Statement of Basis

for the DRAFT CAAPP Permit for:

Source Name:

Nicor Gas – Station No. 50

Statement of Basis No.:	95120023-1410
I.D. No.:	099832AAF
Permit No.:	95120023
Date Prepared:	October 3, 2014

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 new CAAPP Permit issued on June 18, 2002, 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 September 18, 2006. 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 units that are subject to the following Federal regulations.

40 CFR Part 60 – Subpart A, NSPS General Provisions
40 CFR Part 60 – Subpart GG, NSPS for Stationary Gas Turbines
40 CFR Part 60 – Subpart KKKK, NSPS for Stationary Combustion Turbines
40 CFR Part 63 – Subpart A, NESHAP General Provisions
40 CFR Part 63 – Subpart ZZZZ, NESHAP for Reciprocating Internal Combustion Engines (Stationary RICE)
40 CFR Part 64 – Compliance Assurance Monitoring

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 215 – Organic Material Emission Standards and Limitations
35 IAC Part 216 – Carbon Monoxide Emissions
35 IAC Part 217 – Nitrogen Oxides Emissions
35 IAC Part 244 – Episodes
35 IAC Part 254 – Annual Emissions Report

c. Other Applicable Requirements

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: 4924
County: LaSalle

The source, Nicor Gas – Station No. 50, is located at 169 North 36th Road, Troy Grove, Illinois. The source's primary function is to transmit natural gas to and from high-pressure underground storage fields. Natural gas is injected into the storage fields during low demand periods (typically between May and October) and withdrawn from storage during high demand periods (approximately from November to April) and distributed through regional pipelines as needed. Natural gas fired turbines and engines are used to provide power for compressors to inject the natural gas pressure into the underground storage fields. When the natural gas is withdrawn from storage and prior to delivery to the distribution pipeline system, water is removed from the natural gas by triethylene glycol (TEG) dehydration units. The storage capacity of this station is about 80 billion cubic feet.

Turbines and reciprocating engine-driven compressors are used at this location for both injection and distribution. The natural gas is metered as it enters the storage station, filtered and compressed. The gas is compressed so as to increase its pressure to levels greater than the reservoir's original pressure and this allows the gas to be pumped into the underground reservoir. As the natural gas enters the aquifer reservoir, water is displaced from the sandstone. The displaced water provides the pressure needed to withdraw gas when needed. A significant amount of moisture accompanies the gas as it is withdrawn from the aquifer. The gas from storage goes through a dehydration process before it enters the distribution system. During mild weather, the gas pressure in the storage formation may be sufficient to move it out into the system or smaller engine-driven compressors may be used. In colder weather when more gas is needed, the large turbine-driven compressors may be required.

The source contains the following processes:

Section	*Emission Units*	*Description*
4.1	OC5	9,800 HP output/96.7 mmBtu/hr heat input rate of Natural Gas-Fired Turbine for Orenda Compressor #5
4.1	OC6	9,800 HP output/96.7 mmBtu/hr heat input rate of Natural Gas-Fired Turbine for Orenda Compressor #6
4.1	OC7	9,800 HP output/96.7 mmBtu/hr heat input rate of Natural Gas-Fired Turbine for Orenda Compressor #7
4.1	SC21	1,300 HP output/10.2 mmBtu/hr heat input rate of Natural Gas-Fired Turbine for Solar Compressor #21
4.1	SC22	1,300 HP output/10.2 mmBtu/hr heat input rate of Natural Gas-Fired Turbine for Solar Compressor #21
4.1	SC23	1,300 HP output/10.2 mmBtu/hr heat input rate of Natural Gas-Fired Turbine for Solar Compressor #21
4.1	SC24	1,275 HP output/10.2 mmBtu/hr heat input rate of Natural Gas-Fired Turbine for Solar Compressor #24

Section	*Emission Units*	*Description*
4.1	SC25	1,300 HP output/10.2 mmBtu/hr heat input rate of Natural Gas-Fired Turbine for Solar Compressor #21
4.1	SC26	1,275 HP output/10.2 mmBtu/hr heat input rate of Natural Gas-Fired Turbine for Solar Compressor #26
4.2	DR31	5,700 HP output/51.0 mmBtu/hr heat input rate of Natural Gas-Fired Dresser Rand Turbine
4.2	Mars41	15,000 HP output/112.0 mmBtu/hr heat input rate of Natural Gas-Fired Solar Mars Turbine #1
4.3	Mars51	15,000 HP output/112.0 mmBtu/hr heat input rate of Natural Gas-Fired Solar Mars Turbine #2
4.3	SC27	10,011 HP output/91.3 mmBtu/hr heat input rate of Natural Gas Fired Turbine for Solar Compressor #27
4.3	SC28	10,011 HP output/91.3 mmBtu/hr heat input rate of Natural Gas Fired Turbine for Solar Compressor #28
4.4	CC3	1,000 HP output/8.0 mmBtu/hr heat input rate of Natural Gas-Fired SI 2SLB Engine for Cooper Compressor #3
4.4	CC4	1,000 HP output/8.0 mmBtu/hr heat input rate of Natural Gas-Fired SI 2SLB Engine for Cooper Compressor #4
4.4	SG2	500 HP output/4.0 mmBtu/hr heat input rate of Natural Gas-Fired SI 4SRB Engine for Station Generator #2
4.4	SG3	310 HP output/2.5 mmBtu/hr heat input rate of Natural Gas-Fired SI 4SRB Engine for Station Generator #3
4.4	SG4	814 HP output/6.1 mmBtu/hr heat input rate of Natural Gas-Fired SI 4SLB Engine for Station Generator #4
4.4	CG5	225 HP output/1.8 mmBtu/hr heat input rate of Natural Gas-Fired SI 4SRB Engine for Station Generator #5
4.4	CG6	225 HP output/1.8 mmBtu/hr heat input rate of Natural Gas-Fired SI 4SRB Engine for Station Generator #6
4.4	CG7	225 HP output/1.8 mmBtu/hr heat input rate of Natural Gas-Fired SI 4SRB Engine for Station Generator #7
4.4	SG1	637 HP output/5.9 mmBtu/hr heat input rate of Natural Gas-Fired SI 4SLB Engine for Station Generator #1
4.5	VV1	National TEG Dehydration Unit Vapor Vent #1 at the main station
4.5	VV2	Parkersburg TEG Dehydration Unit Vapor Vent #2 at the main station
4.5	VV3	BS & B TEG Dehydration Unit Vapor Vent #3 at the main station
4.5	VV4	Delta TEG Dehydration Unit Vapor Vent #4 at the main station
4.5	VV5	Tulpro TEG Dehydration Unit Vapor Vent #5 at the main station
4.5	VV6	National TEG Dehydration Unit Vapor Vent #1 at the main station
4.5	VV1N	TEG Dehydration Unit Vapor Vent #1 at the north station
4.5	VV2N	TEG Dehydration Unit Vapor Vent #2 at the north station
4.5	VV3N	TEG Dehydration Unit Vapor Vent #3 at the north station

Section	*Emission Units*	*Description*
4.5	VV4N	TEG Dehydration Unit Vapor Vent #4 at the north station
4.6	HB1	3.12 mmBtu/hr Natural Gas-Fired Boiler
4.6	HB2	2.52 mmBtu/hr Natural Gas-Fired Boiler
4.6	HB3	2.52 mmBtu/hr Natural Gas-Fired Boiler
4.7	M1	30,000 Gallon Methanol Storage Tank
4.7	–	300 Gallon Methanol Tank
4.7	–	300 Gallon Methanol Tank
4.7	UG1	2,000 Gallon Gasoline Storage Tank
4.7	M2	20,000 Gallon Methanol Storage Tank

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 as of the date of permit issuance designated attainment or unclassifiable for the National Ambient Air Quality Standards for all criteria pollutants (carbon monoxide, lead, nitrogen dioxide, ozone, $PM_{2.5}$, PM_{10}, sulfur dioxide). (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) and carbon monoxide (CO).

This source maintains synthetic minor limits (see Condition 3.4(a)(i)) for the following regulated pollutants: hazardous air pollutants (HAPs). These synthetic limits were established on August 12, 2004, through a revision of Construction Permit 01100063 prior to August 16, 2004, the initial compliance date of the RICE MACT rule, 40 CFR Part 63 Subpart ZZZZ. Such a change made this source an area source for HAPs from the major originally classified in the previous CAAPP Permit.

This source is considered a natural minor for the following regulated pollutants: PM_{10}, $PM_{2.5}$, volatile organic material (VOM), and sulfur dioxide (SO_2).

Based on available data, this source is a major source of emissions for GHG, because the estimated potential emissions of GHG that are more than 100 tons per year (mass) and 100,000 tons per year (CO_2e). Nicor Gas voluntarily submitted data for actual emissions of GHGs in its 2013 AER, reporting actual annual emissions of GHG of 19,631.28 tons (CO_2e) per year. The emissions consist of 19,611.00 tons of CO_2, 0.037 tons of N_2O, and 0.37 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	*2013*	*2012*	*2011*	*2010*	*2009*
CO	27.73	33.98	26.54	24.89	26.16
NO_x	33.31	25.61	48.88	25.07	31.84
PM	0.60	0.36	1.49	0.88	0.13
SO_2	0.04	0.04	0.28	0.24	0.13
VOM	21.28	25.51	23.10	18.53	19.64
CO_{2E}	19,631.28	15,775.44	18,753.18	25,634.50	11,705.60
HAP (Total)	6.51	6.93	5.66	8.88	5.00
HAP (Top)	3.94 (Benzene)	4.88 (Benzene)	3.69 (Benzene)	3.12 (Benzene)	3.30 (Benzene)

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)	37.73
Sulfur Dioxide	(SO_2)	1.83
Particulate Matter	(PM)	7.99
Nitrogen Oxides	(NO_x)	317.39
HAP, not included in VOM or	(HAP)	18.28
	Total	383.22

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.

- Previously Incorporated Construction Permits:

Permit No.	*Date Issued*	*Subject*
95030010	1995	–

- Newly Issued Construction Permits:

Permit No.	*Date Issued*	*Subject*
08060057	10/17/2008	Two New Fired Compressor Turbines
05060044	12/20/2007 (Revised)	New Dehydration Unit and New Electric Generator Unit
05080021	12/05/2005	Upgrades of Four Existing Compressors Turbines
05060044	07/26/2005 (Initial)	New Dehydration Unit and New Electric Generator Unit
05020023	03/28/2005	New Dehydration Units
04080010	02/25/2005	New Turbines
01100063	11/29/2004 (Revised)	Advanced Fuel-Air Controls/Expansion of Troy Grove Station #50
04080005	09/03/2004	New Wastewater Evaporator
01100063	08/12/2004 (Revised)	Advanced Fuel-Air Controls/Expansion of Troy Grove Station #50
01100063	05/12/2004 (Revised)	Advanced Fuel-Air Controls/Expansion of Troy Grove Station #50
01100063	03/31/2004 (Revised)	Expansion of Troy Grove Station #50
01100063	12/05/2002 (Initial)	Expansion of Troy Grove Station #50
00110027[1]	02/06/2001	Joint Construction and Operating Permit: Flares
95040140[2]	12/13/2000	FESOP: Dehydration Yard

Note: [1] Limits of CO and NO_x emissions from three existing flares at the main site of this facility are incorporated.

[2] Limits of VOM emissions from three existing flares at the North site of this facility are incorporated.

- Newly Issued Construction Permits For Projects Not Yet Constructed:[3]

Permit No.	*Date Issued*	*Subject*
13070016	08/29/2013	Thermal Oxidizer for Dehydration Unit (VV-6)
11110038	12/06/2011	Installation of Oxidation Catalyst Systems

- The following table lists the T1R Limits 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 3 Condition 3.4(a)(i)(A)	PSD/NSR avoidance limit (Synthetic Minor Limits on HAP Emissions)

- The previously CAAPP Permit, issued June 18, 2002, established T1N Limits at Conditions 7.3.6, and 7.4.6(a), which are converted into T1 limits in this permit at Conditions 4.4.2(e)(i)(C) and 4.5.4(c)(i)(A), respectively.

- Extraneous or Obsolete T1 Conditions:[4]

Construction Permit No.	*Condition Number*	*Subject*
05060044	Condition 2.7(a)	New Dehydration Unit and New Electric Generator Unit
04080010	Conditions 1.3(a), (b), and (c) Conditions 1.7(a), 1.8, and 1.10	New Turbines
01100063	Conditions 1.7(a) and 3.7(a)	Advanced Fuel-Air Controls/Expansion of Troy Grove Station #50

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

This location has not been identified as a potential concern for Environmental Justice consideration.

3.2 Emission Testing Results

The source has performed the following emission testing[1]:

Emission Unit	*Date*	*Pollutant*	*Results of Run #1*	*Results of Run #2*	*Results of Run #3*	*3-Run Average*	*Compliance Margin %*
Mars 41 (EXC1)	12/16/2003	NO_x (lb/hr)	6.834	6.968	7.062	6.955	58.0
Mars 41 (EXC1)	12/16/2003	CO (lb/hr)	0.150	0.345	0.427	0.307	97.8
Mars 41 (EXC1)	12/16/2003	NMVOC(as C_1) (lb/hr)	0.010	0.006	0.018	0.011	N/A
SG4	10/29/2004	NO_x (lb/hr)	1.335	1.571	1.498	1.468	29.1
SG4	10/29/2004	CO (lb/hr)	2.084	2.266	2.245	2.199	42.7
SG4	10/29/2004	NMVOM (lb/hr)	0.026	0.082	0.019	0.042	72.0
SG4	10/14/2005	Formaldehyde (lb/hr)	0.19	0.18	0.19	0.19	N/A
SG4	10/14/2005	Acrolien (lb/hr)	0.03	0.03	0.03	0.03	N/A
CC3	10/14/2005	Formaldehyde (lb/hr)	0.22	0.20	0.18	0.20	N/A
CC3	10/14/2005	Acrolien (lb/hr)	0.15	0.12	0.10	0.12	N/A
Mars 51	12/19/2007	PM (lb/hr)	2.40	2.40	2.40	2.40	83.1
Mars 51	12/19/2007	CO (lb/hr)	0.31	0.25	0.20	0.25	98.2
Mars 51	12/19/2007	NO_x ppmvd at 15% O_2	14.64	11.38	10.62	12.21	51.2[2]
		NO_x (lb/hr)	6.43	5.00	4.66	5.37	40.3
Mars 51	12/19/2007	VOM (lb/hr)	0.000	0.000	0.000	0.000	100.0
Mars 51	12/19/2007	SO_2 lb/mmBtu	0.0004	0.0004	0.0004	0.0004	99.3[3]
		SO_2 (lb/hr)	0.053	0.053	0.053	0.053	86.1
SG1[3]	02/09/2010	NO_x (g/bhp-hr)	5.53	5.86	5.59	5.66	4.7
SG1	02/09/2010	THC (g/bhp-hr)	1.36	1.63	1.70	1.56	N/A
SG1	02/09/2010	Methane (g/bhp-hr)	1.21	1.20	1.20	1.20	N/A
SG1	02/09/2010	Ethane (g/bhp-hr)	0.072	0.075	0.072	0.073	N/A
SG1	02/09/2010	Formaldehyde (g/bhp-hr)	0.112	0.111	0.111	0.111	N/A
SG1	02/09/2010	VOM (g/bhp-hr)	0.18	0.46	0.55	0.40	51.8
SG1	02/09/2010	CO (g/bhp-hr)	1.15	1.13	1.06	1.11	24.0
Mars 51	02/24/2010	NO_x ng/J	30.10	31.13	31.44	30.94	79.4[2]
		NO_x lb/hr	8.24	8.48	8.55	8.42	6.3

Emission Unit	*Date*	*Pollutant*		*Results of Run #1*	*Results of Run #2*	*Results of Run #3*	*3-Run Average*	*Compliance Margin %*
Mars 51	02/24/2010	CO (lb/hr)		0.784	0.240	0.090	0.371	97.3
Mars 51	02/24/2010	THC (lb/hr)		0.859	0.204	0.147	0.403	N/A
SC27	03/24/2010	NO_x	ng/J	6.11	5.88	5.66	5.88	96.1[2]
			lb/hr	1.11	1.07	1.03	1.07	76.2
SC27	03/24/2010	CO (lb/hr)		0.19	0.19	0.19	0.19	95.9
SC27	03/24/2010	SO_2	lb/mmBtu	0.0004	0.0004	0.0004	0.0004	99.3[3]
			lb/hr	0.031	0.031	0.031	0.031	94.8
SC27	03/24/2010	VOC as CH_4 (lb/hr)		0.021	0.022	0.021	0.021	99.2
SC27	03/24/2010	Formaldehyde (lb/hr)		0.242	0.112	0.083	0.146	N/A
SC28	02/23/2010	NO_x	ng/J	6.03	6.15	5.23	5.84	96.1[2]
			lb/hr	1.20	1.22	1.04	1.16	74.2
SC28	02/23/2010	CO (lb/hr)		0.171	0.234	0.155	0.186	96.0
SC28	02/23/2010	THC (lb/hr)		0.220	0.087	0.038	0.115	N/A
SC28	02/23/2010	Formaldehyde (lb/hr)		0.0430	0.0034	0.0033	0.0166	N/A
Mars 51	03/05/2012	NO_x	ng/J	28.98	30.15	31.61	30.25	79.8[2]
			lb/hr	8.49	8.84	9.27	8.86	1.4
Mars 51	03/05/2012	SO_2 Fd = 8655	lb/mmBtu	0.0003	0.0003	0.0003	0.0003	99.5[3]
			lb/hr	0.036	0.036	0.036	0.036	90.5
SC27	03/04/2012	NO_x	ng/J	4.24	4.25	4.53	4.34	97.1[2]
			lb/hr	0.78	0.79	0.84	0.81	82.0
SC27	03/04/2012	SO_2 Fd = 8655	lb/mmBtu	0.0003	0.0003	0.0003	0.0003	99.5[3]
			lb/hr	0.022	0.023	0.023	0.023	96.2
SC27	03/04/2012	Formaldehyde ppbvd at 15% O_2		20.4	20.1	20.0	20.2	77.8
SC28	03/04/2012	NO_x	ng/J	6.77	6.64	6.72	6.71	95.5[2]
			lb/hr	1.35	1.32	1.33	1.33	70.4
SC28	03/04/2012	SO_2 Fd = 8655	lb/mmBtu	0.0003	0.0003	0.0003	0.0003	99.5[3]
			lb/hr	0.024	0.024	0.024	0.024	96.0
SG1	11/14/2012	CO ppmvd at 15% O_2 (Fd=8710)		3.41	3.39	3.43	3.41	92.7
SG4	11/15/2012	CO ppmvd at 15% O_2 (Fd=8710)		1.60	1.61	1.60	1.61	96.6
SC27	02/26/2014	NO_x	ppmvd at 15% O_2	4.30	4.30	4.32	4.30	82.8[2]
			lb/mmBtu	0.016	0.016	0.016	0.016	67.3
SC27	02/26/2014	SO_2 Fd = 8658	lb/mmBtu	0.0011	0.0011	0.0011	0.0011	98.2[3]
			lb/hr	0.091	0.091	0.091	0.091	84.8
SC28	02/26/2014	NO_x	ppmvd at 15% O_2	7.34	7.33	7.27	7.31	70.8[2]
			lb/mmBtu	0.027	0.027	0.027	0.027	44.9
SC28	02/26/2014	SO_2 Fd = 8658	lb/mmBtu	0.0011	0.0011	0.0011	0.0011	98.2[3]
			lb/hr	0.101	0.100	0.100	0.100	83.3
Mars 51	02/27/2014	NO_x	ppmvd at 15% O_2	18.60	18.52	18.65	18.59	25.6[2]
			lb/mmBtu	0.068	0.068	0.068	0.068	15.0
Mars 51	02/27/2014	SO_2 Fd = 8658	lb/mmBtu	0.0011	0.0011	0.0011	0.0011	98.2[3]
			lb/hr	0.141	0.141	0.142	0.141	62.9

Note: [1] The Illinois EPA rejected the results of the Source Emissions Tests performed at this facility on April 17 and May 31, 2007, for the 375 kW natural gas fired engine SG1, because: (a) three runs per load level were not accomplished; and (b) the test results were not submitted to the Illinois EPA until February 25, 2008, nearly six months later than the

submittal time requirements specified in Condition 2.7(f) of Illinois EPA Construction Permit 05060044.

