

217/782-2113

JOINT CONSTRUCTION AND OPERATING PERMIT  
PREVENTION OF SIGNIFICANT DETERIORATION APPROVAL

PERMITTEE

Archer Daniels Midland Co.  
Attn: Pat Dennis  
4666 Faries Parkway  
Decatur, Illinois 62526

Application No.: 01110047  
Applicant's Designation: CF OXIDIZERS  
Subject: Oxidizers for Carbon Furnaces  
Date Issued: November 27, 2002  
Location: 4666 Faries Parkway, Decatur

I.D. No.: 115015AAE  
Date Received: November 20, 2001  
Expiration Date: November 27, 2007

Permit is hereby granted to the above-designated Permittee to CONSTRUCT an oxidizer control system for three existing carbon furnaces and to OPERATE these furnaces with this new system and existing air pollution control equipment, as described in the above referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

In conjunction with this permit, approval is given pursuant to the federal rules for Prevention of Significant Deterioration of Air Quality (PSD), 40 CFR 52.21, to construct the proposed oxidizer control system and to operate the three carbon furnaces with this new system and existing control systems, in that the Illinois Environmental Protection Agency (Illinois EPA) finds that the application fulfills all applicable requirements of 40 CFR 52.21. This approval is issued pursuant to the Clean Air Act, as amended, 42 U.S.C. 7401 et. seq., the federal rules promulgated thereunder at 40 CFR 52.21 for Prevention of Significant Deterioration (PSD), and a Delegation of Authority agreement between the United States Environmental Protection Agency and the Illinois EPA for the administration of the PSD Program. This approval becomes effective in accordance with the provisions of 40 CFR 124.15 and may be appealed in accordance with the provisions of 40 CFR 124.19. This approval is also based upon and subject to the findings and the conditions that follow:

1. Archer Daniels Midland (ADM) has requested a joint construction and operating permit addressing the three existing carbon furnaces used in the production of corn syrup at its Decatur manufacturing complex. The furnaces function to regenerate activated carbon, which is used to filter the raw corn syrup. The permit would establish requirements for a new oxidizers, i.e., combustion units, that would be installed to control emissions of volatile organic compounds (VOC) and carbon monoxide (CO) from the furnaces. In conjunction with this system, ADM may also make changes to the existing scrubbing units on the furnaces, which control emissions of particulate matter (PM) and sulfur dioxide

(SO<sub>2</sub>).

2. The source is located in Decatur Township in Macon County. The area is designated attainment for all pollutants.
- 3a. The requested permit would allow annual VOC and CO emissions of 35.0 and 87.6 tons, respectively, from the three carbon furnaces.

- b. The two newer furnaces, which were installed in 1981 and 1990, are subject to PSD for VOC and CO emissions because they were not previously addressed by a PSD permit. The oldest furnace, which was installed in 1976, predates the PSD rules. However, because the proposed control would also control this furnace, it is also subject to the terms and conditions of this permit.
  - c. This permit is issued based on the carbon furnaces not being subject to PSD for PM, SO<sub>2</sub> and NO<sub>x</sub>. This is because for these pollutants, the emissions of each of the two newer furnaces have been below the PSD thresholds for a major modification. Accordingly, as provisions of this permit address PM, SO<sub>2</sub> or NO<sub>x</sub>, they are not considered part of the PSD approval.
  - d. This permit does not explicitly address emissions of hazardous air pollutants from the carbon furnaces, which are expected to greatly reduced, along with VOC and CO emissions, by the addition of the new control.
4. After reviewing the materials submitted by ADM, Illinois EPA has determined that the operation of the carbon furnaces, as now proposed, would (i) be in compliance with applicable Board emission standards and (ii) utilize Best Available Control Technology (BACT) on emissions of VOC and CO.
  5. The new control system will reduce the VOC and CO emissions and associated air quality impacts of the three furnaces to levels below those accompanying the operation of the initial furnace, which was installed prior to the PSD rules. Accordingly, this project results in an improvement in air quality not only compared to current levels but also compared to baseline levels when the PSD rules were adopted.
  6. The Illinois EPA has determined that this application complies with all applicable Illinois Air Pollution Board Regulations and the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21.
  7. A copy of the application and the Illinois EPA's formal review of the application and a draft of this permit were placed in a location in the vicinity of the project, and the public was given notice and an opportunity to examine this material and to submit comments and to request a public hearing on this matter.

