

217/782-2113

CONSTRUCTION PERMIT  
NSPS EMISSION UNITS

PERMITTEE

Secure Energy, Inc.  
Attn: Lars Scott  
7711 Carondelet Avenue, Suite 310  
St. Louis, Missouri 63105

Application No.: 06090016

I.D. No.: 115015APR

Applicant's Designation: SNG PLANT

Date Received: November 17, 2006

Subject: Synthetic Natural Gas Plant

Date Issued: April 6, 2007

Location: North Brush College Road, Decatur

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source and air pollution control equipment consisting of a synthetic natural gas (SNG) plant comprised of two gasifiers and a syngas cleanup train controlled by two flares, a sulfur recovery unit with sulfur production plant, a methanation unit, a cooling tower, bulk material handling and storage with enclosed transfer points and baghouses, ash handling and storage with enclosed transfer points and baghouses, one auxiliary gas-fired boiler, and ancillary operations, as described in the above referenced application. This Permit is granted based upon and subject to the findings and conditions that follow.

If you have any questions on this permit, please call Bob Smet at 217/782-2113.

Edwin C. Bakowski, P.E.  
Acting Manager, Permit Section  
Division of Air Pollution Control

ECB:RPS:psj

cc: Region 2  
USEPA Region V

SECTION 1:

TABLE OF CONTENTS

	<u>Page</u>
SECTION 1 TABLE OF CONTENTS	2
SECTION 2 IDENTIFICATION OF SIGNIFICANT EMISSION UNITS	3
SECTION 3 SOURCE-WIDE CONDITIONS	
3.1 Effect of Permit	
3.2 Status of the Source Relative to Hazardous Air Pollutants (HAPs)	
3.3 Authorization to Operate Emission Units	
SECTION 4 UNIT-SPECIFIC CONDITIONS FOR PARTICULAR EMISSION UNITS	
4.1 Gasification Block Flares	
4.3 Auxiliary Boiler	
4.4 Cooling Towers	
4.5 Feedstock and Bulk Material Handling, Storage and Loadout Operations (e.g., Coal and Slag	
4.6 Roadways and Other Open Areas	
SECTION 5 GENERAL PERMIT CONDITIONS	
5.1 Standard Conditions	
5.2 Requirements for Emission Testing	
5.3 Requirements for Records for Deviations	
5.4 Retention and Availability of Records	
5.5 Notification and Reporting of Deviations	
5.6 General Requirements for Notification and Reports	
ATTACHEMNTS	
1. Summary of Permitted Emissions and Emission Limitations	
2. Standard Permit Conditions	

SECTION 2: IDENTIFICATION OF SIGNIFICANT EMISSIONS UNITS

Unit Number	Emission Point	Emission Controls
1	Two Gasifiers Serving Two SNG* Gasifier Trains with Sulfur Production Plant	Syngas cleanup including: Sulfur Removal System, Particulate Removal System, and Mercury Removal System; and Flares
2	Startup/Malfunction/Breakdown of SNG Trains	Syngas pilot flare. Proper flare design. Firing only low sulfur fuels (natural gas, methanol, ethanol, etc.) during startup or coal derived syngas.
3	Auxiliary Boiler	Good combustion practices and firing only natural gas or syngas that has been treated in the syngas cleanup system.
4	Cooling Tower	Drift eliminators.
5	Material Handling	Use enclosed transfer points and baghouses. Slag bath and handling slag from the gasifiers as slurry.

\* SNG = Synthetic Natural Gas

SECTION 3: SOURCE-WIDE PERMIT CONDITIONS

CONDITION 3.1: EFFECT OF PERMIT

- a. This permit does not relieve the Permittee of the responsibility to comply with all local, state and federal regulations that are part of the applicable Illinois' State Implementation Plan, as well as all other applicable federal, state and local requirements.
- b. In particular, this permit does not relieve the Permittee from the responsibility to carry out practices during the construction and operation of the plant, such as application of water or dust suppressant sprays to unpaved traffic areas, as necessary to minimize fugitive dust and prevent an air pollution nuisance from fugitive dust, as prohibited by 35 IAC 201.141.

CONDITION 3.2: STATUS OF THE SOURCE RELATIVE TO HAZARDOUS AIR POLLUTANTS (HAP)

- a. This permit is issued based on the source being a minor source of HAPs so that emission control requirements under 40 CFR Part 63 and Section 112(g) of the Clean Air Act will not apply to units at the source.
- b. Although the plant is not a major source of HAPs for purposes of Section 112 of the Clean Air Act, for the gasification units, the Permittee shall comply with the following applicable requirements of 40 CFR 63 Subpart A, related to startup, shutdown, and malfunction, as defined at 40 CFR 63.2:
  - i. The Permittee shall at all times, including periods of startup, shutdown, and malfunction as defined at 40 CFR 63.2, operate and maintain emission units at the source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions to the levels required by the relevant standards, i.e., meet the emission standard(s) or comply with the applicable Startup, Shutdown, and Malfunction Plan (Plan), as required below. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Illinois EPA and USEPA, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the Plan), review of operation and maintenance records, and inspection of the unit. [40 CFR 63.6(e)(1)(i)]
  - ii. The Permittee shall correct malfunctions as soon as practicable after their occurrence in accordance with the applicable Plan. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, the Permittee shall comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices [40 CFR 63.6(e)(1)(ii)].

CONDITION 3.3: AUTHORIZATION TO OPERATE EMISSION UNITS

- a. Under this permit, each gasifier train and associated equipment may be operated for a period that ends 180 days after the SNG plant first sends synthetic natural gas into the pipeline to allow for equipment shakedown and required emissions testing. This period may be extended by Illinois EPA upon request of the Permittee if additional time is needed to complete shakedown or perform emission testing. This condition supersedes Standard Condition 6. (See Attachment 2)
- b. The remainder of the plant, excluding the gasifiers and associated equipment, may be operated under this construction permit for a period of 365 days after initial startup of a gasifier train. This period of time may be extended by the Illinois EPA for up to an additional 365 days upon written request by the Permittee as needed to reasonably accommodate unforeseen difficulties experienced during shakedown of the plant. This condition supersedes Standard Condition 6. (See Attachment 2)
- c. For the subject emission units that are subject to federal New Source Performance Standards (NSPS), the Permittee shall fulfill applicable notification requirements of the NSPS, 40 CFR 60.7(a), including:
  - i. Written notification of commencement of construction no later than 30 days after such date [40 CFR 60.7(a)(1)]; and
  - ii. Written notification of the actual date of initial startup within 15 days after such date [40 CFR 60.7(a)(3)].

## SECTION 4: UNIT-SPECIFIC CONDITIONS FOR PARTICULAR EMISSION UNITS

### CONDITION 4.1: UNIT-SPECIFIC CONDITIONS FOR THE GASIFICATION BLOCK FLARES

#### 4.1.1 Emission Unit Description

The affected units for the purpose of these unit-specific permit conditions are the various emission streams from the gasification block. The gasification block is the first part of the synthetic natural gas (SNG) production process, in which a feedstock (coal) is converted into a synthetic fuel gas or "syngas". The gasification block will have two (2) identical gasifiers. Syngas produced in the gasifiers, primarily consisting of hydrogen, carbon dioxide and carbon monoxide, must undergo a multi-step cleanup and treatment process before it is pumped into the natural gas pipeline network.

The gasification block will also include a gas cleanup train, designed to process the total syngas produced by the two gasifiers to meet the specifications for pipeline quality natural gas. In the cleanup train the raw syngas will be processed to remove contaminants necessary for conversion of the syngas to natural gas that meets pipeline quality requirements. These contaminants include: 1) mercury; 2) non-slag fly ash; 3) sulfur compounds; and 4) carbon monoxide/carbon dioxide. The gasifiers will not generate quantities of syngas at levels above which the gas cleanup system can effectively operate. During maintenance or other extended outages of the gas cleanup train, the gasifiers will not operate except where immediately shutting down the gasifiers would threaten safety of personnel and serious damage to equipment.

A related element of the gas cleanup train is the sulfur plant, in which the H<sub>2</sub>S removed from the syngas is converted to sulfur. The sulfur plant utilizes a Claus process for sulfur recovery. Sulfur dioxide and sulfuric acid mist emissions from the sulfur recovery plant are prevented during normal operation since the gases are recirculated in a closed loop to the acid gas removal unit

During normal operation, the only emission points from the gasification block would be the natural gas fired pilot flame in the pre-acid gas cleanup flare (Flare 1) and the post-acid gas cleanup and sulfur recovery plant flare (Flare 2) and CO<sub>2</sub> vent.

After cleanup, the syngas undergoes methanation and CO<sub>2</sub> removal to convert it into methane, i.e., synthetic natural gas. CO<sub>2</sub>, containing trace amounts of VOM (methanol), will be vented from this process. However, by installing a sacrificial absorption bed prior to the methanation unit sulfur compounds in the pre-methanated and refined SNG is further reduced.

During startup or upsets of a gasifier or the gas cleanup train, the gasification block would also have process emissions from disposal of off-specification syngas in flare 1. The post-acid gas cleanup and sulfur recovery flare (Flare 2) will control the scrubbed syngas that does not meet the natural gas pipeline requirements and cannot

be recycled through the system. These emissions are minimized as these events are themselves minimized and act to disrupt normal operation of the plant. In addition, flared syngas would typically have undergone cleaning prior to flaring.

Non-carbonaceous solids, or slag, exit the gasification process in the form of a slurry, which is taken off-site.

#### 4.1.2 Affected Emission Units

The affected units for these unit-specific conditions are the emission units described in Condition 4.1.1.

#### 4.1.3 Applicable Emission Standards

Each emission unit in the gasification block is subject to the following state emission standards.