[2] On a basis of the Emission limit for NO_x from Table 1 of 40 CFR Part 60 Subpart KKKK (25 ppm or 150 ng/J.

[3] On a basis of the emission limit for SO_2 from 40 CFR 60.4330(a)(2) (26 ng/J or 0.060 lb/mmBtu).

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 07/25/2013 demonstrates the source's ability to comply with all applicable requirements.

3.5 Historical Non-Compliance

Upon review of the source's historical compliance, there is no historical non-compliance for this source in the past ten years since 2004.

Before 2004, however, a few cases of non-compliance occurred as follows:

- A CIL was sent in 1994 for constructing some equipment without obtaining the necessary permits. Nicor Gas had obtained the necessary permits in response to this CIL.
- VN A-2002-00486 was sent on January 14, 2003 for construction without permit. A compliance commitment agreement (CCA) in response to VN A-2002-00486 was accepted on April 9, 2003.

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)
HAP Requirement(Synthetic Minor Limits) (T1R)	Applicable Limit	See the Permit, Condition 3.4(a)

Particulate Matter Emission

✓ Monitoring as follows (Condition 3.1(a)(ii)):
- o Upon request by the Illinois EPA, daily observations for a week for fugitive PM emissions

✓ Recordkeeping as follows (Condition 3.1(a)(ii)):
- o Records for these observations, including identity of the observer, the date and time of observations, the location(s) from which observations were made, and duration of any fugitive emissions event(s)

✓ Reporting as follows (Condition 3.5(a) and (b)):
  - o Prompt reporting within 30 days
  - o Semiannual monitoring reports in which the summary of these observations is included

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.

HAP Emissions (Synthetic Minor Requirements)

✓ Monitoring as follows (Conditions 3.4(a)(ii)(A), (B), and (C)):
  - o Monthly HAP emission calculations of individual HAP and all the HAPs combined
  - o Monthly monitoring of the total heat content of the fuel fired in the permitted emission units
  - o If, in the previous calendar year, source-wide HAP emissions exceeded the established limits of an individual HAP emission and/or all the HAP emissions combined, testing must be performed in accordance with the test protocol prepared by the Permittee

✓ Recordkeeping as follows (Conditions 3.4(a)(ii)(D) through (G)):
  - o Records of monthly and annual emission calculations for individual HAP and all the HAPs combined
  - o An annually updated file of the potential emissions of individual HAP and total HAPs from each emission unit
  - o Records of the testing, if required
  - o A record of the detailed analysis for the applicability determination of 40 CFR Part 63 Subpart YYYY and ZZZZ

✓ Reporting as follows (Condition 3.5):
  - o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- 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.
- Primary sources of HAP emissions from this facility include turbines, engines, and TEG dehydration units. Restricting source-wide usage of fuel (i.e., pipeline quality natural gas only) fired in the turbines, engines, and reboilers associated with the TEG units in Section 4.1 through Section 4.5 limits HAP emissions from the source to the levels that make them an area source of HAPs. The HAP emissions from engines and turbines are determined by emission factors from AP-42. Use of

these emission factors is acceptable. The HAP emissions from the TEG units are determined by using GRI-GLYCalcTM (version 3.0 or higher), the GLYCalcTM manual, and GLYCalcTM procedures. This is the same preferred method as used in 40 CFR Part 63 Subpart HHH to calculate HAP emissions. The monthly HAP emissions are calculated on a month-block basis and the annual on a rolling 12-month basis. It should also be noted that the source status is an area source of HAPs; therefore, the engines are subject to 40 CFR Part 63 Subpart ZZZZ and all the control and monitoring requirements under 40 CFR Part 63 Subpart ZZZZ. Since the source is subject to the NESHAP ZZZZ, when the engines are required to comply with the NESHAP, emissions from the engines will be substantially lower than the emission levels discussed above. Therefore, by restricting source-wide usage of fuel fired in the turbines, engines, and reboilers, the Proposed CAAPP Permit does truly make the source status an area source.

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. Turbines (OC5, OC6, OC7, SC24, SC26, SC21, SC22, SC23, and SC25)

Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123(a))	Applicable Standard	See the Permit, Condition 4.1.2(a)
SO_2 Requirement (35 IAC 214.301)	Applicable Limit	See the Permit, Condition 4.1.2(b)
Operational and Production Requirement	Applicable Work Practice	See the Permit, Condition 4.1.2(c)
Work Practice Requirement	Applicable Work Practice	See the Permit, Condition 4.1.2(d)

Visible Emissions (i.e., Opacity)

✓ Monitoring as follows (Condition 4.1.2(a)(ii)(A)):
- Annual Method 22 observation
- If required, Method 9 measurement

✓ Recordkeeping as follows (Condition 4.1.2(a)(ii)(B)):
- Records of each Method 22 observation
- If required, records of each Method 9 measurement

✓ Reporting as follows (Condition 4.1.5(a)):
- 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.
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for turbines that combust natural gas. The likelihood of natural gas turbines violating opacity is small. It should be noted that the source is also required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the turbines. These records would help the IEPA determine if the turbines are being operated properly and therefore would result in opacity being minimized. Because these turbines use pipeline quality natural gas, which contains low PM content, coupled with monthly operational inspections, the efficiency of the turbines is ensured to reduce the likelihood of visible emissions.

Sulfur Dioxide Emissions

✓ Monitoring as follows (Condition 4.1.2(d)(ii)(A)):
  - o Monthly inspection

✓ Recordkeeping as follows (Conditions 4.1.2(c)(ii)(A) and 4.1.2(d)(ii)(B)(I)):
  - o Type of fuel used
  - o Records of monthly inspections

✓ Reporting as follows (Condition 4.1.5(a)):
  - 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.
- It is unlikely for the turbines to violate the sulfur limit because pipeline quality natural gas has sulfur content limited to levels that would result in SO_2 emissions less than the limit.
- Pursuant to 40 CFR 72.2, "Pipeline natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by a supplier through a pipeline. Pipeline natural gas contains 0.5 grains or less of total sulfur per 100 standard cubic feet (less than 1 ppm (0.8 ppm)). Additionally, pipeline natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value

between 950 and 1100 Btu per standard cubic foot". The limited sulfur content results in SO_2 emissions less than the 2,000 ppm limit. It should be noted that the source is also required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the turbines. These records would help the IEPA determine if the turbines are being properly operated and therefore would result in SO_2 being minimized.

Operational and Production Requirement

✓ Recordkeeping as follows (Condition 4.1.2(c)(ii)(A)):
- Records of the type and the amount of fuel utilized

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

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

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

Work Practice Requirement

✓ Monitoring as follows (Condition 4.1.2(d)(ii)(A)):
- Monthly inspections

✓ Recordkeeping as follows (Condition 4.1.2(d)(ii)(B)):
- Records of monthly inspections
- Records of Turbine rating
- Records of monthly and annual operating hours
- Records of monthly and annual emissions of PM, SO_2, VOM, CO, and NO_x

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

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance.
- Monitoring (monthly inspection and recordkeeping) is consistent with other sources in this source category.

Operational Flexibility Requirements

✓ Recordkeeping as follows (Condition 2.5(a)):
- Records of maintenance activities

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

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance.
- Monitoring (monthly inspection and recordkeeping) is consistent with other sources in this source category.
- In the condition of Operational Flexibility, the Permittee is authorized that the combustion unit of a subject turbine may be refurbished or replaced with a similar unit without prior notification to the IEPA or revision of the permit with respect to repair of the turbine.
- The Permittee has maintained a spare combustion unit that can be readily exchanged with the installed unit on a turbine to allow the turbine to continue in operation while "off line" repairs are being made to the unit. The IEPA has determined that this activity qualifies as "routine repair, maintenance, and replacement of components". Therefore, it is exempt from case-by-case review as a modification, because preparation for this activity has occurred in advance of need, it is not undertaken to increase the capacity of the subject turbine, and the capacity of the turbine is constrained by other components of the unit.

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.

b. Turbines (DR31 and Mars 41)

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 (T1)	Applicable Limit	See the Permit, Condition 4.2.2(b)
SO_2 Requirement (40 CFR 60.333, 35 IAC 214.301, & T1)	Applicable Limit	See the Permit, Condition 4.2.2(c)
VOM Requirement (T1)	Applicable Limit	See the Permit, Condition 4.2.2(d)
CO Requirement (T1)	Applicable Limit	See the Permit, Condition 4.2.2(e)
NO_x Requirement (40 CFR 60.332(a) & T1)	Applicable Limit	See the Permit, Condition 4.2.2(f)
Operational and Production Requirement (T1)	Applicable Work Practice	See the Permit, Condition 4.2.2(g)
Work Practice Requirement (40 CFR 60.11(d))	Applicable Work Practice	See the Permit, Condition 4.2.2(h)

Visible Emissions (i.e., Opacity)

- ✓ Monitoring as follows (Condition 4.2.2(a)(ii)(A)):
  - o Annual Method 22 observation
  - o If required, Method 9 measurement

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

- ✓ Reporting as follows (Condition 4.2.5(a)):
  - 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.
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for turbines that combust natural gas. The likelihood of natural gas turbines violating opacity is small. It should be noted that the source is also required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the turbines. These records would help the IEPA determine if the turbines are being operated properly and therefore would result in opacity being minimized. Because these turbines use pipeline quality natural gas, which contains low PM content, coupled with monthly operational inspections, the efficiency of the turbines is ensured to reduce the likelihood of visible emissions.

Particulate Matter Emission

- ✓ Monitoring as follows (Conditions 4.2.2(b)(ii)(A) and 4.2.2(h)(ii)(A)):
  - o Monthly calculation of PM emissions
  - o Monthly inspection

- ✓ Recordkeeping as follows (Conditions 4.2.2(b)(ii)(B), 4.2.2(g)(ii)(A)(I), and 4.2.2(h)(ii)(B)):
  - o Records of PM emission calculations on a monthly and annual basis
  - o Type of fuel used
  - o Records of each inspection

- ✓ Reporting as follows (Condition 4.2.5(a)):
  - 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 natural gas turbines violating the PM emission limits is small. It should be noted that the source is required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the turbines. These records would help the IEPA determine if the natural gas fired turbines are being operated properly and therefore would result in opacity being minimized. Because these turbines use pipeline quality natural gas, which contains low PM content, coupled with monthly operational inspections, the efficiency of the turbines is ensured to reduce the likelihood of PM emissions.

Sulfur Dioxide Emissions

✓ Monitoring as follows (Conditions 4.2.2(c)(ii)(A) and 4.2.2(h)(ii)(A)):
- Monthly calculation of SO_2 emissions
- Monthly inspection

✓ Recordkeeping as follows (Conditions 4.2.2(c)(ii)(B), 4.2.2(g)(ii)(A)(I), and 4.2.2(h)(ii)(B)(I)):
- A file demonstrating that the fuel fired in the turbines meets the definition of natural gas in 40 CFR 60.331(u) or the definition of pipeline natural gas in 40 CFR 72.2
- Records of SO_2 emission calculations on a monthly and annual basis
- Type of fuel used
- Records of monthly inspections

✓ Reporting as follows (Condition 4.2.5(a)):
- 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.
- It is unlikely for the turbines to violate the sulfur limit because pipeline quality natural gas has sulfur content limited to levels that would result in SO_2 emissions less than the limit.
- Pursuant to 40 CFR 72.2, "Pipeline natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by a supplier through a pipeline. Pipeline natural gas contains 0.5 grains or less of total sulfur per 100 standard cubic feet (less than 1 ppm (0.8 ppm)). Additionally, pipeline natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1100 Btu per standard cubic foot". The limited sulfur

content results in SO2 emissions less than the applicable SO_2 emission limit or the applicable sulfur content limitation. It should be noted that the source is also required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the turbines. These records would help the IEPA determine if the turbines are being properly operated and therefore would result in SO_2 being minimized.

Carbon Monoxide Emissions

✓ Monitoring as follows (Conditions 4.2.2(e)(ii)(A) and 4.2.2(h)(ii)(A)):
- o Monthly calculation of CO emissions
- o Monthly inspection

✓ Recordkeeping as follows (Conditions 4.2.2(e)(ii)(A), 4.2.2(g)(ii)(A)(I), and 4.2.2(h)(ii)(B)(I)):
- o Records of CO emission calculations on a monthly and annual basis
- o Type of fuel used
- o Records of monthly inspections

✓ Reporting as follows (Condition 4.2.5(a)):
- 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.

Nitrogen Oxides Emissions

✓ Monitoring as follows (Conditions 4.2.2(f)(ii)(A), 4.2.2(f)(ii)(B), and 4.2.2(h)(ii)(A)):
- o Monthly calculation of NO_x emissions
- o Monitoring of the nitrogen content of the fuel used
- o Monthly inspection

✓ Recordkeeping as follows (Conditions 4.2.2(f)(ii)(E) and (F), 4.2.2(g)(ii)(A)(I), and 4.2.2(h)(ii)(B)(I)):
- o Records of performance tests conducted and the fuel nitrogen content
- o Records of NO_x emission calculations on a monthly and annual basis
- o Type of fuel used
- o Records of monthly inspections

✓ Reporting as follows (Condition 4.2.5(a)):
- 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.

Volatile Organic Material Emissions

✓ Monitoring as follows (Conditions 4.2.2(d)(ii)(A) and 4.2.2(h)(ii)(A)):
  - o Monthly calculation of VOM emissions
  - o Monthly inspection

✓ Recordkeeping as follows (Conditions 4.2.2(d)(ii)(B), 4.2.2(g)(ii)(A)(I), and 4.2.2(h)(ii)(B)(I)):
  - o Records of VOM emission calculations on a monthly and annual basis
  - o Type of fuel used
  - o Records of monthly inspections

✓ Reporting as follows (Condition 4.2.5(a)):
  - 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.

Operational and Production Requirement

✓ Recordkeeping as follows (Condition 4.2.2(g)(ii)(A)):
  - o Records of the type and the amount of fuel utilized
  - o Records of monthly and annual operating hours
  - o Records of Turbine rating
  - o Records showing the presence of the dry low-NO_x burners

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

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance; and
- Monitoring (inspections and recordkeeping) is consistent with other sources in this source category.

Work Practice Requirement

✓ Monitoring as follows (Conditions 4.2.2(h)(ii)(A) and (B)):
  - o Monthly inspection
  - o Annual calibration and maintenance

✓ Recordkeeping as follows (Condition 4.2.2(h)(ii)(C)):
  - o Records of monthly inspections
  - o Records of annual calibration and maintenance performed

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

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance; and
- Monitoring (monthly inspection and recordkeeping) is consistent with other sources in this source category.

Operational Flexibility Requirements

✓ Recordkeeping as follows (Condition 2.5(a)):
  - o Records of maintenance activities

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

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance; and
- Monitoring (inspections and recordkeeping) is consistent with other sources in this source category.
- In the condition of Operational Flexibility, the Permittee is authorized that the combustion unit of a subject turbine may be refurbished or replaced with a similar unit without prior notification to the IEPA or revision of the permit with respect to repair of the turbine.
- The Permittee has maintained a spare combustion unit that can be readily exchanged with the installed unit on a turbine to allow the turbine to continue in operation while “off line” repairs are being made to the unit. The IEPA has determined that this activity qualifies as “routine repair, maintenance, and replacement of components”. Therefore, it is exempt from case-by-case review as a modification, because preparation for this activity has occurred in advance of need, it is not undertaken to increase the capacity of the subject turbine, and the capacity of the turbine is constrained by other components of the unit.

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.

c. Turbines (Mars 51, SC27, and SC28)

Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123(a))	Applicable Standard	See the Permit, Condition 4.3.2(a)
PM Requirement (T1)	Applicable Limit	See the Permit, Condition 4.3.2(b)
SO_2 Requirement (40 CFR 60.4330(a), 35 IAC 214.301, & T1)	Applicable Limit	See the Permit, Condition 4.3.2(c)
VOM Requirement (T1)	Applicable Limit	See the Permit, Condition 4.3.2(d)
CO Requirement (T1)	Applicable Limit	See the Permit, Condition 4.3.2(e)
NO_X Requirement (40 CFR 60.4320(a) & T1)	Applicable Limit	See the Permit, Condition 4.3.2(f)
Operational and Production Requirement (T1)	Applicable Work Practice	See the Permit, Condition 4.3.2(g)
Work Practice Requirement (40 CFR 60.4333)	Applicable Work Practice	See the Permit, Condition 4.3.2(h)

Visible Emissions (i.e., Opacity)

✓ Monitoring as follows (Condition 4.3.2(a)(ii)(A)):
- Annual Method 22 observation
- If required, Method 9 measurement

✓ Recordkeeping as follows (Condition 4.3.2(a)(ii)(B)):
- Records of each Method 22 observation
- If required, records of each Method 9 measurement

✓ Reporting as follows (Condition 4.3.5(a)):
- 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.
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for turbines that combust natural gas. The likelihood of natural gas turbines violating opacity is small. It should be noted that the source is also required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the turbines. These records would help the IEPA determine if the turbines are being operated properly and therefore would result in opacity being minimized. Because these turbines use pipeline quality natural gas, which contains low PM content,

coupled with monthly operational inspections, the efficiency of the turbines is ensured to reduce the likelihood of visible emissions.

Particulate Matter Emission

✓ Monitoring as follows (Conditions 4.3.2(b)(ii)(A) and 4.3.2(h)(ii)(A)):
- o Monthly calculation of PM emissions
- o Monthly inspection

✓ Recordkeeping as follows (Conditions 4.3.2(b)(ii)(B), 4.3.2(g)(ii)(A)(I), and 4.3.2(h)(ii)(B)):
- o Records of PM emission calculations on a monthly and annual basis
- o Type of fuel used
- o Records of monthly inspections

✓ Reporting as follows (Condition 4.3.5(a)):
- 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 natural gas turbines violating the PM emission limits is small. It should be noted that the source is required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the turbines. These records would help the IEPA determine if the natural gas fired turbines are being operated properly and therefore would result in opacity being minimized. Because these turbines use pipeline quality natural gas, which contains low PM content, coupled with monthly operational inspections, the efficiency of the turbines is ensured to reduce the likelihood of PM emissions.

Sulfur Dioxide Emissions

✓ Monitoring as follows (Conditions 4.3.2(c)(ii)(A), 4.3.2(c)(ii)(B) or(C), 4.3.2(c)(ii)(D), and 4.3.2(h)(ii)(A)):
- o Monthly calculation of SO_2 emissions
- o Monitoring the total sulfur content of fuel or demonstrating that the total sulfur content of the fuel does not exceed the standard
- o Annual SO_2 performance test
- o Monthly inspection

✓ Recordkeeping as follows (Conditions 4.3.2(c)(ii)(F), 4.3.2(g)(ii)(A)(I), and 4.3.2(h)(ii)(B)):
- o Records of the sulfur content of the fuel fired in the subject turbines
- o Records of annual SO_2 performance tests conducted
- o Records of SO_2 emission calculations on a monthly and annual basis
- o Type of fuel used
- o Records of monthly inspections

✓ Reporting as follows (Condition 4.3.5(a)):
  - o 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.
- It is unlikely for the turbines to violate the sulfur limit because pipeline quality natural gas has sulfur content limited to levels that would result in SO_2 emissions less than the limit.
- Pursuant to 40 CFR 72.2, "Pipeline natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by a supplier through a pipeline. Pipeline natural gas contains 0.5 grains or less of total sulfur per 100 standard cubic feet (less than 1 ppm (0.8 ppm)). Additionally, pipeline natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1100 Btu per standard cubic foot". The limited sulfur content results in SO_2 emissions less than the 2,000 ppm limit. It should be noted that the source is also required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the turbines. These records would help the IEPA determine if the turbines are being properly operated and therefore would result in SO_2 being minimized.