The Illinois EPA is issuing this approval subject to the following conditions and consistent with the specifications and data included in the application. Any departure from the conditions of this approval or terms expressed in the application would need to receive prior written authorization by Illinois EPA.

1. Standard conditions for issuance of construction permits, attached hereto and incorporated herein by reference, shall apply, unless

superseded by the following conditions.

- 2a.
  - i. The VOC and CO emissions from the carbon furnaces shall pass through a closed vent system to a combustion-type control unit before being discharged to the atmosphere.

- ii. These combustion units shall be equipped with supplemental fuel burners as needed to preheat and maintain the temperature in the combustion chamber(s) and shall have the ability to introduce supplemental air into the exhaust stream if needed to facilitate combustion.
  - iii. The entire control system shall be operated in accordance with good air pollution control practice to minimize emissions including preheating the combustion chamber of individual combustion units to at least the manufacturer's recommended temperature prior to venting carbon furnace(s) to the unit and other practices as further specified.
- b. These combustion units shall be operated to comply with one of the following performance standards, with compliance determined on an hour-by-hour basis, based on emissions testing, monitoring, and recordkeeping as specified by this permit:
- i. Performance standard in terms of emissions (Compliance Option 1):
    - A. Emissions of VOC shall not exceed 10.0 ppm, measured as propane, adjusted to 7 percent oxygen in the exhaust, and
    - B. Emissions of CO shall not exceed 100 ppm, adjusted to 7 percent oxygen in the exhaust stream.
  - ii. Performance standard in terms of control system efficiency, comparing the mass of the pollutant in the inlet and outlet of the system (Compliance Option 2):
    - A. Efficiency for VOC, measured as propane, shall be at least 98.0 percent, and
    - B. Efficiency for CO shall be at least 90.0 percent.
  - iii. Performance standard in terms of operating practices (Compliance Option 3):
    - A. The residence time of the exhaust stream in the combustion chamber of the control unit shall be at least 0.75 second,
    - B. The temperature in the combustion chamber shall be at least 1600°F, hourly average, and
    - C. The oxygen concentration in the exhaust stream leaving the combustion chamber shall be at least 3.5 percent.

Note: After the date that emission testing must be performed, Compliance Option 3 is only available if emission testing measuring both VOC and CO

emissions has been performed while the control units are operated to comply with the applicable requirements of this compliance option. (Refer to Condition 9.)

- c. i. The above performance standards become effective for each carbon furnace after a 45-day shakedown period. This shakedown period shall begin upon initial start-up of the new combustion control system. for the furnace(s) connected to the system at that time, or otherwise upon initial operation of a furnace following connection to the new system.
- ii. After this 45-day shakedown period but prior to availability of results from emission testing in accordance with Condition 9, the Permittee shall operate the new control system for a carbon furnace in accordance with interim work practices established by the Permittee to achieve good combustion.
- iii. Following shakedown and completion of emission testing, these performance standards shall apply at all times that a carbon furnace is in operation except:
  - A. During periods when the Permittee is transitioning between Compliance Options, which periods shall be as short as reasonably practicable and in no case greater than 30 minutes; and
  - B. During formal system evaluation. For this purpose, formal system evaluation means subsequent evaluation and emission testing of the control system performed with the intent of establishing revised operating parameters in accordance with an evaluation/test plan previously submitted to the Illinois EPA and any terms imposed on the plan by the Illinois EPA as part of its approval. (Refer to Condition 7(c))

Conditions 2 and 3 address Best Available Control Technology as required by Section 165 of the Clean Air Act.

- 3a. The Permittee shall install combustion units to control the emissions of the three carbon furnaces, which units the Permittee shall then operate to comply with other provisions of this permit.
- b. i. The only fuel fired in the combustion units shall be natural gas.
- ii. The only fuel fired in the carbon furnaces shall be natural gas.
- 4a. The carbon furnaces shall comply with the limits for SO<sub>2</sub> and PM in Table I, as applicable. These limits are effective upon issuance of this permit, except as addressed in Condition 6.

