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.: 99120021 I.D. No.: 115015AAE
Applicant's Designation: VENTSCR 5&6 Date Received: December 8, 1999
Subject: Wet Corn Mill Feed Dryer 5&6 Scrubbers
Date Issued: May 26, 2000 Expiration Date :See Condition 2a
Location: 4666 Faries Parkway, Decatur

Permit is hereby granted to the above-designated Permittee to CONSTRUCT and OPERATE emission source(s) and/or air pollution control equipment consisting of construction of venturi scrubbers for feed dryers 5&6 and operation of feed dryers 5 & 6 and their control system, 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 and operate 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 thereunder 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:

1a. Archer Daniels Midland (ADM) has requested a joint construction and operating permit for temporary operation of additional air pollution control equipment on feed dryers 5 and 6 in the wet corn mill (Mill) at its Decatur manufacturing complex. The dryers produce cattle feed from the material that remains after the starch, oil and gluten are removed from corn. The additional control equipment is expected to reduce Particulate Matter (PM) emissions from the dryers.

b. The purpose of this project is to evaluate the design, operability and effectiveness a particular type of air pollution control equipment, i.e., venturi scrubbers, to better control emissions from the various dryers in the wet corn mill through full scale set up and testing of a scrubber system on dryers 5&6.

c. Unless it is determined by issuance of a further PSD permit that the venturi scrubbers, in conjunction with the overall control system on the dryers, would constitute Best Available Control Technology (BACT), the use of the venturi scrubber will not be considered to be BACT after the temporary period of operation allowed by this permit, and the Permittee may be required to install other controls or remove the venturi scrubber to provide BACT.

2. The ADM complex is located in Decatur Township in Macon county. The area is designated attainment for all pollutants.

3. The project is subject to PSD review for particulate matter because feed dryers 5&6 have the potential to emit significant amounts of Particulate Matter (PM), i.e., more than 15 tons/year, and ADM has not previously obtained a PSD permit for these dryers for the current levels of emissions.

4a. After reviewing the materials submitted by ADM, the Illinois EPA has determined that the project, as proposed, would (i) be in compliance with applicable Board emission standards and (ii) as a temporary project utilize Best Available Control Technology (BACT).

b. Because this project is considered temporary, an air quality analysis was not required.

5. The Illinois EPA has determined that the project, as proposed, would comply with applicable Illinois Air Pollution Control Regulations and the federal rules for Prevention of Significant Deterioration of Air Quality (PSD), 40 CFR 52.21.

6. 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.

Standard Conditions

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

Best Available Control Technology

2a. This permit authorizes operation of feed dryers 5 and 6 with venturi scrubbers in their control systems for a period of two years for the general purpose of evaluating venturi scrubbing technology as a means to control particulate matter (PM) emissions from dryers in the corn wet mill.

b. Feed dryers 5 and 6 with venturi scrubbers shall be operated and maintained in conformance with good air pollution practice to minimize emissions, consistent with the objective of evaluating venturi scrubbing technology, including the following:

i. The Permittee shall maintain a written evaluation plan which identifies each configuration of the dryers and control system to be evaluated, the duration of operation required under such configuration, the nature of the information that is being sought, the type of data that will be collected, and the measures that will be taken to minimize emissions.

ii. The Permittee may bypass existing components of the dryers' control system in conjunction with evaluation of use of venturi scrubbing, as set forth in the above plan. However, any such existing component shall only be permanently removed from the control system if specifically authorized by a separate construction permit issued by the Illinois EPA.

c. The control system on dryers 5 and 6 including the venturi scrubbers shall be designed, constructed and operated to achieve a particulate matter emission rate that is no more than 0.015 gr/dscf except when evaluating worst-case configuration of the control system, which in total shall not exceed 1,000 hours.

Condition 2 addresses Best Available Control Technology, for PM emissions, as required by Section 165 of the Clean Air Act.

3a. Emissions of PM from feed dryers 5 & 6 shall not exceed 39.5 tons per year. Compliance with this limit shall be determined on a rolling 12 month basis; calculated monthly in accordance with Condition 7f.

b. Dryer 5 and 6 with venturi scrubber shall be designed and operated to comply with a target PM emission rate of 9.0 lb/hr. This limit is based on achievement of an emission rate that is no more than 0.015 gr/dscf and the maximum exhaust flow rate of the dryers as provided in the permit application.