Carbon Monoxide Emissions

✓ Monitoring as follows (Conditions 4.3.2(e)(ii)(A) and 4.3.2(h)(ii)(A)):
  - o Monthly calculation of CO emissions
  - o Monthly inspection

✓ Recordkeeping as follows (Conditions 4.3.2(e)(ii)(B), 4.3.2(g)(ii)(A)(I), and 4.3.2(h)(ii)(B)):
  - o Records of CO emission calculations on a monthly and annual basis
  - o Type of fuel used
  - o Records of monthly inspections

✓ Reporting as follows (Condition 4.3.5(a)):
  - o 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.

Nitrogen Oxides Emissions

✓ Monitoring as follows (Conditions 4.3.2(f)(ii)(A), 4.3.2(f)(ii)(B) and (C), and 4.3.2(h)(ii)(A)):
  - o Monthly calculation of NO_x emissions
  - o Annual NO_x performance tests
  - o Monthly inspection

✓ Recordkeeping as follows (Conditions 4.3.2(f)(ii)(F), 4.3.2(g)(ii)(A)(I), and 4.3.2(h)(ii)(B)):
  - o Records of annual NO_x performance tests conducted
  - o Records of NO_x emission calculations on a monthly and annual basis
  - o Type of fuel used
  - o Records of monthly inspections

✓ Reporting as follows (Condition 4.3.5(a)):
  - 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.

Volatile Organic Material Emissions

✓ Monitoring as follows (Conditions 4.3.2(d)(ii)(A) and 4.3.2(h)(ii)(A)):
  - o Monthly calculation of VOM emissions
  - o Monthly inspection

✓ Recordkeeping as follows (Conditions 4.3.2(d)(ii)(B), 4.3.2(g)(ii)(A)(I), and 4.3.2(h)(ii)(B)):
  - o Records of VOM emission calculations on a monthly and annual basis
  - o Type of fuel used
  - o Records of monthly inspections

✓ Reporting as follows (Condition 4.3.5(a)):
  - o 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.

Operational and Production Requirement

✓ Recordkeeping as follows (Condition 4.3.2(g)(ii)(A)):
  - o Records of the type and the amount of fuel utilized
  - o Records of turbine ratings
  - o Records of operating hours

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

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance; and
- Monitoring (inspections and recordkeeping) is consistent with other sources in this source category.

Work Practice Requirement

✓ Monitoring as follows (Condition 4.3.2(h)(ii)(A)):
  - o Monthly inspection

✓ Recordkeeping as follows (Condition 4.3.2(h)(ii)(B)):
  - o Records of monthly inspections

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

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance; and
- Monitoring (monthly inspection and recordkeeping) is consistent with other sources in this source category.

Start-up, Shutdown, and Malfunction Breakdown Requirements

✓ Recordkeeping as follows (Conditions 4.3.4(a)(ii)(A) and 7.5(b)):
  - o Records of the established startup procedures
  - o Records of each startup
  - o The total number of startups per month and per year

✓ Reporting as follows (Condition 7.5(c)):
  - o Prompt reporting within 5 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

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

Operational Flexibility Requirements

✓ Recordkeeping as follows (Condition 4.3.4(b)(i)(F)):
  - Records of the replacement activities

✓ Reporting as follows (Condition 4.3.4(b)(i)(G)):
  - Notification of 15 days in advance

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance.
- Monitoring is consistent with other sources in this source category.
- In the condition of Operational Flexibility, the Permittee is authorized that the combustion unit of a subject turbine may be refurbished or replaced with a similar unit without prior notification to the IEPA or revision of the permit with respect to repair of the turbine.
- The Permittee has maintained a spare combustion unit that can be readily exchanged with the installed unit on a turbine to allow the turbine to continue in operation while "off line" repairs are being made to the unit. The IEPA has determined that this activity qualifies as "routine repair, maintenance, and replacement of components". Therefore, it is exempt from case-by-case review as a modification, because preparation for this activity has occurred in advance of need, it is not undertaken to increase the capacity of the subject turbine, and the capacity of the turbine is constrained by other components of the unit.

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.

However, it should be noted that the turbine Mars 51 was initially addressed subject to 40 CFR 60 Subpart GG in Construction Permit 04080010 dated February 25, 2005, 7 days later than the date (i.e., February 18, 2005) the requirements of 40 CFR 60 Subpart KKKK became applicable. Therefore, this turbine is now subject to the subpart KKKK, exempt from the requirements of the subpart GG, pursuant to 40 CFR 60.4305(b).

Startup/Shutdown/Malfunction-Breakdown Discussion

The source requested and has been granted Startup exceptions, see Chapter III Section 3.10.

Prompt Reporting Discussion

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

d. Engines

Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123(a))	Applicable Standard	See the Permit, Condition 4.4.2(a)
SO_2 Requirement (35 IAC 214.301)	Applicable Limit	See the Permit, Condition 4.4.2(b)
VOM Requirement (T1)	Applicable Limit	See the Permit, Condition 4.4.2(c)
CO Requirement (T1)	Applicable Limit	See the Permit, Condition 4.4.2(d)
NO_X Requirement (T1)	Applicable Limit	See the Permit, Condition 4.4.2(e)
Operational and Production Requirement (40 CFR Subpar ZZZZ: 63.6603(a) and (f), 63.6625(e) and (j), 63.6660, 63.6655, & T1)	Applicable Work Practice	See the Permit, Condition 4.4.2(f)
Work Practice Requirement (40 CFR 63 Subpar ZZZZ: 63.6605, 63.6640(a), and 63.6655)	Applicable Work Practice	See the Permit, Condition 4.4.2(g)

Visible Emissions (i.e., Opacity)

✓ Monitoring as follows (Condition 4.4.2(a)(ii)(A)):
- Annual Method 22 observation
- If required, Method 9 measurement

✓ Recordkeeping as follows (Condition 4.4.2(a)(ii)(B)):
- Records of each Method 22 observation
- If required, records of each Method 9 measurement

✓ Reporting as follows (Condition 4.4.5(a)):
- 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.
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for engines that combust natural gas. The likelihood of natural gas engines violating opacity is small. It should be noted that the source is also required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the engines. These records would help the IEPA determine if the engines are being operated properly and therefore would result in opacity being minimized. Because these engines use

pipeline quality natural gas, which contains low PM content, coupled with monthly operational inspections, the efficiency of the engines is ensured to reduce the likelihood of visible emissions.

Sulfur Dioxide Emissions

✓ Monitoring as follows (Condition 4.4.2(g)(ii)(A)):
- o Quarterly inspection

✓ Recordkeeping as follows (Conditions 4.4.2(f)(ii)(B) and 4.4.2(g)(ii)(C)):
- o Type of fuel used
- o Records of maintenance including changes of oil and filter, inspection and replacements of spark plugs and all hoses and belts
- o Records of operating hours
- o Records of quarterly inspections
- o Records of SO_2 emission calculations on a monthly and annual basis

✓ Reporting as follows (Condition 4.4.5(a)):
- 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.
- It is unlikely for the engines to violate the sulfur limit because pipeline quality natural gas has sulfur content limited to levels that would result in SO_2 emissions less than the limit.
- Pursuant to 40 CFR 72.2, "Pipeline natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by a supplier through a pipeline. Pipeline natural gas contains 0.5 grains or less of total sulfur per 100 standard cubic feet (less than 1 ppm (0.8 ppm)). Additionally, pipeline natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1100 Btu per standard cubic foot". The limited sulfur content results in SO_2 emissions less than the 2,000 ppm limit. It should be noted that the source is also required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the engines. These records would help the IEPA determine if the engines are being properly operated and therefore would result in SO_2 being minimized.

Carbon Monoxide Emissions

✓ Monitoring as follows (Conditions 4.4.2(d)(ii)(A) and 4.4.2(g)(ii)(A)):
- o Monthly calculation of CO emissions
- o Quarterly inspection

✓ Recordkeeping as follows (Conditions 4.4.2(d)(ii)(B), 4.4.2(f)(ii)(B), and 4.4.2(g)(ii)(C)(I)):
- o Records of CO emission calculations on a monthly and annual basis
- o Type of fuel used
- o Records of maintenance including changes of oil and filter, inspection and replacements of spark plugs and all hoses and belts
- o Records of operating hours
- o Records of quarterly inspections

✓ Reporting as follows (Condition 4.4.5(a)):
- 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.

Nitrogen Oxides Emissions

✓ Monitoring as follows (Conditions 4.4.2(e)(ii)(A) and 4.4.2(g)(ii)(A)):
- o Monthly calculation of NO_x emissions
- o Quarterly inspection

✓ Recordkeeping as follows (Conditions 4.4.2(e)(ii)(B), 4.4.2(f)(ii)(B), and 4.4.2(g)(ii)(C)(I)):
- o Records of NO_x emission calculations on a monthly and annual basis
- o Records of maintenance including changes of oil and filter, inspection and replacements of spark plugs and all hoses and belts
- o Records of operating hours
- o Type of fuel used
- o Records of quarterly inspections

✓ Reporting as follows (Condition 4.4.5(a)):
- 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.
- It should be noted that the limit of hourly NO_x emissions (in grams/bhp-hr) from the engines SG1 and SG4 represents the application of the Best Available Control Technology (BACT) for emission of NO_x as required by Section 165 of the Clean Air Act. The limitations of annual NO_x emissions from SG1, SG2, and SG3 was initially established in the previously issued permit pursuant to Title I of the CAA, specifically 35

IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source had requested that the IEPA establish emission limitations and other appropriate terms and conditions in the permit that limited the NO_x emissions from the affected engines below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application.

Volatile Organic Material Emissions

✓ Monitoring as follows (Conditions 4.4.2(c)(ii)(A) and 4.4.2(g)(ii)(A)):
- o Monthly calculation of VOM emissions
- o Quarterly inspection

✓ Recordkeeping as follows (Conditions 4.4.2(c)(ii)(B), 4.4.2(f)(ii)(B), and 4.4.2(g)(ii)(C)(I)):
- o Records of VOM emission calculations on a monthly and annual basis
- o Records of maintenance including changes of oil and filter, inspection and replacements of spark plugs and all hoses and belts
- o Records of operating hours
- o Type of fuel used
- o Records of quarterly inspections

✓ Reporting as follows (Condition 4.4.5(a)):
- 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.

