response. USEPA also observes that the specific factors that it identifies in its Petition Response with respect to Periodic Monitoring provide "…the permitting authority with a starting point for its analysis of the adequacy of the monitoring; the permitting authority also may consider other site-specific factors." Petition Response, page 7.