- b. The carbon furnaces shall comply with the limits for VOC, CO and NOx in Table I, as applicable. These limits are effective after a 180 day period of trial operation. This period shall begin upon initial start-up of the new combustion control system for the furnace(s) and combustion unit(s) in the system at that time, or otherwise upon initial operation of the furnace or combustion unit.

Note: The above emission limits are based on information in the permit application.

- 5a. Except during formal evaluation of the emission control system, the Permittee shall operate emission units and air pollution control equipment, including closed vent systems, in a manner that assures the emission standards and limits set in this permit are met by maintaining the operating parameters of emissions units and control systems within the levels during emission testing pursuant to Condition 7 that demonstrates compliance with applicable requirements, as follows:
  - i. The process rate of the carbon furnaces shall not exceed the highest hourly rate or 105 percent of the average rate achieved during emission testing, whichever is higher, determined on an hourly basis.
  - ii. The scrubbant flow rate\*, determined on a block hourly, shall be at least that during emission testing.
    - \* Scrubbant flow rate may be maintained at a level proportionate to the exhaust flow rate, if exhaust flow rate through the scrubber is measured.
  - iii. The pressure drop across the scrubber or the exhaust flow rate through the scrubber, determined on a block hourly basis, shall be consistent with a level that assures proper control of PM and SO<sub>2</sub>, as determined from the values of the operating parameter during emission testing.
  - iv. A. If the Permittee is relying on Compliance Option 1 or 2, the monitored combustion chamber temperature shall be at least that during emission testing, determined on a block hourly average or the monitored CO emissions (if monitored data required pursuant to Condition 9(a) is available) shall be no more than that measured during emission testing on a block hourly average.
    - B. If the Permittee is relying on Compliance Option 3, the monitored combustion chamber temperature and oxygen concentration in the exhaust, shall be at least that specified for this Compliance Option, determined on a block hourly average, and the flow rate through the combustion

unit shall be such that the residence time is at least 0.75 seconds (see also Condition 12(a)(ii)).

- b. Notwithstanding these compliance procedures for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.
- c. The control systems shall be operated and maintained in conformance with good air pollution control practices. The actions taken by the Permittee to meet this requirement shall include as a minimum the following:
  - i. Operating Procedures: Operation and maintenance in accordance with written operating procedures developed and maintained by the Permittee that address normal air pollution control equipment operation and inspection and maintenance practices. Among other matters, these procedures shall specify the operating parameters for emission units and control equipment, as required above. A copy of these procedures shall be kept in the control room for the carbon furnaces.
  - ii. Inspections: Inspections of air pollution control equipment shall be conducted on a regular basis.
  - iii. Repairs: Prompt repairs shall be made upon identification of need either as a consequence of formal inspections or other observations to keep control systems in good working order.
  - iv. Records: Records of inspection, maintenance, and repair activities for all equipment shall be kept on site and shall include as a minimum:
    - A. Date of inspection, maintenance, and repair activities.
    - B. Description of maintenance or repair activity if not routine preventative maintenance.
    - C. Probable cause for requiring maintenance or repair if not routine or preventative.
- 6a. During the 90 day period following initial startup of a combustion unit, the Permittee may operate the associated scrubber at reduced scrubbant flow rates and reagent content in the scrubbant as reasonably needed for shakedown of the combustion unit, pursuant to 35 IAC 201.262. As part of the continuing shakedown of the system, the Permittee shall evaluate the range of scrubbant flow rate that provides reliable control of particulate matter and sulfur dioxide while not adding excessive levels of moisture to exhaust stream. The normal operating parameters of the scrubber shall be finalized prior to performance of the emission testing

required by Condition 7.