- a. The emission of smoke or other particulate matter from an emission unit shall not have opacity greater than 30 percent, pursuant to 35 IAC 212.123(a), except as authorized 35 IAC Part 201 Subpart I.
- b. The emissions of SO<sub>2</sub> into the atmosphere from any affected unit shall not exceed 2000 ppm, pursuant to 35 IAC 214.301.

#### 4.1.4 Non-applicability of Regulations of Concern

- a. This permit is issued based on units in the gasification block not being subject to state emission standards for fuel combustion emission units because the purpose of the gasification block is to produce and process syngas and any recovery of heat from the gasification block is incidental to this purpose.
- b. This permit does not address the control requirements of 35 IAC 215.301, Use of Organic Material, for units in the gasification block, as flaring and venting emissions of organic material from such units will assure compliance with the alternative standard of 35 IAC 215.302, providing at least 85% control and the emissions of the CO<sub>2</sub> vent must be less than 8 pounds per hour.

#### 4.1.5 Operating Requirements

- a. Each gasification train shall be operated and maintained with the following features to minimize and control emissions.
  - i. A closed vent system, which shall be designed and maintained so that any discharge of syngas or other process gas from the gasifiers or gas cleanup trains that is not sent to the methanation unit can be reintroduced into the gasification block or vented to a flare for disposal. This requirement does not apply to air or nitrogen introduced into unit(s) during periods when a unit is shut down, as

might be needed for purposes of maintenance or to purge unit(s) in preparation for startup. This requirement also does not apply to any gas streams sent to the wet sulfuric acid plant.

- ii. Flares, which shall be designed, operated and maintained to comply with all relevant requirements of 40 CFR 60.18.
  - iii. A gas cleanup system for the removal of sulfur compounds from the syngas, which shall be conducted with an adsorption solvent with a low organic vapor pressure, such as Rectisol, Selexol or similar solvent, or a formal Leak Detection and Repair Program shall be implemented to address potential emissions from leaking components, in accordance with the relevant provisions of 40 CFR 60, Subpart VV.
  - iv. A sulfur recovery plant or other unit for processing the sulfur in the "sour", hydrogen sulfide rich, gas stream produced from regeneration of the adsorption solvent used for control of sulfur compounds into a stable product or waste.
  - v. Good operating practices.
- b. The gasification block shall be operated to comply with the following work practices:
- i. All discharges of syngas or other process gas shall be vented to a flare through the closed vent system, except when a failure of equipment or planning preclude the safe disposal of a gas stream in this manner.
  - ii. The operating level of gasifiers at any time shall not exceed the actual working capacity of the gas cleanup trains at such time.
  - iii. Sour gas shall not be flared except when a malfunction, due to failure of equipment or planned operation, precludes the safe processing of the sour gas in the sulfur recovery unit.
  - iv. All H<sub>2</sub>S gas streams produced by cleanup of syngas shall be processed by the sulfur recovery plant except in the event of malfunction or startup/shutdown of the unit.
- c. The good air pollution control practices used for the gasifiers and gas cleanup trains to minimize emissions shall include the following:
- i. Operation of units in accordance with written operating procedures that include startup, shutdown and malfunction plan(s) (See also Condition 3.4);

- ii. Inspection, maintenance and repair of units in accordance with written maintenance procedures including:
  - A. Appropriate practices to minimize emissions during startup, shutdown and malfunction, as further addressed in Condition 4.1.5.
  - B. Coordination of the startup of gas cleanup train(s) with the startup of the gasifier(s) so as to minimize emissions, prior to introduction of syngas to the methanator.
- iii. Use of natural gas or other low sulfur fuel (propane, ethanol, methanol, etc.) during startup of a gasifier to preheat the gasifier prior to introduction of feedstock into the gasifier.
- d. The Permittee shall operate each gasification train and associated air pollution control equipment in accordance with good air pollution control practice to minimize emissions, by operating in accordance with detailed written operating procedures as it is safe to do so. These procedures at a minimum shall:
  - i. Address startup, normal operation, shutdown and malfunction events.
  - ii. Fulfill applicable requirements of Condition 3.2 for a Startup, Shutdown and Malfunction Plan, including detailed provisions for review of relevant operating parameters of the gasification train system during startup, shutdown and malfunction as necessary to make adjustments and corrections to reduce or eliminate any excess emissions.
  - iii. With respect to startup address readily foreseeable startup scenarios, including so called "hot startups" when the operation of a gasifier or gas cleanup train, or sulfur recovery unit, is only temporarily interrupted, and provide for appropriate review of the operational condition of a unit prior to initiating startup of the unit.
  - iv.
    - A. With respect to malfunction, identify and address likely malfunction events with specific programs of corrective actions, and provide that upon occurrence of a malfunction that will result in emissions in excess of the applicable limits in Condition 4.1.3 or 4.1.6, the Permittee shall, as soon as practicable, repair the affected equipment, reduce the operating rate of the gasification train or remove the gasification train from service so that excess emissions cease.
    - B. Consistent with the above, if the Permittee has maintained and operated a unit so that malfunctions

are infrequent, sudden, not caused by poor maintenance or careless operation, and in general are not reasonably preventable, the Permittee shall begin shutdown of the unit within 90 minutes, unless the malfunction is expected to be repaired within 120 minutes. In such case, shutdown of the system shall be undertaken when it is apparent that repair will not be accomplished within 120 minutes. In no case shall shutdown of the unit be delayed solely for the economic benefit of the Permittee.

- e. The Permittee shall handle the feedstock for the gasifiers in accordance with a written Feedstock Management Plan that shall be designed to provide the gasifiers with a consistent feedstock supply that meets relevant criteria needed for proper operation of the gasifiers and production of a syngas that can be reliably processed by the gas cleanup train.
- f. The Permittee shall review its operating and maintenance procedures for units and its feedstock management plan for gasifiers, as required above on a regular basis and revise them if needed consistent with good air pollution control practice based on actual operating experience and equipment performance. This review shall occur at least annually if not otherwise initiated by occurrence of a startup, shakedown, or malfunction event that is not adequately addressed by the existing plans or a specific request by the Illinois EPA for such review.
  - i. The sulfur recovery plant exhaust shall be recirculated to the acid gas cleanup system without venting to the atmosphere.
  - ii. During periods of startup, shutdown and malfunction, emissions of SO<sub>2</sub> from the sulfur recovery plant flare shall not exceed the limit specified in Table 1 of Attachment 1.
  - iii. Good air pollution control practices shall be used for the flares to minimize emissions, including the measures specified in Condition 4.1.2-1(c)(i) and (ii) and during startup, shutdown and malfunction, as further addressed in Condition 4.1.5.
- g.
  - i. Coal feed to the gasifiers shall not exceed 200 tons per hour, daily average.
  - ii. The total amount of gas sent to the flares shall not exceed 44 million scf per year\*. Compliance with this limit and other annual limits in this permit shall be determined from a running total of 12 months of data.

\* This is equivalent to 15,400 million Btu per year based on the design heat content of the syngas, i.e., 350 Btu/scf.

#### 4.1.6 Emission Limitations

- a.
  - i. Emissions from the gasification block (flares) shall not exceed the limits in Attachment 1, Table I.
  - ii. The flares shall be designed to emit no more than 130 and 100 lbs/million scf for CO and NO<sub>x</sub> emissions, respectively.
- b. Emissions of CO and VOM from the CO<sub>2</sub> vent shall not exceed the limits in Attachment 1, Table I.

#### 4.1.7 Operational Testing for the Flares

Within 30 days of initial startup of each flare in the gasification block, the Permittee shall conduct tests of the flare to confirm compliance with relevant requirements of 40 CFR 60.18.

#### 4.1.8 Instrumentation

None

#### 4.1.9-1 Operational Monitoring

- a. The Permittee shall install, calibrate, operate, and maintain meters to measure and record consumption of feedstock(s), by each gasifier.
- b. The Permittee shall install, operate and maintain monitoring systems to measure and record key operating parameters of the cleanup systems for each gas cleanup train, including:
  - i. Temperature at and pressure drop across each cleanup system (mercury, particulate and sulfur compounds);
  - ii. Flow rate of scrubbant in the particulate cleanup system; and
  - iii. Flow rate of adsorption solvent.
- c. The Permittee shall sample the composition of the syngas, including but not limited to, PM (including metals) and heat content.
- d. The Permittee shall install, operate and maintain monitoring systems related to venting of gas to each flare for:
  - i. The flow of process gas to the flare (SCF).
  - ii. For each category of syngas or other process gas that can be vented to the flare, the date, time and duration of each occurrence of venting of gas to the flare.
- e. The Permittee shall install, operate and maintain monitoring systems for vent(s) to measure and record the following:

The occurrence of venting of gas and the quantity of gas emitted.

- f. The Permittee shall maintain the records of maintenance and operational activity associated with these monitoring systems.

#### 4.1.9-2 Sampling and Analysis of Feedstock and Syngas

- a.
  - i. On at least a monthly basis, the Permittee shall sample and analyze the sulfur and heat content of the feedstock supplied to the gasifiers using standard test methods, e.g., USEPA Reference Method 19 (40 CFR 60, Appendix A, Method 19).
  - ii. The Permittee shall analyze samples of all feedstock supplies to the gasifiers and the feedstock supply itself for mercury and other metals, chlorine and fluorine content, as follows:
    - A. Analysis shall be conducted in accordance with USEPA Reference Methods or other method approved by USEPA.
    - B. Analysis of the feedstock supply to the gasifiers themselves shall be conducted in conjunction with performance testing of an auxiliary boiler (see Condition 4.2.7).
    - C. Analysis of representative samples of feedstock shall be conducted in conjunction with acceptance of coal from a new mine or any alternate feedstock.
    - D. Analysis of representative samples of feedstock shall be conducted at least every two years, if a more frequent analysis is not needed pursuant to the above requirements.
- b. The Permittee shall take representative samples of the various gas streams that could be vented to the flare and analyze them using applicable ASTM methods for sulfur, chlorine, fluorine, and mercury and other metals content.
- c. The Permittee shall determine the emissions of SO<sub>2</sub>, NO<sub>x</sub>, HCl, HF, mercury and PM/PM<sub>10</sub> resulting from the combustion of gases during each flare event, based on the most recent sample data.

#### 4.1.10-1 Recordkeeping for Units in the Gasification Block

- a. The Permittee shall maintain a file containing the design specifications for each flare, including capacity and CO and NO<sub>x</sub> emissions, in lbs/million Btu.

- b. The Permittee shall maintain the following records with respect to operation and maintenance of each gasifier and gas cleanup train:
  - i. An operating log for the unit that at a minimum shall address:
    - A. Each startup of the unit, including the nature of the startup, sequence and timing of major steps in the startup, any unusual occurrences during the startup, and any deviations from the established startup procedures, with explanation;
    - B. Each shutdown of the unit, including the nature and reason for the shutdown, sequence and timing of major steps in the shutdown, any unusual occurrences during the shutdown, and any deviations from the established shutdown procedures, with explanation; and
    - C. Each malfunction of the unit that significantly impairs emission performance, including the nature and duration of the event, sequence and timing of major steps in the malfunction, corrective actions taken, any deviations from the established procedures for such a malfunction, and preventative actions taken to address similar events.
  - ii. Inspection, maintenance and repair log(s) for each unit that at a minimum shall identify such activities that are performed related to components that may affect emissions; the reason for such activities, i.e., whether planned or initiated due to a specific event or condition; and any failure to carry out the established maintenance procedures, with explanation.
- c. The Permittee shall maintain records of the following items related to feedstock used in the gasifiers:
  - i. Records of the sampling and analysis of feedstock supplied to the gasifiers conducted in accordance with Condition 4.1.9-2.
  - ii. The sulfur content of feedstock, in lb sulfur/million Btu, supplied to the gasifiers, as determined pursuant to Condition 4.1.9-2.
- d. The Permittee shall keep records for any period during which any unit deviated from an applicable requirement. These records shall include at least the information specified by Condition 5.3.
- e. The emissions of NO<sub>x</sub>, CO, SO<sub>2</sub>, PM/PM<sub>10</sub> and VOM from each unit in tons/month and tons/year.

#### 4.1.10-2 Recordkeeping for the Sulfur Recovery Plant

##### a. Operating Records

The Permittee shall maintain the following operating records that at a minimum shall include for each startup of the unit:

- i. Date and duration of the startup, i.e., start time and time normal operation achieved;
- ii. Whether the startup was a full startup;
- iii. If normal operation is not achieved within the times determined after optimization of the plant for a cold full start or for a startup associated with catalyst regeneration, an explanation why startup could not be achieved in normal time frame;
- iv. A detailed description of the startup;
- v. An explanation why established startup procedures could not be performed, if not performed;
- vi. The nature of opacity, i.e., severity and duration, during the startup and the nature of opacity at the conclusion of startup, if above normal; and
- vii. Whether exceedance of Condition 4.1.6 may have occurred during startup, with explanation and estimated duration (minutes).

##### b. Records for Continued Operation During Malfunctions and Breakdowns

The Permittee shall maintain records related to malfunction and breakdown that, as a minimum, shall include:

- i. A maintenance and repair log for the unit and associated control equipment, listing each activity performed with date; and
- ii. Records for each incident when operation of the unit continued during malfunction or breakdown with excess emissions including the following information:
  - A. Date and duration of malfunction or breakdown;
  - B. A detailed explanation of the malfunction or breakdown;
  - C. An explanation why continued operation of the gasifiers was necessary;

- D. The measures used to reduce the quantity of emissions and the event;
  - E. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity; and
  - F. An estimate of the amount of excess emissions released during malfunction/breakdown.
- c. The Permittee shall maintain records of the amount of sulfur recovered (tons/month and tons/year).
- d. i. The Permittee shall keep the following operating records for each day that flaring occurs:
- A. Date and amount of gas flared;
  - B. Confirmation that established operating procedures were followed; and
  - C. Confirmation that the flare functioned properly, i.e., a flame was present and no visible emissions were observed except as allowed by 40 CFR 60.18(f)(i).
- ii. The Permittee shall keep the following records for each event when gas that was not fully cleaned was flared (or gas was sent directly to the atmosphere):
- A. Date, time and duration of the event;
  - B. Description of the event;
  - C. Estimated amount of gas flared or emitted until the situation was corrected or emissions ceased;
  - D. Corrective actions taken; and
  - E. Actions taken to prevent or reduce the likelihood of future occurrences.
- e. The Permittee shall keep records of the emissions of SO<sub>2</sub>, CO and VOM (tons/month and tons/year) with supporting calculations.

#### 4.1.11 Notifications

The Permittee shall notify the Illinois EPA within 30 days of deviations from applicable requirements that are not addressed by the regular reporting required below. These notifications shall include the information specified by Condition 5.5.

#### 4.1.12 Reporting for Flares and CO<sub>2</sub> Vent

- a. The Permittee shall report to the Illinois EPA any and all opacity and emission measurements for any unit in the gasification block (other than the Sulfur Recovery Plant) that is in excess of the respective requirements set by this permit. In addition to the information specified by Condition 5.5, these reports shall provide for each such incident, the pollutant emission rate, the date and duration of the incident, and whether it occurred during startup, malfunction, breakdown, or shutdown. If an incident occurred during malfunction or breakdown, the corrective actions and actions taken to prevent or minimize future reoccurrences shall also be reported.
- b. These reports shall also address any deviations from applicable compliance procedures for a unit established by this permit, including specifying periods during which the continuous monitoring systems were not in operation.

CONDITION 4.2: UNIT-SPECIFIC CONDITIONS FOR THE AUXILIARY BOILER

4.2.1 Description of Emission Unit

The affected unit for the purpose of these unit-specific permit conditions is the natural gas-fired "auxiliary" boiler that will be used to supply steam for startup of the gasifiers. The natural gas will be clean, i.e., pipeline quality natural gas. Given its function, the auxiliary boiler will only be operated on an intermittent basis (primarily only during startup) and will be idle most of the time. The nominal rated capacity of the auxiliary boiler is 125 million Btu/hour. Emissions from the boiler are controlled by good combustion practices.

4.2.2 Affected Emission Units

The affected unit for these unit-specific conditions is the auxiliary boiler described in Condition 4.2.1.

4.2.3-1 Applicable Federal Emission Standards

- a. The affected boiler is subject to the New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Db and related provisions of 40 CFR 60 Subpart A.
- b. Sulfur dioxide (SO<sub>2</sub>) emissions from the affected boiler shall not exceed 87 ng/J (0.20 lb/million Btu heat input), pursuant to 40 CFR 60.42b(k). This standard shall apply at all times, pursuant to 40 CFR 60.45b(a).
- c. At all times, the Permittee shall maintain and operate the affected boiler, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to 40 CFR 60.11(d).

4.2.3-2 Applicable State Emission Standards:

- a. The affected boiler is subject to 35 IAC 212.122(b), which provides that emissions of smoke or other particulate matter shall not have an opacity greater than 20 percent, except as allowed by 35 IAC 212.122(b) and 212.124. Compliance with this limit shall be determined by 6-minute averages of opacity measurements in accordance with USEPA Reference Method 9. [35 IAC 212.109 and 212.122(a)]
- b. The affected boiler is subject to 35 IAC 216.121, which provides that emissions of carbon monoxide (CO) into the atmosphere shall not exceed 200 ppm, corrected to 50 percent excess air. [35 IAC 216.121]
- c. The affected boiler is subject to 35 IAC 217.121, which provides that emissions of nitrogen oxide (NO<sub>x</sub>) shall not exceed 0.2

lb/mmBtu of actual heat input in any one-hour period. [35 IAC 217.121(a)]

#### 4.2.4 Non-Applicability of Regulations of Concern

- a. i. The affected boiler is not subject to the NSPS standards for PM/PM<sub>10</sub>, 40 CFR 60.43b because the SO<sub>2</sub> emissions will not exceed 0.32 lb/mmBtu heat input, as provided by 40 CFR 60.436(h)(5).
- ii. The affected boiler is not subject to the NSPS standards for NO<sub>x</sub>, 40 CFR 60.44b, because the annual capacity factor of the boiler is limited to no more than 10 percent, as provided by 40 CFR 60.44b(1)(2). [See Condition 4.2.5(c)]
- iii. Continuous monitoring systems for NO<sub>x</sub> emissions and opacity are not required for the affected boiler pursuant to the NSPS because the boiler is only fired on syngas/natural gas and has an annual capacity factor that is no more than 10 percent (see Condition 4.3.5(c)), so that these monitoring requirements of the NSPS do not apply, as provided by 40 CFR 60.48b(i) and 60.44b(j).

Note: If these criteria were not met, the affected boiler would be subject to requirements of the NSPS, as appropriate.

- b. This permit is issued based on the affected boiler not being subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart DDDDD, for Industrial, Commercial, and Institutional Boilers and Process Heaters because the source is not major for HAP.

Note: If the source were major for HAP, the affected boiler would be subject to this NESHAP.

- c. The affected boiler is not subject to the Title IV (i.e., Acid Rain) provisions of the federal Clean Air Act since it is not a utility unit.

#### 4.2.5 Operational Limits and Work Practices

- a. Only gaseous fuel shall be fired in the affected boiler.
- b. i. The annual capacity factor of the affected boiler shall not exceed 10 percent.
- ii. The fuel usage in the affected boiler shall not exceed 860 mmscf/year.

#### 4.2.6 Emission Limitations

The emissions of the affected boiler shall not exceed the following limitations.

Pollutant	Startup/Malfunction	
	Lbs/Hour	Tons/Year
CO	10.3	4.6
PM <sub>10</sub>	1.0	0.5
VOM	0.7	0.4
NO <sub>x</sub>	12.3	5.4
SO <sub>2</sub>	0.1	0.1

#### 4.2.7 Testing Requirements

- a.
  - i. Within 60 days after achieving the maximum production rate at which the affected boiler will be operated, but not later than 180 days after initial startup, the Permittee shall have emission tests conducted for emissions of NO<sub>x</sub>, CO and VOM, and opacity as specified below at its expense, by an approved testing service while the affected boiler is operating at maximum load and other representative operating conditions.
  - ii. In addition to the emission testing required above, the Permittee shall perform emission tests as requested by the Illinois EPA for the affected boiler within 45 days of a written request by the Illinois EPA or such later date agreed to by the Illinois EPA. The operating conditions during such testing shall be consistent with those specified by the Illinois EPA.
- b. The following methods and procedures shall be used for testing of emissions of the affected boiler, unless another method is approved by the Illinois EPA.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3 or 3A
Moisture Content	Method 4
Nitrogen Oxides <sup>1</sup>	Method 7, 7E or 19
Opacity	Method 9
Carbon Monoxide	Method 10
Volatile Organic Material <sup>2</sup>	Method 18 and Method 25 or 25A
Particulate Matter <sup>3</sup>	Methods 5 and 202

<sup>1</sup> Test in accordance with 40 CFR 60, Subparts A and Db as specified in 40 CFR 60.48b(d).

<sup>2</sup> Permittee may exclude methane, ethane and other exempt compounds from the results of any VOM test provided that the test protocol to quantify and correct for such compounds is included in the test plan approved by the Illinois EPA.

<sup>3</sup> Testing for particulate matter (filterable and condensable) is required.

- c. The Permittee shall submit a plan for emission testing to the Illinois EPA at least 60 days prior to the initial startup of the affected boiler.
- d. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification and test protocol for the expected date of testing shall be submitted a minimum of thirty days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of 5 working days prior to the actual date of the test. Notwithstanding 40 CFR 60.8(d), the Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.
- e. Three copies of the Final Report for these tests shall be promptly submitted to the Illinois EPA and in no case later than 60 days after the completion of the testing, and shall include as a minimum:
  - i. A summary of results that includes:
    - Boiler load (e.g., firing rate)
    - Boiler operating parameters (i.e., steam produced and oxygen content in the flue gas leaving the boiler)
    - Measured emission rates of all pollutants measured
    - Emission factor, calculated using the average test results in the terms of the applicable limits, for example, in units of lbs pollutant emitted per mmBtu
    - A statement whether compliance was demonstrated
  - ii. Description of test methods and procedures used, including description of sampling train, analysis equipment, and test schedule.
  - iii. Detailed description of test conditions, including:
    - Pertinent process information (e.g. fuel type , quantity)
    - Control equipment information, i.e., equipment condition and pressure drop, flow rates, and other operating parameters during testing
  - iv. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.

- f. Copies of emission test reports shall be retained for at least five years after the date that an emission test is superseded by a more recent test.

4.2.8 Monitoring Requirements

None

4.2.9 Recordkeeping Requirements

- a. The Permittee shall maintain a file or other records for the affected boiler that contains the following information:
  - i. The maximum rated heat input of the affected boiler with supporting documentation.
  - ii. Records of the Permittee's established operating and maintenance procedures for the affected boiler.
- b. Records for sulfur content (wt. percent) of the fuel supply to the affected boiler, including copies of the supplier certification of the fuel supplied to the affected boiler, as required by 40 CFR 60.45b(k), used to satisfy these requirements.
- c. The Permittee shall maintain the following operating records for the affected boiler:
  - i. Daily records of fuel use, in accordance with 40 CFR 60.49b(d); and
  - ii. Amount of fuel consumed and the annual capacity factor, determined on a 12-month rolling basis with a new annual capacity factor calculated for each month pursuant to 40 CFR 60.49b(d). The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.
- d. The Permittee shall maintain the following logs or other records for the affected boiler:
  - i. Each startup of the affected boiler, including the date and duration of each startup, and note any deviations from normal startup procedures, as set forth in the Permittee's written operating procedure.
  - ii. An operating log that, at a minimum, includes:
    - A. The information required by 40 CFR 60.7(b)
    - B. Information on any malfunction or breakdown, including cause, duration and whether the affected boiler continued to operate during that time.

- iii. A maintenance and repair log for the affected boiler listing each activity performed with date.
- e. The Permittee shall keep the following records related to emissions:
  - i. Any period of time including startup, shutdown, or malfunction/breakdown when emissions exceed an applicable limit.
  - ii. The annual NO<sub>x</sub>, CO, VOM, PM/PM<sub>10</sub>, SO<sub>2</sub> and HAP emissions from the affected boiler, based on fuel consumption or applicable emission factors with supporting calculations.

#### 4.2.10 Reporting and Notification Requirements

- a. The Permittee shall fulfill applicable reporting requirements of the NSPS, 40 CFR 60.7 and 60.49b, for the affected boiler by sending the following notifications and reports to the Illinois EPA:
  - i. Notification of the date of initial startup of the affected boiler, as provided by 40 CFR 60.7. This notification shall include: (1) the design heat input capacity of the affected boiler, (2) identification of the fuels to be combusted in the boiler, and (3) the annual capacity factor at which the Permittee anticipates operating the affected boiler.
  - ii. Reports containing the information recorded under 40 CFR 60.49b(b).
  - iii. Reports for excess emissions (see Condition 4.2.10(c)). These reports shall be prepared and submitted in conformance with the requirements, content and schedule contained in 40 CFR 60.7 and 60.49b(v).
  - iv. A report for the maximum rated heat input capacity data of the affected boiler.
- b. The Permittee shall immediately notify the Illinois EPA of any occurrence when the NO<sub>x</sub> emissions from the affected boiler exceed the applicable emission standard or limitation or emissions of other pollutants exceed the applicable standard or limitation.
- c.
  - i. The Permittee shall submit excess emission reports for any calendar quarter during which there are excess emissions from the affected boiler pursuant to the NSPS. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report stating that no excess emissions occurred during the reporting period. Excess emissions are defined as any calculated emission rate that exceeds the applicable limit in Condition 4.2.6.

- ii. Except for deviations by the affected boiler addressed by the above quarterly reports, the Permittee shall notify the Illinois EPA of any deviations of the affected boiler from any applicable requirement of this permit as outlined in Conditions 4.3.10(a)(iii) and (c).
- iii. The reporting period for the reports is quarterly. All reports shall be submitted and be postmarked by the 30th day following the end of the reporting period.

CONDITION 4.3: UNIT-SPECIFIC CONDITIONS FOR COOLING TOWER

4.3.1 Description of Emission Unit

The affected unit for the purpose of these unit-specific conditions is a cooling tower, which supplies cooling water to the gasification block and air separation unit.

The cooling tower is a source of particulate matter (PM) because of mineral material present in the water, which is emitted to the atmosphere due to water droplets that escape from the cooling tower or completely evaporate. The emissions of PM/PM<sub>10</sub> are controlled by drift eliminators, which collect water droplets entrained in the air exhausted from the cooling tower.

4.3.2 Affected Emission Units

The affected unit for these unit-specific conditions is the cooling tower described in Condition 4.3.1.

4.3.3 Applicable State Emission Standards

- a. The emission of smoke or other particulate matter from the affected unit shall not have an opacity greater than 30 percent, except as allowed by 35 IAC 212.124. Compliance with this limit shall be determined by 6-minute averages of opacity measurements in accordance with USEPA Reference Method 9. [35 IAC 212.109 and 212.123(a)]
- b. With respect to emissions of fugitive particulate matter, the affected unit shall comply with 35 IAC 212.301, which provides that emissions of fugitive PM/PM<sub>10</sub> shall not be visible from any process, including any material handling or storage activity, when looking generally toward the zenith at a point beyond the property line of the source, except when the wind speed exceeds 25 miles per hour, as provided by 35 IAC 212.314.
- c. The emissions of particulate matter from the affected unit shall comply with the applicable limit pursuant to 35 IAC 212.321.

4.3.4 Applicability of Other Regulations

None

4.3.5 Operating Requirements

- a. The affected unit shall be equipped, operated, and maintained with drift eliminators designed to limit the loss of water droplets from the unit to not more than 0.0005 percent of the circulating water flow.
- b. Chromium-based water treatment chemicals, as defined in 40 CFR 63.401, shall not be used in the affected unit.

- c. The Permittee shall either (i) equip the affected unit with appropriate features, such as louvered heating coils designed to heat tower plenum air as required, to enable it to be operated without a significant contribution to fogging and icing on offsite roadways during periods when fogging or icing are present in the area or weather conditions are conducive to fogging or icing, or (ii) Demonstrate by appropriate analysis, which has been submitted to the Illinois EPA for review, that the cooling tower will be sited and designed and can be operated such that additional features are not needed to prevent a significant contribution to fogging and icing on offsite roadways.
- d. The Permittee shall operate and maintain the affected unit, including the drift eliminators, in a manner consistent with good air pollution control practices for minimizing emissions.
- e. The Permittee shall operate and maintain the affected unit in accordance with written operating procedures, which procedures shall be kept current. These procedures shall address the practices that will be followed as good air pollution control practices and the actions that will be followed to prevent a significant contribution to icing and fogging on offsite roadways.

#### 4.3.6 Emission Limitations

The total annual emissions of PM/PM<sub>10</sub> from the affected unit shall not exceed 1.0 tons/year, as determined by appropriate emission factors and engineering calculations.

#### 4.3.7 Emission Testing

None

#### 4.3.8 Work Practices

The Permittee shall maintain the drift eliminators in the affected unit in a manner consistent with good air pollution control practices for minimizing emissions.