4. The Permittee shall operate, maintain, and repair feed dryers 5 and 6 and their control systems in a manner assuring compliance with the requirements in applicable Board rules and condition 2,3, and 4, by implementing the following procedures.

   a. Operating Procedures: 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. Inspections: Visual inspections of air pollution control equipment shall be conducted on at least a weekly basis.

   c. 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.

   d. 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.

5. Testing Requirements

   a. i. Within 180 days of startup of the dryers with the dryers with the venturi scrubbers, the Permittee shall have PM emissions from the dryers 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.

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

b. i. The following methods and procedures shall be used for PM measurements. 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
Opacity	USEPA Method 9

Measurements shall also be taken and reported for the back half of the sampling drain, 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$_{10}$ (PM_{10}) test methods are not considered reliable and are not being required to measure PM_{10}.

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. particulate matter emissions, lb/hour, lb/ton dried feed, and gr/scf

iii. Detailed description of operating conditions of the dryers, including:

A. Process information, e.g. feed composition, operating rate, and moisture content

B. Control system operating parameters during testing.

iv. Data and calculations.

v. Conclusions.

6. Monitoring Requirements

a. The Permittee shall install, maintain and operate continuous monitors on the venturi scrubbers for the following parameters:

i. Pressure drop across the venturi throat

ii. Scrubbant flow rate (gallons/minute)

iii. Gas flow rate through the control system (ACFM)

b. The Permittee shall take samples of the following once per day when the venturi scrubber is operated.

i. Solids content of incoming makeup water

ii. Solids content of any recycled scrubbant

7. Recordkeeping

a. The Permittee shall maintain the following operating records for feed dryer 5 and 6 with venturi scrubbers. This data shall be recorded whenever a new measurement is taken or an item is changed, except as specified below:

i. Dryers 5 and 6 throughput based on the daily grind rate and the relative loading of the dryers, firing rate (mmBtu/hr) and feed moisture levels (input and output %H2O), recorded at least once per shift

ii. Configuration of the control system, including bypass of any unit and significant changes in its usage of units

iii. Desired values of the operating parameters of the control system, including the setting for pressure drop across the variable throat venturi

iv. Quality of incoming new and recycled scrubbant(s)

v. Caustic level in scrubbant (PH)

b. The Permittee shall maintain records of the following operating parameters for the control system. Parameters for which there is continuous monitoring (see Condition 6) shall be manually recorded at least every hour, if automatic measurement and recording device(s) are not in service for more than two hours. Other parameters shall be recorded at least every hour.

i. Pressure drop across the venturi scrubbers

ii. Gas flow rate through the control system (ascfm)

iii. Scrubbant flow rates for the venturi scrubbers (gallons/minute)

iv. Makeup water flow rates for the venturi scrubbers (gallons/minute)

c. The Permittee shall maintain records of the following operating parameters for components in the control system other than the venturi scrubbers.

i. Pressure drop across the packed beds

ii. Temperature drop across the waste heat evaporator

iii. Scrubant flow rate for the primary scrubbers

d. The Permittee shall keep records of all emission measurements conducted for the dryers with venturi scrubbers including:

i. Records of emission measurements conducted pursuant to Condition 6.

ii. Records of other measurements of emissions conducted as part of the evaluation of the venturi scrubbers, including measurements conducted for pollutants other than PM.

e. The Permittee shall maintain records for any period during which dryer 5 or 6 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 PM 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 noncompliance, if known, and the corrective action(s) and preventive measures taken to prevent any such reoccurrence if any.

f. The Permittee shall keep records of the particulate matter (PM) emissions of the feed dryers as follows:

i. PM emission rates in lb/hour, determined for each configuration and condition of the dryers and their control systems, based on test data or other engineering estimates with supporting explanations and calculations until emission testing is conducted, this determination shall be based on design data.

ii. Number of hours operated at each emission rate identified above on a monthly basis, with explanation;

iii. Monthly PM emissions, determined as the summation of the product of the above records

iv. Annual PM emissions.

8a. 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.

9a. The Permittee shall notify the Illinois EPA within 5 days of the initial startup of dryer 5 and 6 with venturi scrubbers.

b. On a quarterly basis, the Permittee shall submit a written report summarizing experience with the venturi scrubber, including the range of particulate matter emissions achieved under different configurations for the dryers, the venturi scrubber, and the rest of the control system, with supporting information. These reports shall include a summary of the records kept pursuant to condition 7(f). These reports shall be submitted within 45 days of the end of the calendar quarter.

c. 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.

10a. 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

b. A copy of all required reports and notifications, except the Annual Emission Report required by 35 Ill. Adm. Code, 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

11. 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.

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

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

DES:KLS:psj

cc: Region 3