- b. The Permittee is authorized to make improvements to the existing scrubbers pursuant to this permit following written notice to the Illinois EPA, including changes to spray nozzles for more effective water distribution, changes to the Venturi throats, addition of packing material to improve collection of water droplets, and changes to drainage or cleaning flow to reduce accumulation of material in the control system.
  - c. Notwithstanding the above, the Permittee shall obtain a construction permit prior to physically removing any existing control device in the control system for the carbon furnaces.
- 7a.
- i. Within 90 days of initial startup of each combustion unit, the Permittee shall have measurements conducted at its own expense by an approved testing service of the VOC and CO destruction efficiency of the unit and the VOC, CO, PM, SO<sub>2</sub> and NO<sub>x</sub> emissions of and opacity of exhaust from the carbon furnaces as controlled by the combustion unit(s) when operated at range of normal flow rates and other conditions which are representative of maximum emissions of PM and SO<sub>2</sub> and minimum loadings of VOC and CO.
  - ii. Measurements of VOC and CO destruction efficiency and VOC, CO, PM and SO<sub>2</sub> emissions from specified emission unit(s) shall also be conducted upon reasonable written request from the Illinois EPA in accordance with such request.
  - iii. The time period for performance of these tests may be extended by the Illinois EPA if it determines that additional time is needed to complete the shakedown of the combustion unit(s).
- b. i. The following methods and procedures shall also be conducted upon reasonable written request from the Illinois EPA.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Particulate Matter (PM)	USEPA Method 5
Carbon Monoxide	USEPA Method 10
Volatile Organic Compounds	USEPA Method 25A
Particulate Matter	USEPA Method 5
Condensable Particulate	USEPA Method 202
Sulfur Dioxide	USEPA Method
Nitrogen Oxides	USEPA Method
Opacity	USEPA Method 9

- ii. As an alternative to measurement of condensable particulate

matter, the Permittee may measure and report the material collected by the back half of the train by Method 5, as condensable particulate.

- c. The Permittee shall submit a written test plan to the Illinois EPA for review and comment for the initial testing and if a significant change in the procedures for this testing is planned from the procedures followed in the previous test. This plan shall be submitted at least 60 days prior to the actual date of testing and include the following information as a minimum:
  - i. The testing service that will be performing sampling and analysis and its 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 the means 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 are 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.
  - v. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.
- d. The Permittee shall notify the Illinois EPA prior to conducting these measurements to enable the Illinois EPA to observe testing. Notification for 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 accept shorter advance notice if it does not interfere with the Illinois EPA's ability to observe testing.
- e. Copies of the Final Report(s) for these tests shall be submitted to the Illinois EPA within 45 days after the test results are compiled and finalized. The Final Report from testing shall include as a minimum:
  - i. General Information, i.e., date of testing, testing personnel, and observers.
  - ii. A summary of results and conclusions.
  - iii. Description of test method(s), including description of sampling points, sampling train, and analysis equipment.

- iv. A detailed description of methodology for determination of the operating rate of the carbon furnaces, see Condition 5(a)(i), during the period of testing, with supporting information.
- v. Detailed description of operating conditions during emission testing, including:
  - A. Operating information for the carbon furnaces, e.g., process rate; and
  - B. Control system information, i.e. flow rate, solids content, and pH of scrubbant, scrubber pressure drop, combustion chamber temperature, exhaust oxygen concentration and other relevant operating parameters of the control system.
- vi. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
- 8a.
  - i. The Permittee shall install, operate and maintain measurement and monitoring devices as follows for the carbon furnaces and associated control equipment.
  - ii. These devices shall be operational at all times that the unit on which it is located is in operation.
  - iii. These device shall be installed, calibrated and maintained at least according to vendor's specifications and instructions.
  - iv. The Permittee shall keep logs for the operation and maintenance of these devices.
  - v. The Permittee shall manually record the information from continuous monitoring systems at least once every 30 minutes if automatic recording devices are not in service for more than one hour.
- b. The Permittee shall install device(s) on each carbon furnace to measure its operating rate. These devices may measure the amount of carbon processed, inlet air flow rate, or other operating parameter that correlates with to the emissions generated by the carbon furnaces.
- c.
  - i. The Permittee shall monitor the following parameters on each scrubber:
    - A. Scrubbant flow rate (gallons per minute); and
    - B. Pressure drop.

