

217/782-2113

CONSTRUCTION PERMIT  
PREVENTION OF SIGNIFICANT DETERIORATION APPROVAL - REVISED

PERMITEE

Midwest Grain Products of Illinois, Inc.  
Attn: Bob Taphorn  
1301 South Front Street  
Pekin, Illinois 61554

Application No.: 01070069

I.D. No.: 179060AAD

Applicant's Designation:

Date Received: August 29, 2002

Subject: New Feed Dryer System D6000

Date Issued: September 10, 2002

Location: 1301 South Front Street, Pekin

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a new feed dryer system controlled by a combination of cyclones and Eco-Dry system (afterburner) 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 with respect to the Prevention of Significant Deterioration of Air Quality Regulations (PSD) to construct the above referenced project, in that the Illinois Environmental Protection Agency (Agency) 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 regulations promulgated there under at 40 CFR 52.21 for Prevention of Significant Deterioration of Air Quality (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 following findings and the conditions, which follow:

Findings

1. Midwest Grain Products of Illinois, Inc. (MWGP) has requested a construction permit for a new feed dryer system, at the MWGP Pekin manufacturing complex. The dryer reduces moisture from the wet cake from distillation process produced in the mixer. Emissions from the dryer would be controlled by a combination control system, including cyclones and Eco-Dry system.
2. Midwest Grain Products of Illinois, Inc. is located in Pekin Township in Tazewell County. The area is designated attainment for all pollutants.

3. The new feed dry system will have the potential to emit 16.91 tons/year for particulate matter (PM), 39.42 tons/year for sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and volatile organic material (VOM) and 43.80 tons/year of carbon monoxide (CO).
4. This project is subject to PSD review because it's a significant project for emission of PM and represents a modification to the operation of two existing dryer systems that are potentially subject to PSD. As a project subject to PSD, Best Available Control Technology (BACT) is required for the new feed dryer system.
5. After reviewing the materials submitted by MWGP, the Illinois EPA has determined that the project, as proposed, would (i) be in compliance with applicable Board emission standards and (ii) utilize Best Available Control Technology (BACT).
6. The Illinois EPA has determined that the project, as proposed, would comply with all applicable Illinois Air Pollution Board Regulations and the federal Prevention of Significant Deterioration of Air Quality Regulations (PSD), 40 CFR 52.21.
7. A copy of the application and a summary of the Illinois EPA's 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.

#### Standard Condition

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

#### Best Available Control Technology

- 2a. The new feed dryer system shall be equipped, operated, and maintained with Eco-Dry system or other similar system in which the exhaust from the dryer serves as combustion air for the dryer burner, firing biogas/natural gas only. The new feed dryer system shall be operated and maintained in conformance with good air pollution control practices.
- b. The Eco-Dry system shall be designed, constructed, and maintained to achieve a VOM, NO<sub>x</sub> and CO emission rate from new feed dryer system that is no more than 0.15 lb/million Btu for the VOM and NO<sub>x</sub> and 0.16 lb/million Btu for the CO.

- c. Emissions of PM and SO<sub>2</sub>, from the new feed dryer system shall not exceed 0.01 grains/dscf (0.3 lb/ton dried) and 0.7 lb/ton of dried, respectively. For this purpose PM shall be measured by Method 5 (filterable emission).

Condition 2 addresses Best Available Control Technology (BACT), for all criteria pollutants emissions as required by Section 165 of the Clean Air Act.

Limitations

- 3a.
  - i. The new feed dryer is subject to 35 IAC 212.321, which provides that the emission of PM into the atmosphere in any one hour period from any new process emission unit shall not exceed the allowable emission rates specified in subsection (c) of 35 IAC 212.321 [35 IAC 212.321(a)].
  - ii. The new feed dryer is subject to 35 IAC 212.123(a), which provides that the Permittee shall not cause or allow the emission of smoke or other PM, with an opacity greater than 30 percent into the atmosphere.
- b. The new feed dryer is subject to 35 IAC 214.301, which provide that the Permittee shall not cause or allow emission of sulfur dioxide (SO<sub>2</sub>) into the atmosphere from any process emission unit to exceed 2000 ppm.
- c. The new feed dryer is subject to 35 IAC 216.121, which provides that the Permittee shall not cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission unit, i.e. Eco-Dry system, with actual heat input greater than 2.9MW (10 million Btu/hr) to exceed 200 ppm, corrected to 50 percent excess air.
- d. Emissions from new feed dryer system shall not exceed the following limits:

<u>Pollutants</u>	<u>(Lb/Hr)</u>	<u>(Tons/Year)</u>
PM	3.86	16.91
SO <sub>2</sub>	9.0	39.42
NO <sub>x</sub>	9.0	39.42
VOM	9.0	39.42
CO	10.0	43.80

These limits are based on information in the application for maximum operation (8,760 hours/year).

- e. This permit does not authorize changes to the other existing dryers at the source that are not related to this project that would increase the source capacity.

Non-Applicable Regulation

4. The new feed dryer is not subject to 35 IAC 215.301, which provides that the Permittee shall not cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, because the new feed dryer system will not handle photochemically reactive material.

Good Operating Practices

5. The Permittee shall operate, maintain, and repair the new feed dryer system and its control system in a manner assuring compliance with the requirements of applicable board rules and Conditions 2,3, and 4 by implementing the following procedures.
  - a. Operating Procedures for the Cyclones: Written operating procedures shall be developed and maintained describing normal air pollution control equipment operation. Such procedures shall include maintenance practices and may incorporate the manufacturers recommended operating instructions.
  - b. Operating Procedures for the Burner System: Written operating practices shall be developed and maintained, including establishment of target levels for the following operating parameters for the Eco-Dry system:
    - i. Flame temperature,
    - ii. Air-fuel mixture, and
    - iii. Recirculated air, and secondary air
  - c. Inspections: Visual inspections of new feed dryer system and its air pollution control and monitoring equipment shall be conducted on at least a weekly basis.
  - d. Repairs: Prompt repairs shall be made upon identification of need either as a consequence of formal inspections or other observations in conformance with good air pollution control practice.
  - e. Records: Records of inspection, maintenance, and repair activities for all equipment shall be kept on site and shall include as a minimum:
    - i. Date of inspection, maintenance, and repair activities.
    - ii. Description of maintenance or repair activity if not routine preventative maintenance.
    - iii. Probable cause for requiring maintenance or repair if not routine or preventative.

Emission Testing Requirements

6a. i. Within 180 days of startup of the new feed dryer system the Permittee shall have PM, NO<sub>x</sub>, VOM, SO<sub>2</sub> and CO emissions and opacity from new feed dryer system measured at it's expense by an approved testing service, during conditions which are representative of maximum emissions to verify compliance with the requirements of this permit. This period may be extended by the Illinois EPA upon request of the Permittee if additional time is needed to complete shakedown or perform emission testing.

ii. Emission measurements shall also be conducted upon written request from the Illinois EPA.

b. i. The following testing methods and procedures shall be used. 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
Particulate Matter (PM)	USEPA Method 5*
Sulfur Dioxide (SO <sub>2</sub> )	USEPA Method 6
Nitrogen Oxides (NO <sub>x</sub> )	USEPA Method 7E
Opacity	USEPA Method 9
Carbon Monoxide (CO)	USEPA Method 10
Volatile Organic Material (VOM)	USEPA Method 25A

\* Measurements shall also be taken and reported for the back half of the sampling train, to obtain additional measurements of condensable particulate matter.

ii. Due to the high moisture levels in the exhaust from the feed dryers, USEPA particulate matter (PM<sub>10</sub>) test methods are not considered reliable and are not being required to measure PM<sub>10</sub>.

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 30 days prior to the actual date of testing and include the following information as a minimum:

i. A description of the planned test procedures.

ii. The person(s) who will be performing sampling and analysis and their experience with similar tests.

iii. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions.

- 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 30 days after the test results are compiled and finalized. These reports shall include as a minimum:
  - i. General information, i.e., date of test, names of testing personnel, and names of Illinois EPA observers.
  - ii. A summary of results, e.g. PM, NO<sub>x</sub>, VOM, CO and SO<sub>2</sub> emissions, lb/million Btu, lb/ton dried feed, and lb/hour.
  - iii. Detailed description of operating conditions of the dryer system, including:
    - A. Process information, e.g. feed composition, operating rate, and moisture content;
    - B. Control system-operating parameters, including combustion chamber temperature, during testing.
  - iv. Data and calculations.
  - v. Conclusions.