#### 4.3.9 Operational Measurements

- a. The Permittee shall sample and analyze the water being circulated in the affected unit on at least a monthly basis for the total dissolved solids content. Measurements of the total dissolved solids content in the wastewater discharge associated with the affected unit, as required by a National Pollution Discharge Elimination System permit, may be used to satisfy this requirement if the effluent has not been diluted or otherwise treated in a manner that would significantly reduce its total dissolved solids content.

- b. Upon written request by the Illinois EPA, the Permittee shall promptly have the water circulating in the affected unit sampled and analyzed for the presence of hexavalent chromium in accordance with the procedures of 40 CFR 63.404(a) and (b).
- c. The Permittee shall monitor the quantity of make-up water (in gallons) to the cooling tower on a monthly basis.

#### 4.3.10 Records

- a. The Permittee shall keep a file that contains:
  - i. The design loss specification for the drift eliminators installed in the affected unit.
  - ii. The suppliers' recommended procedures for inspection and maintenance of the drift eliminators.
  - iii. The operating factors, if any, used to determine the amount of water circulated in the affected unit or the PM/PM<sub>10</sub> emissions from the affected unit, with supporting documentation.
  - iv. Copies of the Material Safety Data Sheets or other comparable information from the suppliers for the various water treatment chemicals that are added to the water circulated in the affected unit.
- b. The Permittee shall keep the following operating records for the affected unit:
  - i. The amount of water circulated in the affected unit, gallons/month. As an alternative to direct data for water flow, these records may contain other relevant operating data for the unit (e.g., water flow or make-up water added to the unit) from which the amount of water circulated in the unit may be reasonably determined.
  - ii. Each occasion when the Permittee took action to prevent a significant contribution to fogging or icing from the affected unit, including the date and duration, the action or actions that were taken, the weather conditions that triggered such actions, and the weather conditions when such actions were terminated.
- c. The Permittee shall keep inspection and maintenance logs for the drift eliminators installed in the affected unit.
- d. The Permittee shall maintain records for the PM/PM<sub>10</sub> emissions of the affected unit based on the above records, the measurements required by Condition 4.3.9(a), and appropriate USEPA emission estimation methodology and emission factors, with supporting calculation.

#### 4.3.11 Notifications

The Permittee shall notify the Illinois EPA within 30 days of deviations from applicable requirements that are not addressed by the regular reporting required by Condition 4.3.12. These notifications shall include the information specified by Condition 5.5.

#### 4.3.12 Reporting

If the cooling tower is equipped with features to address fogging and icing, as addressed by Condition 4.3.5(b), the Permittee shall submit quarterly reports to the Illinois EPA summarizing the records required by Condition 4.3.10(b)(ii) and identifying any deviation from established practices for the use of such features.

CONDITION 4.4: UNIT-SPECIFIC CONDITIONS FOR FEEDSTOCK AND BULK MATERIAL HANDLING, STORAGE AND LOADOUT OPERATIONS

4.4.1 Description of Emission Units

Operations include receiving, transfer, storage, preparation (crushing, screening, etc.) and loading operations, as relevant for particular materials, for these materials.

Emissions of PM/PM<sub>10</sub> from affected units must be controlled by appropriate measures given the nature of the material. In particular, units handling dry materials must be enclosed and aspirated to control equipment if it is practical to do so. For receiving of coal and storage of coal, for which total enclosure is not practicable, measures must be used to very effectively reduce the generation of emissions.

4.4.2 Affected Emission Units

The affected units for the purpose of these unit-specific conditions are equipment and facilities handling coal and other bulk materials (e.g., slag from the gasifiers) that are involved with the operation of the plant and that have the potential for particulate matter (PM) emissions.

4.4.3-1 Applicable Federal Emission Standards

- a. Affected units engaged in handling and processing coal shall comply with applicable requirements of the NSPS for coal Preparation Plants, 40 CFR 60, Subpart Y, and related provisions of 40 CFR 60, Subpart A.
- b. Pursuant to the NSPS, the opacity of the exhaust from coal processing and conveying equipment, coal storage systems (other than open storage piles), and coal loading systems shall not exceed 20 percent. [40 CFR 60.252(c)]
- c. At all times, the Permittee shall maintain and operate affected units that are subject to NSPS, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions, pursuant to 40 CFR 60.11(d).

4.4.3-2 Applicable State Emission Standards

- a. The emission of smoke or other PM/PM<sub>10</sub> from affected units shall not have an opacity greater than 30 percent, except as allowed by 35 IAC 212.124. Compliance with this limit shall be determined by 6-minute averages of opacity measurements in accordance with USEPA Reference Method 9. [35 IAC 212.109 and 212.123(a)]
- b. With respect to emissions of fugitive PM/PM<sub>10</sub>, affected units shall comply with 35 IAC 212.301, which provides that emissions

of fugitive PM/PM<sub>10</sub> shall not be visible from any process, including any material handling or storage activity, when looking generally toward the zenith at a point beyond the property line of the source, except when the wind speed exceeds 25 miles per hour, as provided by 35 IAC 212.314.

- c. The emissions of PM/PM<sub>10</sub> from affected units other than units excluded by 35 IAC 212.323 shall comply with the applicable limit pursuant to 35 IAC 212.321, which rule limits emissions based on the process weight rate of emission units and allows a minimum emission rate of 0.55 lb/hour for any individual unit.

#### 4.4.4 Non-Applicability of Regulations of Possible Concern

This permit is issued based on the storage piles and associated operations and the coal handling operations not being subject to 35 IAC 212.321 pursuant to 35 IAC 212.323, which provides that 35 IAC 212.321 shall not apply to emission units, such as stock piles, to which, because of the disperse nature of such emission units, these rules cannot reasonably be applied.

#### 4.4.5 Operating Requirements

- a. PM/PM<sub>10</sub> emissions from an affected unit handling a wet material shall be controlled by the following measures. For this purpose, wet material is a material that has sufficient moisture during normal operation to minimize the potential for direct emissions.
  - i. Maintaining the material with adequate moisture to prevent visible emissions directly from such unit during the handling, storage or load out of the material.
  - ii. Collection of spilled material that could become airborne if it dried or were subject to vehicle traffic as part of the Program for Control of Fugitive Dust required by Condition 4.5.5.
- b. PM/PM<sub>10</sub> emissions from an affected unit handling a dry material, other than a storage pile for dry material and handling operations associated with the storage pile, shall be controlled by:
  - i. Partial or full enclosure of the unit, as applicable, so as to prevent visible fugitive emissions, as defined by 40 CFR 60.671, from the affected unit.
  - ii. Aspiration to a control device designed to emit no more than 0.01 grains/dry standard cubic foot (gr/dscf), which device shall be operated in accordance with good air pollution control practice to minimize emissions. For this purpose, the control device shall be a baghouse or other filtration type device unless the Permittee demonstrates and the Illinois EPA concurs that another type of control

device is preferable due to considerations of operational safety.

- c. PM/PM<sub>10</sub> emissions from storage piles for dry material, including material handling operations associated with the piles, shall be controlled by application of water or other dust suppressants so as to minimize fugitive emissions to the extent practicable. For this purpose, there shall either:
  - i. Be no visible emissions from the affected unit, as determined in accordance with USEPA Method 22, or
  - ii. A nominal control efficiency shall be achieved from the uncontrolled emission rate, as follows, as determined using appropriate USEPA emission factors for particulate emissions from handling of a material dry, in the absence of any control of emissions, and engineering analysis and calculations for the control measures that are actually present: Coal: 90 percent.
- d.
  - i. Bulk materials other than coal or slag that have the potential for PM/PM<sub>10</sub> emissions shall be stored in silos, bins, and buildings, without storage of such materials in outdoor piles except on a temporary basis during breakdown or other disruption in the capabilities of the enclosed storage facilities.
  - ii. Coal storage piles and temporary piles for other materials shall be equipped and operated with adjustable stacker(s), rotary stacker(s), coal ladders, telescoping chutes or other comparable devices to minimize the distance that material drops when added to the pile and minimize the associated PM/PM<sub>10</sub> emissions.
- e. The Permittee shall implement and maintain control measures for the affected units that minimize visible emissions of PM/PM<sub>10</sub> and provide assurance of compliance with the applicable limits and standards in Conditions 4.4.3-1, 4.4.3-2 and 4.4.6.
- f. The affected units, including associated control equipment shall be operated and maintained in accordance with good air pollution control practice to minimize emissions.

#### 4.4.6 Emission Limitations

Annual emissions of PM/PM<sub>10</sub> from the affected units shall not exceed 51.0 tons/year. Compliance with this annual emission limit shall be determined from a rolling total of 12 months of emission data, calculated from the material handled and other, operating information for affected units, and appropriate emission factors.

#### 4.4.7-1 Initial Performance Testing

- a. Within 60 days after achieving the maximum production rate at which each affected unit subject to NSPS will be operated, but not later than 180 days after initial startup of each such unit, the Permittee shall have emissions tests conducted at its expense as follows below by an approved testing service under unit operating conditions that are representative of maximum emissions.
- b. The following USEPA methods and procedures shall be used for PM/PM<sub>10</sub> and opacity measurements as specified in 40 CFR 60.254:  
  
PM - Method 5, (PM<sub>10</sub> - Method 201) with the sampling time and sample volume for each run to be at least 60 minutes and 30 dscf and sampling to begin no less than 30 minutes after startup and to terminate before shutdown begins.  
  
Opacity - Method 9, with measurements performed by a certified observer.
- c. Test plan(s), test notifications, and test reports shall be submitted to the Illinois EPA in accordance with Condition 3.2.

#### 4.4.7-2 Periodic Testing

- a. i. The Permittee shall have the opacity of the emissions of the affected units during representative weather and operating conditions determined by a qualified observer in accordance with USEPA Test Method 9, as further specified below.
  - A. If emissions are normally visible from a unit when it is in operation, as determined by USEPA Reference Method 22, opacity testing shall be conducted at least annually.
  - B. Upon written request by the Illinois EPA, such testing shall be conducted for specific affected units within 45 calendar days of the request or on the date agreed upon by the Illinois EPA, whichever is later.
- ii. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) unless the average opacities for the first 12 minutes of observations (two six-minute averages) are both less than 5.0 percent.
- iii. A. The Permittee shall notify the Illinois EPA at least 7 days in advance of the date and time of these tests, in order to allow the Illinois EPA to witness testing. This notification shall include the name and employer of the qualified observer(s).