- ii. The Permittee shall sample and analyze the scrubbant in each scrubber for pH and alkalinity. At a minimum, these samples shall be taken before and after each change to the specifications or settings for the scrubbant in the unit and before and after any changes to the settings for scrubbant flow rate and pressure drop, as monitored above.
- d. The Permittee shall monitor the following parameters on each combustion unit:
  - i. Combustion chamber temperature, °F.
  - ii. Oxygen concentration in the exhaust, if the Permittee elects to have the ability to rely on Option 3.
- e. The Permittee shall equip each bypass vent in the ductwork with a device to identify release of exhaust through the bypass vent.
- 9a. The Permittee shall install, calibrate, maintain and operate a carbon monoxide (CO) continuous emission monitoring system on the exhaust from each combustion unit within one year after the initial emission testing required by Condition 7 unless this testing or further testing conducted by the Permittee demonstrates that the unit normally complies with the Compliance Option in Condition 2(b)(i) or (ii) by a margin of at least 25 percent or the Illinois EPA approves further time for the Permittee to achieve this performance.
- b.
  - i. These monitoring systems shall be operated during all periods of operation of the combustion unit except for continuous emission monitoring system breakdowns and repairs. The Permittee shall comply with applicable requirements of the NSPS for continuous emission monitoring, unless otherwise specified in the CAAPP permit.
  - ii. The Permittee shall maintain records for the continuous monitoring systems, including recorded emission concentrations and records of maintenance, calibration, and operational activity associated with the system. [See also Condition 10(c)]
  - iii. The Permittee shall submit quarterly monitoring reports to the Illinois EPA for these systems.
- c. The requirements for these monitoring systems may be revised or waived in the Clean Air Act Permit Program (CAAPP) permit for the source if the Illinois EPA determines that compliance with requirements for VOC emissions is not facilitated to a significant degree by such monitoring.
- 10a. The Permittee shall maintain a file that includes the following information, which shall be kept current:

- i. The volume of the combustion chamber in each combustion unit, including supporting drawings and calculations.
  - ii. The exhaust flow rate of each carbon furnace under its normal range of operating rate, the theoretical residence time of exhaust gases in the combustion chamber of the combustion unit during different operating configurations of the carbon furnaces, and restrictions on the operation of the carbon furnaces necessary to comply with applicable requirements when only one combustion unit is in service, with supporting documentation and calculations.
  - iii. An evaluation of the role of the scrubber in controlling particulate matter and sulfur dioxide emissions from the furnaces, including identification of the minimum level of particulate matter removal from the scrubber that is required, considering the addition of particulate matter to the exhaust from solids contained in the scrubbant.
  - iv. Changes in the operation of the carbon furnaces or the scrubbers that would significantly increase the amount or concentration of VOC, CO, PM, SO<sub>2</sub> or NO<sub>x</sub> or the amount of sulfur contained in the exhausts from the carbon furnaces.
  - v. Copies of test reports for emission tests conducted on the carbon furnaces, including testing conducted pursuant to Condition 7.
- b. The Permittee shall maintain the following records on at least a monthly basis:
- i. The amount of activated carbon processed by the carbon furnaces.
  - ii. The amount of natural gas used by the carbon furnaces and the combustion units.
  - iii. The amount of reagent (caustic) used in the scrubber to absorb SO<sub>2</sub>.
- c. The Permittee shall maintain records for the monitoring systems and measurements required by Condition 8 and 9, including:
- i. Records of the data collected.
  - ii. Records identifying periods of time other than routine calibration when required data was not collected.
- d. The Permittee shall maintain an operating log for the carbon furnaces and associated combustion units that at a minimum includes the following information:
- i. The carbon furnaces and combustion units are in operation at any

time, including date and time of startup and shutdown of individual units;