Monitoring

- 7. The Permittee shall monitor the temperature of the combustion chamber at least hourly, of the Eco-Dry system in accordance with the manufacture specifications.

Recordkeeping

- 8a. The Permittee shall maintain a file with the followings:
  - i. Maximum firing rate of the Eco-Dry system (million Btu/hr);
  - ii. Configuration of the control system (cyclones, Eco-Dry), including bypass of any unit and significant changes in air flow rates or in its usage of units;
- b. The Permittee shall maintain the following operating records for the new feed dryer system:

- i. Dryer throughput based on the daily grind rate for the plant, relative loading of the new and existing dryers and feed moisture levels (output %moisture), recorded at least once per shift;
  - ii. Log of inspection and maintenance of the cyclones and Eco-Dry;
- c. The Permittee shall maintain the following information related to emission and compliance:
- i. The Permittee shall maintain records for any period during which the new dryer system was in operation and when its air pollution control equipment was not in operation or was not operating properly;
    - A. These records shall include each period of time when a monitoring parameter of a control system, deviated outside the level set as good air pollution control practice (date, duration and description of the incident);
    - B. 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;
    - C. 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 noncompliance, if known, and the corrective action(s) and preventive measures taken to prevent any such reoccurrence if any;
  - ii. Monthly emissions of PM, NO<sub>x</sub>, SO<sub>2</sub>, VOM and CO, determined as the summation of the product of the hours of operation and applicable emission rate lb/hr as recorded above; and
  - iii. Annual emissions of PM, NO<sub>x</sub>, SO<sub>2</sub>, VOM and CO.

Records Retained

- 9a. The Permittee shall retain all records required by this permit at the source for at least three 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. For this purpose, 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.

Notification

- 10a. The Permittee shall notify the Illinois EPA within 5 days of the initial startup of the new feed dryer system.
- b. If there is an exceedance of the emission 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's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

Illinois EPA Addresses

11. Any required reports and notifications concerning equipment operation, emissions testing, or a monitoring system 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

A copy of all required reports and notifications, except the Annual Emission Report required by 35 IAC Part 201.302, shall also be sent to the Illinois EPA at the following address:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
5415 North University  
Peoria, Illinois 61614  
Telephone: 309/693-5461

Other Requirements

12. This permit does not relieve the Permittee of the responsibility to comply with all applicable local, state and federal requirements which are part of Illinois' State implementation Plan, as well as all other applicable local, state and federal requirements.
- 13a. The new feed dryer system may be operated for a period of one year under this construction permit. During this period the Permittee shall demonstrate initial compliance by emission testing by Condition 6 with the emission limitation in Condition 2 and 3. The Permittee shall also obtain a State Operating Permit for the new feed dryer system unless the CAAPP permit for the source has been issued.

- b. The Illinois EPA may extend this period upon request of the Permittee if additional time is needed to complete shakedown or perform emission testing.
- c. This temporary authorization to operate the new feed dryer system is subject to the condition that the Permittee provide unit emission rate, control equipment performance, stack parameters and other information requested by the Illinois EPA, for existing emission units at the source as reasonably needed to carryout a regional analysis for PM/PM<sub>10</sub> air quality. In addition, a State Operating Permit will not be issued for the new feed dryer system if requested information has not been provided and the analysis of air quality indicates that Midwest Grain significantly contributes to exceedance of PM/PM<sub>10</sub> air quality standards.

Please note that this permit has been revised to allow additional time to perform emission testing up to November 30, 2002 and to allow measurement of NO<sub>x</sub> by USEPA Method 7E.

The Permittee should update their CAAPP application to include this new feed dryer by submitting form 505-CAAPP - "Supplement to CAAPP Application" along with all other appropriate information to accomplish this.

If you have any questions on this, please call Ricardo Ng at 217/782-2113.

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

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cc: Region 2