- B. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for testing.
  - iv. The Permittee shall provide a copy of its observer's readings to the Illinois EPA at the time of testing, if Illinois EPA personnel are present.
  - v. The Permittee shall submit a written report for this testing within 15 days of the date of testing. This report shall include:
    - A. Date and time of testing.
    - B. Name and employer of qualified observer.
    - C. Copy of current certification.
    - D. Description of observation conditions, including recent weather.
    - E. Description of the operating conditions of the affected processes.
    - F. Raw data.
    - G. Opacity determinations.
    - H. Conclusions.
- b. Unless otherwise specified for the affected units by the source's operating permit:
  - i. Within 90 days of a written request from the Illinois EPA, the Permittee shall have the PM/PM<sub>10</sub> emissions at the stacks or vents of affected units, as specified in such request, measured during representative operating conditions, as set forth below.
  - ii.
    - A. Testing shall be conducted using appropriate USEPA Test Methods, including Method 5 or 17 for PM/PM<sub>10</sub> emissions.
    - B. Compliance may be determined from the average of three valid test runs, subject to the limitations and conditions contained in 35 IAC Part 283.
  - iii. The Permittee shall submit a test plan to the Illinois EPA at least 60 days prior to testing, which plan shall include the information for test plans specified by General Condition 5.2(a).
  - iv. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification of the expected date of testing shall be

submitted a minimum of 30 days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of 5 working days prior to the actual date of the test. The Illinois EPA may, at its discretion, accept notification with shorter advance notice provided that the Illinois EPA will not accept such notification if it interferes with the Illinois EPA's ability to observe the testing.

v. The Permittee shall expeditiously submit Final Report(s) for required emission testing to the Illinois EPA, no later than 90 days after the date of testing. These reports shall include the information specified in Condition 6.2(c) and the following information:

- A. A summary of results.
- B. Detailed description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.
- C. Detailed description of the operating conditions of the affected process during testing, including operating rate (tons/hr) and the control measures being used.
- D. Detailed data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
- E. Representative opacity data (6-minute average) measured during testing.

#### 4.4.8 Operational Instrumentation

- a. The Permittee shall install, operate and maintain systems to measure the pressure drop across each baghouse used to control affected units, other than bin vent filters and other similar filtration devices.
- b. The Permittee shall maintain the records of the measurements made by these systems and records of maintenance and operational activity associated with the systems.

#### 4.4.9 Inspections

- a. i. The Permittee shall conduct inspections of affected units on at least a monthly basis with personnel who are not directly responsible for the day-to-day operation of these units, for the specific purpose of verifying that the measures identified in the operating program and other measures required to control emissions from affected units are being properly implemented.

- ii. These inspections shall include observation for the presence of visible emissions, performed in accordance with USEPA Method 22, from buildings in which affected units are located and from units from which the Permittee has elected to demonstrate no visible emissions.
- b. The Permittee shall perform detailed inspections of the dust collection equipment for affected units while the units are out of service, with an initial inspection performed before any maintenance and repair activities are conducted during the period the unit is out of service and a follow-up inspection performed after any such activities are completed. These inspections shall be conducted at least every 15 months.

#### 4.4.10 Recordkeeping

- a. For affected units that are subject to NSPS, the Permittee shall fulfill applicable recordkeeping requirements of the NSPS, 40 CFR 60.7.
- b. The Permittee shall maintain file(s), which shall be kept current, that contain:
  - i. The maximum operating capacity of each affected unit or group of related units (tons/hour).
  - ii. A. For the baghouses and other filter devices associated with affected units, design specifications for each device (type of unit, maximum design exhaust flow (acfm and scfm), filter area, type of filter cleaning, performance guarantee for particulate exhaust loading in gr/scf, etc.), the manufacturer's recommended operating and maintenance procedures for the device, and design specification for the filter material in each device (type of material, surface treatment(s) applied to material, weight, performance guarantee, warranty provisions, etc.).
    - B. For each baghouse, the normal range of pressure drop across the device and the minimum and maximum safe pressure drop for the device, with supporting documentation.
  - iii. For affected units that are not controlled with baghouses or other filter-type devices, a detailed description of the work practices used to control emissions of PM/PM<sub>10</sub> pursuant to Condition 4.4.5(b). These control measures are referred to as the "established control measures" in this subsection of this permit.
  - iv. The designated PM/PM<sub>10</sub> emission rate, in pounds/hour and tons/year, from affected units, either individually or grouped by related units, with supporting calculations and

documentation, including detailed documentation for the level of emissions control achieved through the work practices that are used to control PM/PM<sub>10</sub> emissions. For each category of affected unit (e.g., coal handling), the sum of these emission rates shall not exceed the totals in Attachment 1, Table 1 for the category of affected unit. (See also Condition 4.4.7.)

- v. A demonstration that confirms that the above established control measures are sufficient to assure compliance with the above emissions rates and, for units to which it applies, Condition 4.4.3-2(c), at the maximum process weight rate at which each affected unit can be operated (tons/hour), with supporting emission calculations and documentation for the emission factors and the efficiency of the control measures being relied upon by the Permittee. Except as addressed by Condition 4.4.10(b)(ii) or testing of PM/PM<sub>10</sub> emissions from an affected unit is conducted in accordance with Condition 4.4.7-2, this demonstration shall be developed using emission factors for uncontrolled PM/PM<sub>10</sub> emissions, efficiency of control measures, and controlled PM/PM<sub>10</sub> emissions published by USEPA.
- c. The Permittee shall keep records for the amount of bulk materials received by or loaded out from the plant by category or type of material (tons/month).
- d.
  - i. The Permittee shall keep inspection and maintenance log(s) or other records for the control measures associated with the affected units, including buildings and enclosures, dust suppression systems and control devices.
  - ii. These records shall include the following information for the inspections required by Condition 4.4.9(a):
    - A. Date and time the inspection was performed and name(s) of inspection personnel.
    - B. The observed condition of the control measures for each affected unit, including the presence of any visible emissions.
    - C. A description of any maintenance or repair associated with established control measures that are recommended as a result of the inspection and a review of outstanding recommendations for maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or no longer appears to be required.
    - D. A summary of the observed implementation or status of actual control measures, as compared to the established control measures.

- iii. These records shall include the following information for the inspections required by Condition 4.4.9(b):
  - A. Date and time the inspection was performed and name(s) of inspection personnel.
  - B. The observed condition of the dust collection equipment.
  - C. A summary of the maintenance and repair that is to be or was conducted on the equipment.
  - D. A description of any maintenance or repair that is recommended as a result of the inspection and a review of outstanding recommendations for maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or no longer appears to be required.
  - E. A summary of the observed condition of the equipment as related to its ability to reliably and effectively control emissions.
- e. The Permittee shall maintain records of the following for each incident when any affected unit operated without the control measures required by Condition 4.4.2 or 4.4.5(b) or (c):
  - i. The date of the incident and identification of the unit(s) that were involved.
  - ii. A description of the incident, including: the established control measures that were not present or implemented; the established control measures that were present, if any; and other control measures or mitigation measures that were implemented, if any.
  - iii. The time at and means by which the incident was identified, e.g., scheduled inspection or observation by operating personnel.
  - iv. Operational data for the incident, e.g., the measured pressure drop of a baghouse, if the pressure drop of the baghouse, as measured pursuant to Condition 4.4.8, deviated outside the levels set as good air pollution control practices.
  - v. The corrective action(s) taken and the length of time after the incident was identified that the unit(s) continued to operate before established control measures were in place or the operations were shutdown (to resume operation only after established control measures were in place) and, if this time was more than one hour, an explanation why this time was not shorter, including a detailed description of

any mitigation measures that were implemented during the incident.

- vi. The estimated total duration of the incident, i.e., the total length of time that the unit(s) ran without established control measures and the estimated amount of material processed during the incident.
  - vii. A discussion of the probable cause of the incident and any preventative measures taken.
  - viii. An estimate of any additional emissions of PM/PM<sub>10</sub> (pounds) above the PM/PM<sub>10</sub> emissions associated with normal operation that resulted from the incident, if any, with supporting calculations.
  - ix. A discussion whether any applicable emission standard, as listed in Condition 4.4.2, 4.4.3-1, or 4.4.3-2 or any applicable emission rate, as identified in the records pursuant to Condition 4.4.10(b), may have been violated during the incident, with an estimate of the amount of any excess PM/PM<sub>10</sub> emissions (lbs) and supporting explanation.
- f. The Permittee shall maintain the following records for the emissions of the affected units:
- i. A file containing the standard emission factors used by the Permittee to determine PM/PM<sub>10</sub> emissions from the units, with supporting documentation.
  - ii. Records of PM/PM<sub>10</sub> emissions based on operating data for the unit(s) and appropriate emission factors, with supporting documentation and calculations.
- g. The Permittee shall keep records for all opacity measurements made in accordance with USEPA Method 9 for affected units that it conducts or that are conducted at its behest by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements if conducted pursuant to Condition 4.4.7 or otherwise the identity of the observer, a description of the measurements that were made, the operating condition of the affected unit, the observed opacity, and copies of the raw data sheets for the measurements.

#### 4.4.11 Notifications

The Permittee shall notify the Illinois EPA within 30 days of deviations from applicable emission standards or operating requirements for the affected units that continue\* for more than 24 hours. These notifications shall include the information specified by Condition 5.5.