- ii. Changes in the Compliance Option being relied upon for the carbon furnaces, including the new Compliance Option, the date, time and reason for the change, and information on any transition period between the two Compliance Options, if present.
  - iii. Documentation for reduced operation of carbon furnaces, if necessary to maintain compliance during outage of a combustion unit.
- e. The Permittee shall record any period during which a carbon furnace was in operation when its air pollution control equipment was not in operation or was not operating properly.
- i. These records shall include each period of time when an operating parameter of a control system, as recorded above, deviated outside the level set as good air pollution control practice (date, duration and description of the incident).
  - ii. These records shall include the cause for pollution control equipment not operating properly or being out of normal service, for incidents when control equipment failed to operate properly and shall identify the corrective actions that were taken, the repairs that were made, and the steps that were taken to prevent any such reoccurrence.
  - iii. These records shall also identify any such periods during which an emission unit exceeded the requirements of this permit, including applicable emission limits. This record shall include the cause for the exceedance, if known, and the corrective action(s) and preventive measures taken to prevent any such reoccurrence if any.
- f. The Permittee shall keep records for VOC, CO, NO<sub>x</sub>, SO<sub>2</sub> and PM emissions from the carbon furnaces to address compliance with the annual emission limits in Condition 4.
- 11a. The Permittee shall retain all records required by this permit at the source for at least five years, at a location where the records are readily accessible for inspection by the Illinois EPA.
- b. The Permittee shall make all records required by this permit available for inspection at the source by the Illinois EPA, providing copies of records to the Illinois EPA upon request, as further specified below.
- i. The Permittee may keep records in a computerized data system provided that, upon request by the Illinois EPA during the source's normal working hours, requested information is retrieved

and available prior to inspection completion to the Illinois EPA.

- ii. The Permittee shall identify any records that it considers to contain information that it would claim as trade secret under Section 7.1 of the Environmental Protection Act. As required by rule, to claim such material as a trade secret the Permittee shall mark such records trade secret, safeguard them from becoming available to persons other than those selected by the Permittee, and have available an undated claim letter for the records, accompanied by a statement of justification for its claim that the records contain trade secrets. When copies of these records are provided to the Illinois EPA, upon its request, they shall be accompanied by a copy of the claim letter and the statement of justification.
- 12a.
- i. The Permittee shall provide notification to the Illinois EPA within 10 days of the initial start-up of the first combustion unit. With this notification, the Permittee shall identify the carbon furnace(s) that are connected to the unit and submit a schematic diagram for the control train for the carbon furnaces, which identified each furnace, each control device, and associated ductwork, dampers, vents, operating instrumentation and stacks.
  - ii. Thereafter, the Permittee shall promptly notify the Illinois EPA of each initial startup of an additional combustion unit and each initial operation of a carbon furnace with a combustion unit (which furnace was not previously controlled by a combustion unit). With these notifications, the Permittee shall submit an updated schematic diagram for the control train for the furnaces, if the previously submitted diagram is no longer accurate.
  - iii. During the period between the first notification above and submittal of the Final Report for emission testing pursuant to Condition 7(a)(i), the Permittee shall submit monthly status reports on the shakedown and operation of the new control train for the carbon furnace, including a description of any operational or physical changes to control device and an updated schematic for the control train, if needed.
- b. With the Annual Emission Report required by 35 IAC Part 254, the Permittee shall submit an annual compliance report that summarizes the percentage of operating time of the carbon furnace area that it relied upon each Compliance Option.
  - c. If there is an exceedance of the emission standards or limits of this permit as determined by the records required by this permit or by other means, the Permittee shall submit a report to the Illinois EPA within 30 days after the exceedance. The report shall provide the date, duration and a description of the exceedance, identify the applicable requirement(s) that were not met, describe efforts made to reduce emissions or return to compliance, and describe efforts made to prevent

similar exceedances in the future.

- 13a. Two copies of any reports and notifications required by this permit shall be sent to the Illinois EPA at the following address unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276  
Telephone: 217/782-5811 Fax: 217/524-4710

- b. A copy of all reports and notifications required by this permit shall also be sent to the Illinois EPA at the following address:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
2009 Mall Street  
Collinsville, Illinois 62234  
Telephone: 618/346-5120

- 14a. This permit authorizes the Permittee to construct and operate a combustion control system for the three carbon furnaces that may vary in the number of combustion units (two or three units) and the approach to control (common control or dedicated control).