Operational and Production Requirement

✓ Recordkeeping as follows (Conditions 4.4.2(f)(ii)(A) and (B)):
- o Recordkeeping requirements
- o Records of maintenance performed on the air pollution control as specified in Condition 4.4.2(f)(i)(B)
- o Records of the initial and annual evaluation of the status of the affected engines in Condition 4.4.2(f)(i)(C)
- o Records of the maintenance conducted on the affected engines as those specified in Condition 4.4.2(f)(i)(D)
- o Reports of the oil analysis (if chosen) described in Condition 4.4.2(f)(i)(E)
- o Records of the type and the amount of fuel used on a monthly and annual basis
- o Records of monthly and annual operating hours

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

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance; and
- Monitoring (inspections and recordkeeping) is consistent with other sources in this source category.

Work Practice Requirement

✓ Monitoring as follows (Condition 4.4.2(g)(ii)(A)):
  - o Quarterly inspection of the engines

✓ Recordkeeping as follows (Conditions 4.4.2(g)(ii)(B) and (C)):
  - o Records of items specified in 40 CFR 63.6655
  - o Records of quarterly inspections performed
  - o Records of monthly and annual PM and SO_2 emissions

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

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance; and
- Monitoring (monthly inspection and recordkeeping) is consistent with other sources in this source category.

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.

Startup/Shutdown/Malfunction-Breakdown Discussion

The source requested and has been granted Start-up exceptions, see Chapter III Section 3.10.

Prompt Reporting Discussion

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

Federal Reporting Discussion

The engines are subject to the federal reporting requirements under 40 CFR Part 63 Subpart ZZZZ (see Conditions 4.4.5(b)). Pursuant to 40 CFR 63.6645(a), the Permittee must submit all of the applicable notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b) through (e), (g), and (h). Pursuant to 40 CFR 63.6640(b), the Permittee must report each instance in which the Permittee did not meet each applicable emission limitation or operating limitation in Table 2d to 40 CFR Part 63 Subpart ZZZZ. These instances are deviations from the emission and operating limitations under 40 CFR Part 63 Subpart ZZZZ. These deviations must be reported according to the requirements in 40 CFR 63.6650(c) and (d).

e. Dehydration Units

Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123(a))	Applicable Standard	See the Permit, Condition 4.5.2(a)
SO_2 Requirement (35 IAC 214.301)	Applicable Limit	See the Permit, Condition 4.5.2(b)
VOM Requirement (35 IAC 215.301 & T1)	Applicable Limit	See the Permit, Condition 4.5.2(c)
CO Requirement (T1)	Applicable Limit	See the Permit, Condition 4.5.2(d)
NO_X Requirement (T1)	Applicable Limit	See the Permit, Condition 4.5.2(e)
Operational and Production Requirement	Applicable Work Practice	See the Permit, Condition 4.5.2(f)
Work Practice Requirement (T1)	Applicable Work Practice	See the Permit, Condition 4.5.2(g)

Visible Emissions (i.e., Opacity)

✓ Monitoring as follows (Condition 4.5.2(a)(ii)(A)):
- Annual Method 22 observation
- If required, Method 9 measurement

✓ Recordkeeping as follows (Condition 4.5.2(a)(ii)(B)):
- Records of each Method 22 observation
- If required, records of each Method 9 measurement

✓ Reporting as follows (Condition 4.5.5(a)):
- 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.
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for TEG units-associated reboilers that combust natural gas. The likelihood of the TEG units associated reboilers violating opacity is small. It should be noted that the source is also required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the TEG units and the associated reboilers. These records would help the IEPA determine if the TEG units are being operated properly and therefore would result in opacity being minimized. Because these TEG units-associated reboilers use pipeline quality natural gas that contains low PM content and are coupled with monthly inspections, TEG efficiency is maintained reducing the likelihood of visible emissions.

Sulfur Dioxide Emissions

✓ Monitoring as follows (Conditions 4.5.2(g)(ii)(A) and 4.5.2(g)(ii)(B)):
- Continuously monitoring the pilot flames
- Monthly inspection

✓ Recordkeeping as follows (Conditions 4.5.2(f)(ii)(A), 4.5.2(g)(ii)(C), and 4.5.2(g)(ii)(D)):
- Records of monthly inspections
- Type of fuel used
- Records of maintenance of flares, pilot flame detection devices, and their replacements if necessary
- Records of SO_2 emission calculations on a monthly and annual basis

✓ Reporting as follows (Condition 4.5.5(a)):
- 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 for the TEG units associated reboilers to violate the sulfur limit because pipeline quality natural gas has sulfur content limited to levels that would result in SO_2 emissions less than the limit.
- Pursuant to 40 CFR 72.2, "Pipeline natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by a supplier through a pipeline. Pipeline natural gas contains 0.5 grains or less of total sulfur per 100 standard cubic feet (less than 1 ppm (0.8 ppm)). Additionally, pipeline natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1100 Btu per standard cubic foot". The limited sulfur content results in SO_2 emissions less than the 2,000 ppm limit. It should be noted that the source is also required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the TEG units and the associated reboilers. These records would help the IEPA determine if the TEG units are being properly operated and therefore would result in SO_2 being minimized.

Carbon Monoxide Emissions

✓ Monitoring as follows (Conditions 4.5.2(d)(ii)(A), 4.5.2(g)(ii)(A), and 4.5.2(g)(ii)(B)):
- Monthly calculation of CO emissions
- Continuously monitoring the pilot flames
- Monthly inspection

- ✓ Recordkeeping as follows (Conditions 4.5.2(d)(ii)(B), 4.5.2(f)(ii)(A), and 4.5.2(g)(ii)(C) and 4.5.2(g)(ii)(D)):
  - o Records of CO emission calculations on a monthly and annual basis
  - o Type of fuel used
  - o Records of monthly inspections
  - o Records of maintenance of flares, pilot flame detection devices, and their replacements if necessary

- ✓ Reporting as follows (Condition 4.5.5(a)):
  - o 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.

Nitrogen Oxides Emissions

- ✓ Monitoring as follows (Conditions 4.5.2(e)(ii)(A), 4.5.2(g)(ii)(A), and 4.5.2(g)(ii)(B)):
  - o Monthly calculation of NO_x emissions
  - o Continuously monitoring the pilot flames
  - o Monthly inspection

- ✓ Recordkeeping as follows (Conditions 4.5.2(e)(ii)(B), 4.5.2(f)(ii)(A), and 4.5.2(g)(ii)(C) and 4.5.2(g)(ii)(D)):
  - o Records of NO_x emission calculations on a monthly and annual basis
  - o Type of fuel used
  - o Records of monthly inspections
  - o Records of maintenance of flares, pilot flame detection devices, and their replacements if necessary

- ✓ Reporting as follows (Condition 4.5.5(a)):
  - o 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.

Volatile Organic Material Emissions

✓ Monitoring as follows (Conditions 4.5.2(c)(ii)(A) and (B), 4.5.2(g)(ii)(A), and 4.5.2(g)(ii)(B)):
- o Monthly calculation of VOM emissions by using GRI-GLYCalc™, version 3.0 or higher
- o Continuously monitoring the pilot flames
- o Monthly inspection

✓ Recordkeeping as follows (Condition 4.5.2(c)(ii)(C) and (D), 4.5.2(f)(ii)(A), and 4.5.2(g)(ii)(C) and 4.5.2(g)(ii)(D)):
- o Records of VOM emission calculations on a monthly and annual basis
- o Records of the Compliance Assurance Monitoring (CAM) plan
- o Type of fuel used
- o Records of monthly inspections
- o Records of maintenance of flares, pilot flame detection devices, and their replacements if necessary

✓ Reporting as follows (Condition 4.5.5(a)):
- 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 TEG dehydration units are subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources. The Source has prepared the CAM plan for minimizing VOM emissions from each dehydration unit. The Source has installed the pilot flame detection device (i.e., a computerized data acquisition, feedback, and control system) on each flare to continuously monitor the pilot flame of each flare and ensure that the flares operate properly at all times when the dehydration units are in operation. It should be noted that the Source is also required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the dehydration units, associated reboilers, flares, and monitoring devices. These records would help the IEPA determine if the dehydration units are being properly operated and therefore would result in VOM being minimized.

Operational and Production Requirement

✓ Recordkeeping as follows (Condition 4.5.2(f)(ii)(A)):
- o Records of the type of fuel utilized

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

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

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

Work Practice Requirement

✓ Monitoring as follows (Conditions 4.5.2(g)(ii)(A) and (B)):
- Continual monitoring of the pilot flames
- Monthly inspection

✓ Recordkeeping as follows (Conditions 4.5.2(g)(ii)(C) and (D)):
- Records of monthly inspections
- Records of the design NOx emission rate of each reboiler and maximum design capacity of the flares
- Records of the presence of the pilot flame detection devices
- Records of maintenance or replacements of the flares
- Records of monthly and annual PM and SO_2 emissions

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

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance; and
- Monitoring (monthly inspection and recordkeeping) is consistent with other sources in this source category.

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.

Startup/Shutdown/Malfunction-Breakdown Discussion

The source requested and has been granted Malfunction-Breakdown exceptions, see Chapter III Section 3.10.

Prompt Reporting Discussion

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

f. Heating Boilers (HB1, HB2, and HB3)

Applicable Requirements Summary		
Applicable Requirement	Type	Location
Opacity Requirement (35 IAC 212.123)	Applicable Standard	See the Permit, Condition 4.6.2(a)
Operational and Production Requirement	Applicable Work Practice	See the Permit, Condition 4.6.2(b)
Work Practice Requirement	Applicable Work Practice	See the Permit, Condition 4.6.2(c)

Visible Emissions (i.e., Opacity)

✓ Monitoring as follows (Condition 4.6.2(a)(ii)(A)):
- o Annual Method 22 observation
- o If required, Method 9 measurement

✓ Recordkeeping as follows (Condition 4.6.2(a)(ii)(B)):
- o Records of each Method 22 observation
- o If required, records of each Method 9 measurement

✓ Reporting as follows (Condition 4.6.5(a)):
- 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.
- Annual observations of opacity, including records of these observations, are sufficient to verify compliance with the 30% opacity limit for the boilers that combust natural gas. The likelihood of the boilers violating opacity is small. It should be noted that the source is also required to maintain the type of fuel used, inspection records, and maintenance and repair logs of the boilers. These records would help the IEPA determine if the boilers are being operated properly and therefore would result in opacity being minimized. Because these boilers use pipeline quality natural gas that contains low PM content and are coupled with quarterly inspections, boiler efficiency is maintained reducing the likelihood of visible emissions.