- \* For this purpose, time shall be measured from the start of a particular event. The absence of a deviation for a short period shall not be considered to end the event if the deviation resumes. In such circumstances, the event shall be considered to continue until corrective actions are taken so that the deviation ceases or the Permittee takes the affected unit out of service for repairs.

#### 4.4.12 Reporting Requirements

- a. The Permittee shall submit quarterly reports to the Illinois EPA for all deviations from emission standards, including standards for visible emissions and opacity, and operating requirements set by this permit. These notifications shall include the information specified by Condition 6.5.
- b. These reports shall also address any deviations from applicable compliance procedures established by this permit for affected units.

#### 4.4.13 Operational Flexibility

The Permittee is authorized, as follows, to construct and operate affected units that differ from those described in the application in certain respects without obtaining further approval by the Illinois EPA. This condition does not affect the Permittee's obligation to comply with all applicable requirements for affected units:

- a. This authorization only extends to changes that result from the detailed design of the project and any refinements to that design of the affected units that occur during construction and the initial operation of the plant.
- b. With respect to air quality impacts, these changes shall generally act to improve dispersion and reduce impacts, as emissions from individual units are lowered, units are moved apart or away from the fence line, stack heights are increased, and heights of nearby structures are reduced.
- c. The Permittee shall notify the Illinois EPA prior to proceeding with any changes. In this notification, the Permittee shall describe the proposed changes and explain why the proposed changes will act to reduce impacts, with detailed supporting documentation.

CONDITION 4.5: UNIT-SPECIFIC CONDITIONS FOR ROADWAYS AND OTHER OPEN AREAS

4.5.1 Description of Emission Units

Affected operations for the purpose of these unit-specific conditions are roadways, parking areas, and other open areas associated with the operation of the plant, which may be sources of fugitive particulate matter due to vehicle traffic or wind blown dust. These emissions are controlled by paving and implementation of work practices to prevent the generation and emissions of particulate matter.

4.5.2 Affected Emission Unit

The affected units for these unit-specific conditions are the units conducting the operations described in Condition 4.5.1.

4.5.3-1 Applicable Federal Emission Standards

None

4.5.3-2 Applicable State Emission Standards

All affected units shall comply with 35 IAC 212.301, which provides that emissions of fugitive particulate matter shall not be visible from any process, including material handling, storage activity, or any landfilling operation when looking generally toward the zenith at a point beyond the property line of the source, except when the wind speed is greater than 25 miles per hour, as provided by 35 IAC 212.314.

4.5.3-3 Applicability of Other Regulations

None

4.5.4 Non-Applicability of Regulations of Concern

None

4.5.5 Operational and Production Limits and Work Practices

- a. The opacity of fugitive particulate matter emissions from affected units, except during periods of high wind speeds, shall not exceed 15 percent opacity. For this purpose, opacity and the presence of high wind speeds shall be determined in accordance with 35 IAC 212.109 and 35 IAC 212.314, respectively.
- b. i. Good air pollution control practices shall be implemented to minimize dust emissions from affected units. After construction of the plant is complete, these practices shall provide for pavement on all regularly traveled roads and treatment (flushing, vacuuming, dust suppressant application, etc.) of roadways and areas that are routinely subject to vehicle traffic for very effective and effective

control of dust, respectively (nominal 90 percent control for paved roads and areas and 85 percent control for unpaved roads and areas).

- ii. For this purpose, roads that serve any office building, employee parking areas or are used on a daily basis by operating and maintenance personnel for the plant in the course of their typical duties, roads that experience heavy use during regularly occurring maintenance of the plant during the course of a year, shall all be considered to be subject to regular travel and are required to be paved. Regularly traveled roads shall be considered to be subject to routine vehicle traffic except as they are used primarily for periodic maintenance and are currently inactive or as traffic has been temporarily blocked off. Other roads shall be considered to be routinely traveled if activities are occurring such that they are experiencing significant vehicle traffic.
- c. The handling of material collected from any affected unit associated with the plant by sweeping or vacuuming trucks shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods to control PM/PM<sub>10</sub> emissions.
- d. The Permittee shall carry out control of fugitive particulate matter emissions from affected units in accordance with a written operating program describing the measures being implemented in accordance with Conditions 4.5.2 and 4.5.3 to control emissions at each unit with the potential to generate significant quantities of such emissions, which program shall be kept current.
  - i. The written operating program shall include:
    - A. Maps or diagrams indicating the location of affected units with the potential to generate significant quantities of fugitive particulate matter, with description of the unit (length, width, surface material, etc.) and volume and nature of expected vehicle traffic, or other activity on such unit, and an identification of any roadways that are not considered routinely traveled, with justification.
    - B. A detailed description of the emissions control technique(s) (e.g., vacuum truck, water spray, surfactant spray, water flushing, dust suppressant application, or sweeping) for the affected unit, including: typical application rate; type and concentration of additives; normal frequency with which measures would be implemented; circumstances, in which the measure would not be implemented, e.g., recent precipitation; triggers for additional

control, e.g., observation of 12 percent opacity; and calculated control efficiency for PM/PM<sub>10</sub> emissions.

ii. The Permittee shall submit copies of the written operating program to the Illinois EPA for review as follows:

- A. A program addressing affected units during the construction of the plant shall be submitted within 30 days of beginning actual construction of the plant.
- B. A program addressing affected units with the operation of the affected plant shall be submitted within 90 days of initial start up of the plant.
- C. Significant amendments to the program by the Permittee shall be submitted within 30 days of the date that the amendment is made.

iii. A revised operating program shall be submitted to the Illinois EPA for review within 90 days of a request from the Illinois EPA for revision to address observed deficiencies in control of fugitive particulate matter emissions.

e. The Permittee shall conduct inspections of affected units on at least a weekly basis during construction of the plant and on a monthly basis thereafter with personnel not directly responsible for the day-to-day implementation of the fugitive dust control program, for the specific purpose of verifying that the measures identified in the operating program and other measures required to control emissions from affected units are being properly implemented.

#### 4.5.6 Emission Limitations

The emissions of PM from affected units, as PM<sub>10</sub>, shall not exceed the following limits. Compliance with these limits shall be determined by vehicle traffic and other operating data for the plant, information for the implementation of the operating program, appropriate emission factors, and engineering calculations:

Total emissions from the affected units shall not exceed 4.0 tons/year.

#### 4.5.7-1 Emission Testing

None

#### 4.5.7-2 Opacity Observations

a. The Permittee shall conduct performance observations, which include a series of observations of the opacity of fugitive emissions from the affected units as follows to determine the

range of opacity from affected units and the change in opacity as related to the amount and nature of vehicle traffic and implementation of the operating program. For performance observations, the Permittee shall submit test plans, test notifications and test reports, as specified by General Condition 6.2.

- i. Performance observations shall first be completed no later than 30 days after the date that initial emission testing of the affected boiler is performed, as required by Condition 4.2.7, in conjunction with the measurements of silt loading on the affected units required by Condition 4.5.10.
  - ii. Performance observations shall be repeated within 30 days in the event of changes involving affected units that would act to increase opacity (so that observations that are representative of the current circumstances of the affected units have not been conducted), including changes in the amount or type of traffic on affected units, changes in the standard operating practices for affected units, such as application of salt or traction material during cold weather, and changes in the operating program for affected units.
- b. Compliance observations shall be conducted for affected units on at least a quarterly basis to verify opacity levels and confirm the effectiveness of the operating program in controlling emissions.
  - c. Upon written request by the Illinois EPA, the Permittee shall conduct performance or compliance observations, as specified in the request. Unless another date is agreed to by the Illinois EPA, performance observations shall be completed within 30 days and compliance observations shall be completed within 5 days of the Illinois EPA's request.

#### 4.5.8 Operational Measurements

The Permittee shall conduct measurements of the silt loading on various affected roadway segments and parking areas, as follows:

- a. Sampling and analysis of the silt loading shall be conducted using the "Procedures for Sampling Surface/Bulk Dust Loading," Appendix C.1 in Compilation of Air Pollutant Emission Factors, USEPA, AP-42. A series of samples shall be taken to determine the average silt loading and address the change in silt loadings as related to the amount and nature of vehicle traffic and implementation of the operating program.
- b. Measurements shall be performed by the following dates:
  - i. Measurements shall first be completed no later than 30 days after the date that initial emission testing of the

affected boiler is performed, as required by Condition 4.2.7.

- ii. Measurements shall be repeated within 30 days in the event of changes involving affected units that would act to increase silt loading (so that data that is representative of the current circumstances of the affected units has not been collected), including changes in the amount or type of traffic on affected units, changes in the standard operating practices for affected units, such as application of salt or traction material during cold weather, and changes in the operating program for affected units.
  - iii. Upon written request by the Illinois EPA, the Permittee shall conduct measurements, as specified in the request, which shall be completed within 75 days of the Illinois EPA's request.
- c. The Permittee shall submit test plans, test notifications and test reports for these measurements as specified by General Condition 5.2, provided, however, that once a test plan has been accepted by the Illinois EPA, a new test plan need not be submitted if the accepted plan will be followed or a new test plan is requested by the Illinois EPA.

#### 4.5.9 Records

- a. The Permittee shall keep a file that contains:
  - i. The operating factors, if any, used to determine the amount of activity associated with the affected units or the PM/PM<sub>10</sub> emissions from the affected units, with supporting documentation.
  - ii. The designated PM/PM<sub>10</sub> emission rate, in tons/year, from each category of affected units (e.g., traffic associated with receiving of coal, with supporting calculations and documentation. The sum of these rates shall not exceed the annual limit on emissions in Condition 4.5.6.
- b. The Permittee shall maintain records documenting implementation of the operating program required by Condition 4.5.5, including:
  - i. Records for each treatment of an affected unit or units:
    - A. The identity of the affected unit(s), the date and time, and the identification of the truck(s) or treatment equipment used;
    - B. For application of dust suppressant by truck: target application rate or truck speed during application, total quantity of water or chemical used and, for application of a chemical or chemical solution, the

identity of the chemical and concentration, if applicable;

- C. For sweeping or cleaning: Identity of equipment used and identification of any deficiencies in the condition of equipment; and
- D. For other type of treatment: A description of the action that was taken.