- b. As the Permittee elects common control, compliance provisions of this permit, such as those in Conditions 5(a), 10 and 12(c), shall be appropriately implemented to address both individual and overall compliance by the carbon furnaces and the combustion units with the emission limits and operating standards set by this permit.
- c. As the Permittee elects dedicated control, compliance provisions of this permit shall be appropriately implemented to address individual compliance by each carbon furnace and its associated combustion unit with the emission limits and operating standards set by this permit.
- d. No later than 90 days after the conclusion of the trial periods of operation provided by Condition 4(b), the Permittee shall apply for a revision of this permit to clarify the provisions of the permit to address the combustion control system that has been installed.
- e. Notwithstanding the above, if the Permittee develops a combustion control system that is not addressed by one of the options for Condition 4(b), such as use of three combustion units for common control or a combination of common and dedicated control, the Permittee shall apply for a revision of this permit within 30 days to establish appropriate emission limits and other related provisions for such control system and to clarify other provisions of this permit. A revision of the permit

for this purpose may be treated as a minor amendment if combined emission limits for the carbon furnaces are no greater than the limits in Table I.

15. This permit does not relieve the Permittee of the responsibility to comply with all applicable local, state and federal requirements that are part of Illinois' State Implementation Plan, as well as all other applicable local, state and federal requirements.

If you have any questions concerning this permit, please contact Christopher Romaine at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

DES:CPR:jar

cc: Region 3

Table I: Emission Limits for Individual Units

Option 1 - Common Control with Two Shared Combustion Units  
(Applicable if two combustion units are used for common control of the carbon furnaces)

These limits address emissions from individual units as would be measured at appropriate points in the ductwork of the carbon furnaces, i.e., following the individual scrubbers on each carbon furnace or following each of the two combustion units.

Unit	Form of Limit	Pollutant				
		VOC	CO	NO <sub>x</sub>	SO <sub>2</sub>	PM
Carbon Furnace 1	Hourly (lb/hr)	---	---	4.25	4.55	1.40
	Annual (ton/yr)	---	---	18.62	19.93	6.13
Carbon Furnace 2	Hourly (lb/hr)	---	---	4.25	4.55	1.40
	Annual (ton/yr)	---	---	18.62	19.93	6.13
Carbon Furnace 3	Hourly (lb/hr)	---	---	8.50	9.10	2.80
	Annual (ton/yr)	---	---	37.23	39.85	12.25
Combustion Unit 1	Hourly (lb/hr)	4.00	25.0	9.10	9.10	2.80
"	Annual (ton/yr)	17.52	109.5	39.85	39.85	12.25
Combustion Unit 2	Hourly (lb/hr)	4.00	25.0	9.10	9.10	2.80
"	Annual (ton/yr)	17.52	109.5	39.85	39.85	12.25

Note:

<sup>1</sup> The combined limits address total emissions from the three carbon furnaces, as could be measured in a single stack serving all furnaces. These limits become applicable when all three furnaces are controlled with combustion units and are subject to individual limits.

Option 2 - Individual Control with Separate Combustion Units  
(Applicable if a separate combustion unit is used for each carbon furnace)

These limits address emissions from individual units as would be measured in a separate stack for each carbon furnace or in the ductwork for each furnace before a common stack.

Unit	Form of Limit	Pollutant				
		VOC	CO	NO <sub>x</sub>	SO <sub>2</sub>	PM
Carbon Furnace 1	Hourly (lb/hr)	2.67	16.67	4.25	4.55	1.40
	Annual (ton/yr)	11.68	73.0	18.62	19.93	6.13
Carbon Furnace 2	Hourly (lb/hr)	2.67	16.67	4.25	4.55	1.40
	Annual (ton/yr)	11.68	73.0	18.62	19.93	6.13
Carbon Furnace 3	Hourly (lb/hr)	2.67	16.67	8.50	9.10	2.80
	Annual (ton/yr)	11.68	73.0	37.23	39.85	12.25
Combined <sup>1</sup>	Annual (ton/yr)	35.00	219.0	79.70	79.70	24.50

Note:

<sup>1</sup> The combined limits address total emissions from the three furnaces as could be measured in a single stack. These limits become applicable when all three furnaces have combustion units and are subject to individual limits.

CPR:jar