



- b. The affected unit is subject to 35 IAC 214.301, which provides that no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2,000 ppm.

3. Non-Applicability Provisions

- a. This revised permit is issued based on this project continuing to be not major modification under federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, or state rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203. For emissions of sulfur dioxide (SO<sub>2</sub>), the net increase in emissions will not be significant after considering the decrease in emission that will occur from the shutdown of the existing emission heater. (See Attachment 1)
- b. The affected system is not subject to the National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, etc., 40 CFR 63 Subparts F, G, and H. This is because the primary products manufactured by the affected system are not listed in 40 CFR 63.100(b)(1)(i) or (b)(1)(ii).
- c. The affected system is not subject to Standards of Performance for New Stationary Sources for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60 Subpart NNN. This is because construction of the affected system was commenced prior to December 30, 1983.

4. Applicable Work Practices

- a. Natural gas and the process waste gas from the plant shall be the only fuels fired in the affected unit.
- b. The total rated capacity of the natural gas burners in the affected unit shall not exceed 14 mmBtu/hour.
- c. The Permittee shall operate and maintain the affected system in accordance with written procedures developed and maintained by the Permittee. These procedures shall provide for good air pollution control practices to minimize emissions and shall include the Permittee's standard operating procedures for startup, normal operation, and shutdown of the affected system and address likely malfunction and upsets events for the affected system.
- d. Upon completion of shakedown of the affected unit but in no case later than 180 days after initial startup of the affected unit, the Permittee shall permanently shut down the existing heater for the affected system.

5. Emission Limits

- a. The operation of the affected system shall not exceed 850 hours/month and 8500 hours/year.
- b. The emissions of affected system shall not exceed the following limits.

Pollutant	Limit	
	Lbs/Hour	Tons/Year
CO	12.0	51.0
NO <sub>x</sub>	6.0	25.5
PM/PM <sub>10</sub>	0.5	2.2
SO <sub>2</sub>	71.3	303.1
VOM	3.0	12.8

- c. Compliance with these annual limits shall be determined from a running total of 12 months of data.

6. Operational Monitoring

- a. The combustion chamber temperature of the affected unit shall be maintained above 1,000°F or at a temperature that is consistent with the manufacturer's recommended minimum operating temperature or, once testing has been conducted demonstrating compliance with applicable requirements, the minimum operating temperature during emission testing.
- b. The combustion chamber of the affected unit shall be preheated to the manufacturer's recommended temperature or a temperature that is consistent with the most recent emission test in which compliance was demonstrated, prior to operating the affected system. The affected unit shall be equipped with a combustion chamber temperature indicator and strip chart recorder (or other approved digital storage device). This device shall record the temperature of the exhaust gases at the exit of the chamber combustion zone of the affected unit.

7. Requirements for Sampling and Analyzing of Process Waste Gas

- a. The Permittee shall conduct representative sampling for the process waste gas sent to the affected unit. The samples shall be analyzed for sulfur content (percent by volume, for H<sub>2</sub>S, COS, CS<sub>2</sub> and total sulfur) and heat content (Btu/cubic foot) of the process waste gas. This sampling and analysis of the process waste gas shall initially be conducted within 180 days of the initial startup of the affected unit. Thereafter, at least two more samples shall be taken and analyzed, between 9 and 12 month of the previous sampling and analysis.
- b. The Permittee shall keep records for this activity, including the date of sampling and operating condition of the affected system,

sampling methodology, identity of analyst, the analysis methods and the results of the analysis.

- c. The Permittee shall submit the results of each analysis to the Illinois EPA with the Annual Emission Reports following the analysis.

8. Testing Requirements

- a.
  - i.
    - A. Within one year after completion of installation of affected unit, the Permittee shall have emissions of NO<sub>x</sub>, CO and SO<sub>2</sub> from affected unit measured during conditions which are representative of maximum emissions:
    - B. In conjunction with measurement of NO<sub>x</sub>, CO and SO<sub>2</sub> emissions above, the Permittee shall also perform observation of opacity from the tested unit.
  - ii. In addition to the emission testing required above, the Permittee shall have emission tests performed upon written request by the Illinois EPA for affected unit(s), as specified in the request, within 90 days of a written request by the Illinois EPA or such later date agreed to by the Illinois EPA.
- b. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the USEPA or Illinois EPA. Refer to 40 CFR 60, Appendix A, for USEPA test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Sulfur dioxide	USEPA Method 6
Nitrogen Oxides	USEPA Method 7
Carbon Monoxide	USEPA Method 10

- c. The Permittee shall submit a written test plan to the Compliance Section of the Division of Air Pollution Control for review at least 45 days prior to the scheduled date of testing. This plan shall describe the specific procedures for testing, including as a minimum:
  - i. The person(s) who will be performing sampling and analysis and their experience with similar tests.
  - ii. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and any changes in the means or manner by which the operating parameters

for the emission unit and any control equipment will be determined.