Operational and Production Requirement

✓ Recordkeeping as follows (Condition 4.6.2(b)(ii)(A)):
- o Records of the type of fuel utilized

✓ Reporting as follows (Condition 4.6.5(a)):
- o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance; and
- Monitoring (inspections and recordkeeping) is consistent with other sources in this source category.

Work Practice Requirement

✓ Monitoring as follows (Condition 4.6.2(c)(ii)(A)):
- o Quarterly inspections of the engines

✓ Recordkeeping as follows (Conditions 4.6.2(c)(ii)(B) and (C)):
- o Records of quarterly inspections performed
- o Records of monthly and annual emissions of PM, SO_2, VOM, CO, and NO_x

✓ Reporting as follows (Condition 4.6.5(a)):
- o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

- Source has not exhibited a history of non-compliance; and
- Monitoring (monthly inspection and recordkeeping) is consistent with other sources in this source category.

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. Storage Tanks

Applicable Requirements Summary		
Applicable Requirement	Type	Location
VOM Requirement (35 IAC 215.122(b) and 583(a))	Applicable Standard	See the Permit, Condition 4.7.2(a)
Work Practice Requirement	Applicable Work Practice	See the Permit, Condition 4.7.2(b)

Volatile Organic Material Emissions

✓ Recordkeeping as follows (Condition 4.7.2(a)(ii)(A)):
- o Records of the presence of the submerged loading pipe
- o Records of monthly and annual VOM emissions

✓ Reporting as follows (Condition 4.7.5(a)):
- 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.

Work Practice Requirement

✓ Monitoring as follows (Condition 4.7.2(b)(ii)(A)):
- o Annual inspection

✓ Recordkeeping as follows (Conditions 4.7.2(b)(ii)(B) and (C)):
- o Records of annual inspections of the storage tanks
- o Records of design information for the tanks
- o Records of repair of the storage tanks and their auxiliary equipment
- o Records of types and throughput of the materials stored in the tanks

✓ Reporting as follows (Condition 4.7.5(a)):
- o Prompt reporting within 30 days

Rationale and Justification for Periodic Monitoring

Periodic Monitoring is sufficient for these emission units because:

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

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.

3.8 Insignificant Activities Discussion

There are no insignificant activities for the source subject to specific regulations which are obligated to comply with Sections 9.1(d) and Section 39.5 of the Act; Sections 165, 173, and 502 of the Clean Air Act; or any other applicable permit or registration requirements and therefore there are no periodic monitoring requirements that need to be separately addressed.

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 Start-up/Shutdown/Malfunction Breakdown Discussion

- **SIP Start-up/Malfunction-Breakdown Authorization Discussion**

The Illinois EPA does not provide for "automatic exemptions" within CAAPP Permits for operation with excess emissions during malfunction/breakdown or startups. The permits and the language regarding such exemptions are consistent with the Illinois SIP and federal guidance on the topic. An explanation of Illinois' SIP and its permitting practice is provided below.

Illinois' SIP at 35 IAC 201.149 prohibits continued operation of an emission unit during malfunction or breakdown of the unit or associated air pollution control equipment, or startup of an emission unit or associated air pollution control equipment, if such operation would cause a violation of applicable emission standards or limitations absent express permit authorization (emphasis added). Further provisions pertaining to such permit authorization are set forth in 35 IAC Part 201, Subpart I. These provisions make clear that the process in Illinois for addressing malfunction/breakdown and startup is in two steps. The first step, as set forth at 35 IAC 201.261, consists of seeking authorization by means of an application for permit to prospectively make a claim of malfunction/breakdown or startup. Pursuant to the provisions for malfunction/breakdown, the application shall include an explanation of why continued operation is necessary; the anticipated nature, quantity and duration of emissions; and measures that will be taken to minimize the quantity and duration of emissions. Pursuant to the applicable regulation, for startup, the application shall include a description of the startup procedure, duration, and frequencies of startups, type, and quantity of emissions during startups and efforts to minimize emissions, duration, and frequency. These regulatory requirements are acknowledged by the CAAPP, pursuant to Section 39.5(5)(s) of the Illinois Environmental Protection Act. Absent a request for authorization in an application for a CAAPP Permit that satisfies both the requirements for application content and the standards for granting, and, after Illinois EPA review, an express grant of such authorization in a CAAPP Permit issued by the Illinois EPA, a CAAPP source cannot make a claim of malfunction/breakdown or startup under Illinois regulations.

The second phase of Illinois' process for operation with excess emissions during malfunction/breakdown or startup, as set forth at 35 IAC 201.262, addresses the showing that must be made in order to make a viable claim of malfunction/breakdown or startup. Pursuant to the regulations for malfunction/breakdown, this showing consists of a demonstration that operation was necessary to prevent injury to persons or severe damage to equipment, or was required to provide essential services. There are two elements to the required showing, "need" and "function". For startup, it shall consist of a demonstration that all reasonable efforts have been made to minimize emissions from the startup event, to minimize the duration of the event, and to minimize the frequency of such events. To a certain extent, this showing may be evaluated on past practice. However, this showing is also prospective, like the showing for malfunction/breakdown, as it relates to future events, which and whose exact circumstances are not known, and which, in fact, may or may not occur.

The approach taken by Illinois' regulation can be distinguished from and contrasted with that of the federal NESHAP regulations, under 40 CFR Part 63. These federal regulations address excess emissions during malfunction (and shutdown) or startup without the initial step required by Illinois' rules. This is because all sources are able to claim exclusion from an otherwise applicable standard during a malfunction or startup event. The validity of the claims is then subject to scrutiny by USEPA and the state enforcement authority, as to the acceptability of a source's claim that an incident should qualify for an exemption. That is, that the excess emissions could not be readily prevented and were not contrary to good air pollution control practices. In fact, this case-by-case scrutiny is the second step provided for in Illinois' regulations. This "federal approach" is set forth in the planned revised CAAPP Permit for select emission units that are subject to certain NESHAPs. Violations of applicable NESHAP emission limits are governed by the "federal approach." Violations of emissions standards found in state air pollution control regulations at 35 IAC Subtitle B Chapter I Subchapter c are governed by the SIP approach.

For those units for which this source seeks malfunction/breakdown or startup authorization under Illinois' SIP, the draft CAAPP Permit application contains complete Forms 204-CAAPP and 203-CAAPP, respectively entitled Request To Continue To Operate During Malfunction and Breakdown and Request To Operate During Startup of Equipment. These forms seek the specific information required by the relevant state regulation. Again, that information is an explanation of why continued operation is necessary; the anticipated nature, quantity and duration of emissions; and measures that will be taken to minimize the quantity and duration of emissions for malfunctions and breakdowns. It is a description of the startup procedure, duration and frequencies of startups, type and quantity of emissions during startups, and efforts to minimize emissions, duration and frequency for start-up. Accordingly, this source seeks malfunction/breakdown as well as startup authorization in accordance with applicable Illinois regulation. Illinois EPA thoroughly reviewed this information against the SIP. Based on its review, the Draft CAAPP Permit would grant authorization to the facility to make a claim of malfunction/breakdown or startup. That the Draft CAAPP Permit affords such authorization, does not equate to an "automatic exemption". The grant of such initial authorization is fully consistent with long standing practice in Illinois permitting and enforcement. Due to the size and complexity of the source and the inability to simply shutdown equipment or the level of hazards associated with improper start-up or shutdown, the source may experience excess emissions due to events that cannot be readily anticipated or reasonably avoided. However, the

facility is also fully aware that it may be held accountable for any excess emissions that occur regardless of any such authorization.

Neither the provisions in the SIP nor the provisions in the CAAPP Permit delineating the elements for a viable claim of malfunction/breakdown or startup translate into any advanced determination on excess emissions. Rather, together the regulations and the CAAPP Permit simply provide a framework whereby a source may have an opportunity to make a claim of malfunction/ breakdown or startup, with the viability of such claim subject to specific review against the requisite requirements. Indeed, 35 IAC 201.265 clearly states that violating an applicable state standard even if consistent with any expression of authority regarding a malfunction/breakdown or startup set forth in a permit shall only constitute a prima facie defense to an enforcement action for violation of said regulation. The malfunction/breakdown or startup authorization provided in the Draft CAAPP Permit does not provide shields from state emission standards that may be violated during said events. Rather, the source is subject to the applicable limitations or standards on any malfunction/breakdown or startup authorization included within the permit. As a result, any excess emissions during these events would constitute violations potentially subject to enforcement action.

For any source that receives such authorization, the type of authorization (i.e., malfunction/breakdown or startup), the emission units for which authorization has been received, and the conditions under, and manner in which such authorization may be utilized are clearly set forth in the CAAPP Permit. The origin of these authorizations is 35 IAC 201.149.

3.11 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.[5] 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.[6] 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.[7] 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.[8] 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.

3.12 Incorporation by Reference Discussion

Based on guidance found in White Paper 2 and past petition responses by the Administrator, it is recognized that Title V permit authorities may, within their discretion, incorporate plans by reference. As recognized in the *White Paper 2*, permit authorities can effectively streamline the contents of a Title V permit, avoiding the inevitable clutter of restated text and preventing unnecessary delays where, as here, permit issuance is subject to a decision deadline.[9] However, it is also recognized that the benefits of incorporation of plans must be carefully balanced by a permit authority with its duty to issue permits in a way that is "clear and meaningful" to the Permittee and the public.[10]

The criteria that are mentioned in USEPA Administrator Petition Responses stress the importance of identifying, *with specificity*, the object of the incorporation.[11] The Illinois EPA agrees that such emphasis is generally consistent with USEPA's pronouncements in previous guidance.