- ii. Records for each incident when control measures were not implemented and each incident when additional control measures were implemented due to particular activities, including description, date, a statement of explanation, and expected duration of such circumstances.

- c. The Permittee shall record any period during which an affected unit was not properly controlled as required by this permit, which records shall include at least the information specified by General Condition 5.3 and an estimate of the additional PM/PM<sub>10</sub> emissions that resulted, if any, with supporting calculations.
- d. The Permittee shall keep records for the measurements conducted for affected units pursuant to Condition 4.5.8, including records for the sampling and analysis activities and results.
- e. The Permittee shall maintain records for the PM/PM<sub>10</sub> emissions of the affected units to verify compliance with the limits in Condition 4.5.6, based on operating data for the affected gasification trains and other activities at the plant, the above records for the affected units including data for implementation of the operating program, and appropriate USEPA emission estimation methodology and emission factors, with supporting calculations.

#### 4.5.10 Notifications

The Permittee shall notify the Illinois EPA within 30 days of deviations from applicable requirements for affected units that are not addressed by the regular reporting required below. These notifications shall include the information specified by General Condition 5.5.

#### 4.5.11 Reporting

The Permittee shall submit quarterly reports to the Illinois EPA for affected units stating the following: the dates any necessary control measures were not implemented; a listing of those control measures; the reasons that the control measures were not implemented; and any corrective actions taken. This information includes, but is not limited to, those dates when controls were not implemented based on a belief that implementation of such control measures would have been unreasonable given prevailing weather

conditions. This report shall be submitted to the Illinois EPA no later than 45 calendar days from the end of each calendar quarter.

SECTION 5: GENERAL PERMIT CONDITIONS

CONDITION 5.1: STANDARD CONDITIONS

Standard conditions for issuance of construction permits, attached hereto and incorporated herein by reference, shall apply to this project, unless superseded by other conditions in the permit.

CONDITION 5.2: GENERAL REQUIREMENTS FOR EMISSION TESTING

- a. i. At least 60 days prior to the actual date of initial emission testing required by this permit, a written test plan shall be submitted to the Illinois EPA for review. This plan shall describe the specific procedures for testing and shall include at a minimum:
  - A. The person(s) who will be performing sampling and analysis and their experience with similar tests.
  - B. The specific conditions, e.g., operating rate and control device operating conditions, under which testing shall be performed including a discussion of why these conditions will be representative and the means by which the operating parameters will be determined.
  - C. The specific determinations of emissions that are intended to be made, including sampling and monitoring locations. As part of this plan, the Permittee may set forth a strategy for performing emission testing in the normal load range of the boiler.
  - D. The test method(s) that will be used, with the specific analysis method if the method can be used with different analysis methods.
- ii. As provided by 35 IAC 283.220(d), the Permittee need not submit a test plan for subsequent emissions testing that will be conducted in accordance with the procedures used for previous tests accepted by the Illinois EPA or the previous test plan submitted to and approved by the Illinois EPA, provided that the Permittee's notification for testing, as required below, contains the information specified by 35 IAC 283.220(d)(1)(A), (B) and (C).
- b. i. The Permittee shall notify the Illinois EPA prior to performing emissions testing required by this permit to enable the Illinois EPA to observe the tests. Notification for the expected date of testing shall be submitted a minimum of 30 days\* prior to the expected date, and identify the testing that will be performed. Notification of the actual date and expected time of testing shall be submitted a minimum of 5 working days\* prior to the actual date of testing.

- \* For a particular test, the Illinois EPA may at its discretion accept shorter advance notification provided that it does not interfere with the Illinois EPA'S ability to observe testing.
- ii. This notification shall also identify the parties that will be performing testing and the set or sets of operating conditions under which testing will be performed.
- c. Three copies of the Final Reports for emission tests shall be forwarded to the Illinois EPA within 30 days after the test results are compiled and finalized but not later than 90 days after the date of testing. At a minimum, the Final Report for testing shall contain:
  - i. General information, i.e., testing personnel and test dates;
  - ii. A summary of results;
  - iii. Description of test method(s), including a description of sampling points, sampling train, analysis equipment, and test schedule;
  - iv. The operating conditions of the emission unit and associated control devices during testing; and
  - v. Data and calculations, including copies of all raw data sheets and records of laboratory analysis, sample calculations, and data on equipment calibration.

#### CONDITION 5.3: REQUIREMENTS FOR RECORDS FOR DEVIATIONS

Except as specified in a particular provision of this permit or in a subsequent Federally Enforceable State Operating Permit for the plant, records for deviations from applicable emission standards and control requirements shall include at least the following information: the date, time and estimated duration of the event; a description of the event; the manner in which the event was identified, if not readily apparent; the probable cause for deviation, if known, including a description of any equipment malfunction/breakdown associated with the event; information on the magnitude of the deviation, including actual emissions or performance in terms of the applicable standard if measured or readily estimated; confirmation that standard procedures were followed or a description of any event-specific corrective actions taken; and a description of any preventative measures taken to prevent future occurrences, if appropriate.

#### CONDITION 5.4: RETENTION AND AVAILABILITY OF RECORDS

Except as specified in a particular provision of this permit or in a subsequent Federally Enforceable State Operating Permit for the plant, all records, including written procedures and logs, required by this permit shall be kept at a readily accessible location at the plant and be available for inspection and copying by the Illinois EPA and shall be retained for at least five years.

CONDITION 5.5: NOTIFICATION AND REPORTING OF DEVIATIONS

Except as specified in a particular provision of this permit or in a subsequent Federally Enforceable State Operating Permit for the plant, notifications and reports for deviation from applicable emission standards and control requirements shall include at least the following information: the date and time of the event, a description of the event, information on the magnitude of the deviation, a description of the corrective measures taken, and a description of any preventative measures taken to prevent future occurrences.

CONDITION 5.6: GENERAL REQUIREMENTS FOR NOTIFICATION AND REPORTS

- a.
  - i. Unless otherwise specified in the particular provision of this permit or in the written instructions distributed by the Illinois EPA for particular reports, reports and notifications shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.
  - ii. As of the date of issuance of this permit, the addresses of the office that should generally be utilized for the submittal of reports and notifications are as follows:
    - A. Illinois EPA - Air Compliance Section  
  
Illinois Environmental Protection Agency  
Bureau of Air  
Compliance and Enforcement Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276
    - B. Illinois EPA - Air Regional Field Office  
  
Illinois Environmental Protection Agency  
Division of Air Pollution Control  
2009 Mall Street  
Collinsville, Illinois 62234
    - C. USEPA Region 5 - Air Branch  
  
USEPA (AE-17J)  
Air and Radiation Division  
77 West Jackson Boulevard  
Chicago, Illinois 60604
- b. The Permittee shall submit Annual Emission Reports to the Illinois EPA in accordance with 35 IAC Part 254. For hazardous air pollutants, these reports shall include emissions information for at least the following pollutants: hydrogen chloride, hydrogen fluoride, mercury, arsenic, beryllium, cadmium, chromium, lead, manganese, and nickel.

ATTACHMENTS

ATTACHMENT 1: TABLES

ATTACHMENT 1: SUMMARY OF PERMITTED EMISSIONS AND EMISSION LIMITATIONS

Table I

Permitted Annual Emissions  
Plantwide  
(Tons Per Year)

Pollutant	Gasification Block			Auxiliary Boiler	Cooling Towers	Feedstock and other Bulk Material Handling	Roadways	Total
	Flares	Start-up/ Malfunction	CO <sub>2</sub> Vent					
NO <sub>x</sub>	21.5	2.9	---	5.4	---	---	---	29.8
CO	27.9	2.5	5.0	4.6	---	---	---	40.0
VOM	2.0	3.0	5.0	0.4	---	---	---	10.4
SO <sub>2</sub>	1.0	60.0	5.0	0.1	---	---	---	66.1
PM <sub>10</sub> (Total)	2.0	1.0	---	0.5	1.0	40.0	11.0	55.5

ATTACHMENT 2: STANDARD PERMIT CONDITIONS

STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS  
ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) authorizes the Illinois Environmental Protection Agency to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special condition(s).

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year from the date of issuance, unless a continuous program of construction or development on this project has started by such time.
2. The construction or development covered by this permit shall be done in compliance with applicable provisions of the Illinois Environmental Protection Act and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification, along with plans and specifications as required, has been submitted to the Illinois EPA and a supplemental written permit issued.
4. The Permittee shall allow any duly authorized agent of the Illinois EPA, upon the presentation of credentials, at reasonable times:
  - a. To enter the Permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
  - b. To have access to and to copy any records required to be kept under the terms and conditions of this permit;
  - c. To inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit;
  - d. To obtain and remove samples of any discharge or emissions of pollutants; and
  - e. To enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.

5. The issuance of this permit:
  - a. Shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
  - b. Does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
  - c. Does not release the Permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
  - d. Does not take into consideration or attest to the structural stability of any units or parts of the project; and
  - e. In no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
- 6a. Unless a joint construction/operation permit has been issued, a permit for operation shall be obtained from the Illinois EPA before the equipment covered by this permit is placed into operation.
- b. For purposes of shakedown and testing, unless otherwise specified by a special permit condition, the equipment covered under this permit may be operated for a period not to exceed thirty (30) days.
7. The Illinois EPA may file a complaint with the Board for modification, suspension or revocation of a permit,
  - a. Upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or
  - b. Upon finding that any standard or special conditions have been violated; or
  - c. Upon any violations of the Environmental Protection Act or any regulation effective thereunder as a result of the construction or development authorized by this permit.

Page 4

IL 532-022

July, 1985, Revised, May, 1999