- iii. The specific determinations of emissions and operation that is intended to be made, including sampling and monitoring locations.
  - iv. The test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods.
- d. The Permittee shall notify the Illinois EPA 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 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. The Permittee shall submit copies of the Final Reports for these tests to the Illinois EPA within 14 days after the test results are compiled and finalized but no later than 45 days after completion of sampling. The Final Report shall include as a minimum:
- i. A summary of results
  - ii. General information
  - iii. Operating data for the unit and associated control device during testing, including data both for parameters for which operation will be restricted based upon the value of operating parameters during testing and for parameters that are needed to more fully describe operating conditions during testing.
  - iv. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.
  - v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
- f. The Permittee shall retain copies of emission test reports for at least three years after the date that an emission test is superseded by a more recent test.

9. Recordkeeping Requirements

- a. The Permittee shall maintain the following records for the affected unit:
  - i. The rated heat input of the natural gas burners in the affected unit, mmBtu/hour, with supporting documentation.
  - ii. Design data for the maximum and typical rate of process waste gas combusted (scf/hour and mmBtu/hour), i.e., used as the fuel for the affected unit, and typical gross and net heat content of the process waste gas.
- b. The Permittee shall maintain the following records related to emissions of the affected unit:
  - i. The SO<sub>2</sub> emission factor and maximum hourly emission rates used by the Permittee to determine SO<sub>2</sub> emissions from the affected unit, with supporting documentation and calculations.
  - ii. The hourly emission rates or emission factors, and maximum hourly emission rates for emissions of pollutants other than SO<sub>2</sub> used by the Permittee to determine emissions of the affected unit, with supporting documentation and calculations.
- c. The Permittee shall maintain the following operating records for the affected system:
  - i. The operating hour of the affected system (hours/month and hours/year).
  - ii. The natural gas usage of the affected unit (scf/month and scf/year).
  - iii. The amount of process waste gas generated by the affected system (scf/month and scf/year), with supporting calculations. This data and the data required by condition 9(c)(iv) may be determined directly or indirectly, being calculated from operating hours and/or operation data recorded for the affected system.
  - iv. The amount of process waste gas sent to the affected unit (scf/month and scf/year).
- d. The Permittee shall maintain records of the monthly and annual CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the affected unit based on appropriate emission rates or factors and operating data, with supporting calculations.

- e. The Permittee shall maintain records for upsets in the operation of the affected unit that could generate additional emissions, with a description of the incident, explanation, and corrective actions and any preventative measures taken, and an estimate of the additional emissions that occurred, with supporting calculations and background information.
  - f. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
10. If there is a deviation from the requirements of this permit, the Permittee shall submit a report to the Illinois EPA within 30 days after the deviation or such later time as specified in the CAAPP permit at the source. The report shall describe the deviation, the probable cause of deviation, the corrective actions that were taken, and any action taken to prevent future occurrences.
11. Two copies of required reports shall be sent to:
- Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276
- and one copy shall be sent to the Illinois EPA's regional office:
- Illinois Environmental Protection Agency  
Division of Air Pollution Control  
9511 West Harrison  
Des Plaines, Illinois 60016
12. The Permittee may operate the affected unit and system under this revised construction permit until the CAAPP permit is revised to address this unit. This Condition supersedes Standard Condition 6.

This permit has been revised at the request of the Permittee to update the potential emissions of the affected unit and the actual emissions of the existing heater based on the "stack engineering test" performed on the existing heater. Other related changes have also been made to the requirements of this permit.

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If you have any questions on this permit, please contact Minesh Patel at 217/785-1705.

Robert W. Bernoteit  
Acting Manager, Permit Section  
Division of Air Pollution Control

Date Signed: \_\_\_\_\_

RWB:MVP:psj

cc: Region 1  
Lotus Notes

Attachment 1: Evaluation of Net Change in Emissions of SO<sub>2</sub> (Tons/Yr)

Project Increase <sup>1</sup>	303.06
Project Decrease <sup>2</sup>	-268.96
Contemporaneous Changes from Other Projects <sup>3</sup>	2.0
Net Emissions Change <sup>4</sup>	36.10
Significant Increase Level	40

Notes:

1. Project Increase is the permitted SO<sub>2</sub> emission of the affected unit.
2. Project Decrease, for the shutdown of existing heater for Tar Distillation System #2, is based on data for actual operation of existing heater provided in the application for 2007 and 2008. The shutdown of the existing heater will also be accompanied by decreases in emissions of NO<sub>x</sub>, CO, VOM and PM/PM<sub>10</sub>, projected at 12.5, 45.7, 5.4 and 0.5 tons/year, respectively.
3. Contemporaneous Changes in emission from other projects accounts for the increase and decrease in emissions of SO<sub>2</sub> from other project that occurred at the source during the applicable five-year contemporaneous period (February 2007 to February 2012). It includes permitted SO<sub>2</sub> emission of the thermal oxidizer for the pitch tanks and other equipment, as addressed by Construction Permit 08040005.
4. Net Emission change is the total of Project Emissions, Project Decrease and Contemporaneous Changes.

MVP:psj