For each condition incorporating a plan, the Illinois EPA is also briefly describing the general manner in which the plan applies to the source. Identifying the nature of the source activity, the regulatory requirements or the nature of the equipment associated with the plan is a recommendation of the *White Paper 2*[12]. The Illinois EPA has stopped short of enumerating the actual contents of a plan, as restating them in the permit would plainly defeat the purpose of incorporating the document by reference and be contrary to USEPA guidance on the subject.[13]

Plans may need to be revised from time to time, as occasionally required by circumstance or by underlying rule or permit requirement. Except where expressly precluded by the relevant rules, this Draft CAAPP Permit allows the Permittee to make future changes to a plan without undergoing formal permit revision procedures. This approach will allow flexibility to make required changes to a plan without separately applying for a revised permit and, similarly, will lessen the impacts that could result for the Illinois EPA if every change to a plan's contents required a permitting transaction.[14] Changes to the incorporated plans during the permit term are automatically incorporated into the Draft CAAPP Permit unless the Illinois EPA expresses a written objection.

The Draft CAAPP Permit incorporates by reference the following plans: Episode Action Plan.[15]

3.13 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.[16] Section 39.5(7)(b) of the Illinois Environmental Protection Act[17] 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.[18, 19] 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.[20, 21] 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.[22] 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.[23]

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

In the past over a decade, many changes have occurred to the emission sources at this facility of Nicor Gas. Since June 18, 2002, when the previous CAAPP permit was issued, nine new construction permits have been issued for constructing several new emission units with/without control equipment or for installing new emission units to replace the existing ones. A few emission units have been removed from the facility. The NESHAP for Stationary RICE, 40 CFR Part 63 Subpart ZZZZ, has become effective and applicable to the engines. Three of newly installed turbines are subject to the applicable requirements under the NSPS for Stationary Gas Turbines, 40 CFR Part 60 Subpart KKKK.

The major differences between this draft permit and the previously issued permit include:

- Changes of emission units:
  - Seven new emission units installed:
    - ✧ Four natural gas fired turbines: Mars 41 (EXC1), Mars 51, SC27, and SC28
    - ✧ One natural gas fired engine: SG4
    - ✧ Two TEG dehydration units with flares: VV6/FS4 and VV4-N/FS3N (originally VV7/FS5)
  - Four new emission units replacing existing ones:
    - ✧ Three TEG dehydration units: VV2, VV2-N, and VV4
    - ✧ One natural gas fired engine: SG1
  - Four existing emission units upgraded:
    - ✧ Natural gas fired turbines: SC21, SC22, SC23, and SC25

- Three new pieces of control equipment granted to be installed:
  - ✧ Two oxidation catalytic converter systems for the engines SG1 and SG4
  - ✧ One thermal oxidizer to replace Flare Stack #4 for control of process emissions from the vent on Reboiler #9 of the TEG dehydration unit VV6

- Five emission units brought in from the existing insignificant activities:
  - ✧ Three natural gas fired heating boilers with capacity greater than 2.5 mmBtu/hr
  - ✧ Two 300 gallon methanol tanks

- Three emission units taken out from the facility:
  - ✧ One 13,155 HP natural gas fired turbine: CC28
  - ✧ One 15,000 HP natural gas fired turbine: CC29
  - ✧ One 225 HP natural gas fired engine: CG28

- Change to an Area Source from a Major Source for HAP Emissions

  The facility, Nicor Gas – Station No. 50 at Troy Grove, was classified as a major source for HAP emissions in the previous permit. Upon the Source's request, a set of synthetic minor HAP limits was established on August 12, 2004, through a revision of Construction Permit 01100063 prior to August 16, 2004, the initial compliance date of the NESHAP for Stationary RICE, 40 CFR Part 63 Subpart ZZZZ. Such a change made this facility become an area source for HAP emissions.

- Changes in applicable rules:

  - 40 CFR Part 60 Subpart KKKK – NSPS for Stationary Gas Turbines

    In the previously issued CAAPP permit, there were no turbines subject to the requirements under Subpart KKKK of the NSPS. The three newly installed turbines (Mars 51, SC27, and SC28) made this rule become applicable.

  - 40 CFR Part 63 Subpart ZZZZ – NESHAP for Stationary RICE

    In the previously issued CAAPP permit, there were no requirements from Subpart ZZZZ of the NESHAP for Stationary RICE. Now this rule has been applicable to the engines because these engines are in operation at an area source of HAP emissions.

The above-described changes of emission units, source type for HAP emissions, and applicable rules result in a great change in conditions of this draft permit, including:

- Adding two new sections of "Emission Unit Requirements" (i.e., Unit Specific Conditions)

  - Section 4.3 Turbines (Mars 51, SC27 and SC28)
  - Section 4.6 Heating Boilers (HB1, HB2, and HB3)

- Addressing all the newly incorporated conditions and existing conditions in a new format by adding compliance methods, including periodic

monitoring, testing, and/or recordkeeping, which directly follow the applicable requirements for the regulated pollutants, operational and production, and work practice of an emission unit

- The whole draft permit increase 50 pages more than the previously issued CAAPP permit

Comparing to the previous one, specific permit condition changes in this draft permit are as shown in the following table.

Section	*Conditions Added/Amended*	*Applicable Requirements*	*Sources Incorporated*
3	Condition 3.1(c)	Asbestos demolition and renovation requirements	40 CFR 61.145(b) and (c)
	Condition 3.4(a)	Synthetic minor limits of HAP emissions	Construction Permit (C.P.) 01100063
4.1	Condition 4.1.4(a)	T1 requirements (Backstop monitoring measure – Testing)	C.P. 05080021
4.2	Conditions 4.2.2(a) through (h)	Emission limits/standards for Opacity, PM, SO_2, VOM, CO, NO_x; Operational and Production; and Work Practice requirements	40 CFR 60 Subpart GG C.P. 95030010 C.P. 01100063
4.3	New Section including Conditions 4.3.2(a) through (h)	Emission limits/standards for Opacity, PM, SO_2, VOM, CO, NO_x; Operational and Production; and Work Practice requirements	40 CFR 60 Subpart KKKK C.P. 04080010 C.P. 08040057
	Conditions 4.3.4(a) and (b) and Section 7.5	Start-up and Operational Flexibility requirements	
4.4	Conditions 4.4.2(a), (c), (d), and (e)	Emission limits/standards for Opacity, VOM, CO, NO_x;	40 CFR 63 Subpart ZZZZ C.P. 05060044 C.P. 01100063
	Conditions 4.4.2(f)(i)(A) through (G)	Operational and Production requirements; and	
	Conditions 4.4.2(g)(i)(A) and (B)	Work Practice requirements	
	Condition 4.4.4(a)	Start-up requirement	
	Condition 4.4.5(b)	Federal reporting requirements	

Section	*Conditions Added/Amended*	*Applicable Requirements*	*Sources Incorporated*
4.5	Conditions 4.5.2(a), (c), (d), and (e) Conditions 4.5.2(g)(i)(B), (C) and (D) Condition 4.5.4(a) and Section 7.6	Emission limits/standards for Opacity, VOM, CO, NO_x; Work Practice requirements Malfunction-Breakdown requirements	C.P. 01100063 C.P. 05060044 C.P. 00110027 FESOP 95040140
4.6	New Section including Conditions 4.6.2(a), (b), and (c)	Emission standard for Opacity; Operational and Production; and Work Practice requirements	

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] In Petition Response V-2009-03, USEPA considered whether conditions from certain construction permits issued to a source constitute applicable requirements even though the construction or modification has not yet begun, been completed and/or the project was not yet operational. USEPA found that those construction permits for "pending projects," like construction permits for projects that are complete and operational, also establish applicable requirements for this facility. Accordingly the Title I conditions from those construction permits have been carried over into the draft CAAPP permit for this facility.

[4] The incorporation, or carry-over, of terms or conditions from previous Title I permits into Title V permits typically does not occur on a wholesale basis. Recognizing that construction permits may frequently contain obsolete or extraneous terms and conditions, USEPA has emphasized that only "environmentally significant terms" from previous preconstruction permits must be carried over into Title V permits. See, White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995. Therefore, certain T1 terms and conditions have not been carried over from these SIP approved permits for reasons that are explained below.

[5] 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).

[6] 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).

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

[8] 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.

[9] Among other things, USEPA observed that the stream-lining benefits can consist of "reduced cost and administrative complexity, and continued compliance flexibility…". *White Paper 2,* page 41.

[10] See, In the Matter of Tesoro Refining and Marketing, Petition No. IX-2004-6, Order Denying in Part and Granting in Part Petition for Objection to Permit, at page 8 (March 15, 2005); see also, White Paper 2 at page 39 ("reference must be detailed enough that the manner in which any referenced materials applies to a facility is clear and is not reasonably subject to misinterpretation").

[11] The Order provides that permit authorities must ensure the following: "(1) referenced documents be specifically identified; (2) descriptive information such as the title or number of the document and the date of the document be included so that there is no ambiguity as to which version of the document is being referenced; and (3) citations, cross references, and incorporations by reference are detailed enough that the manner in which any referenced material applies to a facility is clear and is not reasonably subject to misinterpretation." See, Petition Response at page 43, citing White Paper 2 at page 37.

[12] See, White Paper 2 at page 39.

[13] Nothing in USEPA guidance, including the White Paper 2 or previous orders responding to public petitions, supports the notion that permit authorities incorporating a document by reference must also restate contents of a given plan in the body of the Title V permit. Such an interpretation contradicts USEPA recognition that permit authorities need not restate or recite an incorporated document so long as the document is sufficiently described. White Paper 2 at page 39; see also, In the matter of Consolidated Edison Co. of New York, Inc., 74th St. Station, Petition No. II-2001-02, Order Granting in Part and Denying in Part Petition for Objection to Permit at page 16 (February 19, 2003).

[14] This approach is consistent with USEPA guidance, which has previously embraced a similar approach to certain SSM plans. *See,* Letter and Enclosures, dated May 20, 1999, from John Seitz, Director of Office of Air Quality Planning and Standards, to Robert Hodanbosi and Charles Lagges, STAPPA/ALAPCO, pages 9-10 of Enclosure B.

[15] Each incorporated plan addressed by this Section of the Statement of Basis is part of the source's permit file. As such, these plans are available to any person interested in viewing the contents of a given plan may do so at the public repository during the comment period or, alternatively, may request a copy of the same from the Illinois EPA under the Freedom of Information Act. See also 71 FR 20447.

[16] 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).

[17] 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."

[18] 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.

[19] 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.

[20] 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.

[21] 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.

[22] 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).

[23] 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.