

# PERMIT BOOK

STATE OF MISSOURI



## DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

### PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **032008-005** Project Number: 2007-08-133

Parent Company: National Starch and Chemical Company

Parent Company Address: 10 FINDERNE AVENUE, BRIDGEWATER, NJ 08807

Installation Name: National Starch and Chemical Company

Installation Address: 1001 BEDFORD AVENUE, NORTH KANSAS CITY, MO 64116

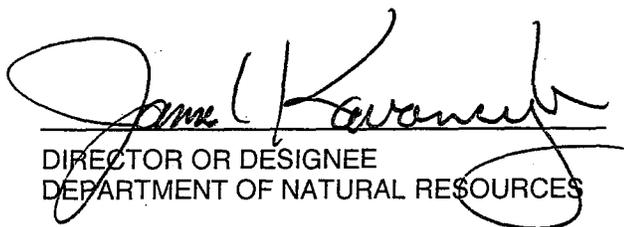
Location Information: CLAY COUNTY, S26, T50N, R33W

Application for Authority to Construct was made for:  
Installation of a new corn truck dump station for unloading corn and conveying to the existing corn conveying system. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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- Standard Conditions (on reverse) are applicable to this permit.
- Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

MAR 7 2008

EFFECTIVE DATE

  
DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

**You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review.** In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources' regional office responsible for the area within which you are located with 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission, P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the Administrative Hearing Commission within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the Administrative Hearing Commission.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit by telephone at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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## SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

National Starch and Chemical Company  
Clay County, S26, T50N, R33W

1. Specifications for Haul Roads
  - A. Paved Roads
    - 1) National Starch and Chemical Company shall maintain and/or repair the portions of the haul road described in the Application for Authority to Construct as paved. Maintenance of the surfaces will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
    - 2) National Starch and Chemical Company shall periodically water, wash and/or otherwise clean all the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these roads.
2. Specifications for Dust Collector
  - A. National Starch and Chemical Company shall control emissions from the corn truck unloading and material handling (EP-82) using a dust collector as specified in the permit application. The dust collector shall be operated and maintained in accordance with the manufacturer's specifications. The dust collector shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources' employees may easily observe them. Replacement filters for dust collector shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
  - B. National Starch and Chemical Company shall monitor and record the operating pressure drop across the dust collector at least once every 24 hours when any of the equipment being controlled by the dust collector is operating. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

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**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

- C. National Starch and Chemical Company shall maintain an operating and maintenance log for the dust collector which shall include the following:
  - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
  - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2007-08-133  
Installation ID Number: 047-0002  
Permit Number:

National Starch and Chemical Company  
1001 Bedford Avenue  
North Kansas City, MO 64116

Complete: September 28, 2007

Parent Company:  
National Starch and Chemical Company  
10 Finderne Avenue  
Bridgewater, NJ 08807

Clay County, S26, T50N, R33W

REVIEW SUMMARY

- National Starch and Chemical Company has applied for authority to install a new corn truck dump station for unloading corn and conveying to the existing corn conveying system.
- Hazardous Air Pollutant (HAP) emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- A dust collector is being used to control the PM<sub>10</sub> emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM<sub>10</sub> are below de minimis levels.
- This installation is located in Clay County, an attainment area for all criteria air pollutants.
- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.

- Emissions testing is not required for the new equipment.
- A revision to your Part 70 Operating Permit application is required for this installation within one year of equipment startup.
- Approval of this permit is recommended with special conditions.

## INSTALLATION DESCRIPTION

National Starch & Chemical Company located in North Kansas City is a manufacturer of corn starch products. They are considered a major source for both construction and operating permits. An application for a Part 70 Operating Permit was received in May of 1997.

The following New Source Review permits have been issued to National Starch and Chemical Company from the Air Pollution Control Program.

Table 1: Previously Issued New Source Review Permits

Permit Number	Description
1076-014	Installation of a 245 MMBtu/hr boiler.
0684-005 to 0684-016	Modification to convert from corn sweetener products to starch products.
0192-002	Addition of a packing system and an amphoteric cooker line.
0397-004	Addition of sodium sulfate unloading process, eight Reineveld Centrifuge processes, three reaction tanks, DSM screens, west bag pump, and several storage tanks.

## PROJECT DESCRIPTION

National Starch & Chemical Company is seeking authority to install a corn truck dump station for unloading corn and conveying it to existing corn conveying. The corn truck unloading will be enclosed on two sides and a dust collector (EP-82) will be installed to control fugitive dust from the dumping of the corn. Corn will be unloaded from bottom discharge trucks and then transported to a conveyor and elevator system and then to a removable corn hopper. The same dust collector used for corn unloading will also control dust generated by the corn conveyors through to the corn hopper.

The corn truck unloading system has a rated capacity of 20,000 bushels per hour; however, conveying systems downstream of the unloading system restrict the average unloading rate to between 6,000 and 7,000 bushels per hour (168 and 196 tons/hour, respectively).

The new corn truck dump station will replace the existing corn railcar and truck unloading system (EP1). EP1 will remain for back-up use only. An enclosed removable corn hopper will be installed at the railcar unloading site. EP1 and the corn hopper cannot be used at the same time.

New paved roads to the new station will be installed.

## EMISSIONS/CONTROLS EVALUATION

PM<sub>10</sub> is the main pollutant of concern. The emission factors used in this analysis for the corn handling were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 9.9.1, *Grain Elevators and Processes* (4/2003). A capture efficiency of 50% was assumed for the unloading of the corn. The dust collector has a control efficiency of 93.25%. The emission factors used for the haul roads are from EPA document AP-42, Section 13.2.2, *Unpaved Roads* (Nov 2006). A 90% control efficiency is assumed for the paved portions of the haul road.

Potential emissions of the application represent the potential of the new equipment at bottlenecked conditions of 7,000 bushels per hour, assuming continuous operation (8760 hours per year). The existing potential emissions were taken from Permit No. 0198-029 and the existing actual emissions were taken from the installation's 2006 Emission Inventory Questionnaire (EIQ). The following table provides an emissions summary for this project.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2006 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM <sub>10</sub>	15.0	478.2	139.9	9.00	N/A
SO <sub>x</sub>	40.0	138.8	82.8	N/A	N/A
NO <sub>x</sub>	40.0	117.7	31.8	N/A	N/A
VOC	40.0	14.4	73.0	N/A	N/A
CO	100.0	34.6	26.7	N/A	N/A
HAPs	10.0/25.0	9.8	3.6	N/A	N/A

N/A = Not Applicable

## PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM<sub>10</sub> are below de minimis levels.

## APPLICABLE REQUIREMENTS

National Starch and Chemical Company shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

## GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110  
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an EIQ is required April 1 for the previous years' emissions.
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

## SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400

## STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

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Susan Heckenkamp  
Environmental Engineer

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Date

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated August 24, 2007, received August 31, 2007, designating National Starch and Chemical Company as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Kansas City Regional Office Site Survey, dated October 23, 2007.

Ms. Denise Curtis  
Environmental Manager  
National Starch and Chemical Company  
1001 Bedford Avenue  
North Kansas City, MO 64116

RE: New Source Review Permit - Project Number: 2007-08-133

Dear Ms. Curtis:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your revised operating permit application is necessary for continued compliance.

The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact me at the departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or by telephone at (573) 751-4817.

Thank you,

**AIR POLLUTION CONTROL PROGRAM**

Kendall B. Hale  
New Source Review Unit Chief

KBH:shn

Enclosure

c: Kansas City Regional Office  
PAMS File 2007-08-133  
Permit Number: