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: 072011-003 Project Number: 2010-03-088

Parent Company: Pioneer Hi-Bred International, Inc.

Parent Company Address: 6900 NW 62nd Ave, Johnston, IA 50131

Installation Name: Pioneer Hi-Bred International, Inc.

Installation Number: 143-0080

Installation Address: 11426 US HWY 61 North, New Madrid, MO 63869

Location Information: New Madrid County, S9, T23N, R14E

Application for Authority to Construct was made for:
Soybean seed conditioning installation. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required.*

☐ Standard Conditions (on reverse) are applicable to this permit.

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

JUL 18 2011

EFFECTIVE DATE

Kyra L Moore

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 devises 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 sources(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 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 (AHC), 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 AHC 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 AHC.

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 <u>and</u> operate your air contaminant sources(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 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.

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."

Pioneer Hi-Bred International, Inc.
New Madrid County, S9, T23N, R14E

1. Haul Roads
   A. Pioneer Hi-Bred International, Inc. shall pave all haul roads except the parent seed bin farm road (EU-27) with materials such as asphalt, concrete, and/or other material(s) that have been approved by the Air Pollution Control Program.

   B. Maintenance and/or repair of the road surface 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 installation is receiving or shipping seed.

2. Capture Device Requirement - Commercial Seed Receiving Building
   A. Pioneer Hi-Bred International, Inc. shall receive commercial seed (EU-01) inside a building exhausted to a baghouse as specified in the permit application.

   B. Pioneer Hi-Bred International, Inc shall conduct performance testing to determine particulate matter less than ten microns in diameter (PM_{10}) capture efficiency at the commercial seed receiving building (EU-01). Testing shall be conducted at the maximum production rate of commercial seed receiving.

   C. The test shall be performed within 60 days after achieving the maximum production rate of the installation, but not later than 180 days after initial start-up for commercial operation.

   D. Pioneer Hi-Bred International, Inc. shall submit a written Proposed Test Plan to the Air Pollution Control Program 30 days prior to the proposed test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan may serve the purpose

SPECIAL CONDITIONS:

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

of notification and must be approved by the Director prior to conducting the required emission testing.

E. Two copies of a written report of the performance test results shall be submitted to the Director within 30 days of completion of any required testing. The report must include legible copies of the raw data sheets, analytical instrument laboratory data, complete sample calculations for at least one sample run, seed receiving rates (tons per hour), and air intake rates (cubic feet per minute).

F. The test report is to fully account for all operational and emission parameters addressed both in the permit conditions as well as in any other applicable state or federal rules or regulations.

G. No later than 30 days after the performance test results are submitted, Pioneer Hi-Bred International, Inc. shall provide the Director with a report that establishes the PM_{10} capture efficiency at the commercial seed receiving building. The report shall establish the capture efficiency in a percent basis to the hundredths decimal place.

H. If the results of the performance testing show that the capture efficiency is less than 95.00%, Pioneer Hi-Bred International, Inc. shall evaluate what effects the difference would have had on the modeling applicability of this project. Pioneer Hi-Bred International, Inc. shall submit the results of any such evaluation in an amendment application within 30 days of submitting the report required in Special Condition 2.G. of this permit.

3. Control Device Requirement - Sleeve
Pioneer Hi-Bred International, Inc. shall install a flexible sleeve at the end of the parent seed loadout (EU-24) and probulk loadout (EU-26) spouts. Flexible sleeves shall be used whenever grain is processed through EU-24 and EU-26. The flexible sleeve at EU-24 shall extend below the top of the shipping trailer or container sides.

4. Control Device Requirement - Cyclone

A. Pioneer Hi-Bred International, Inc. shall control emissions from the vacuum system (EU-21) using a cyclone as specified in the permit application.

B. The cyclone shall be operated and maintained in accordance with the manufacturer's specifications.

SPECIAL CONDITIONS:

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

C. Pioneer Hi-Bred International, Inc. shall maintain an operating and maintenance log for the cyclone 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.

5. Control Device Requirement - Baghouse
   A. Pioneer Hi-Bred International, Inc. shall control emissions from the equipment in Table 1 using baghouses as specified in the permit application.

Table 1: Equipment Controlled by Baghouses

Designation	Description
EU-01	Commercial Receiving Pit
EU-02	Internal Handling
EU-03	Precleaner
EU-05	Air Screen Cleaners (2)
EU-06	Spiral Cabinets (8)
EU-07	Gravity Separators (6)
EU-09	Rerun Gravity (2)
EU-10	Destoners (2)
EU-12	Rework Aspirator
EU-14	Bag Splitter
EU-15	Bagging Scale Surge Bin
EU-16	Jumbo Bag Fill Station
EU-17	Jumbo Bag Surge Bins (2)
EU-18	Probox Fill Station
EU-19	Probox Fill Surge Bins (2)
EU-20	50lb Bag Packaging
EU-34	Treated Bag Cutter
EU-35	Treated Probox and Jumbo Bag Unloading
EU-36	Treater Pre-Aspirated Surge Bin
EU-37	Treated Aspirator
EU-38	Treater Surge Bins (2)
EU-39	Bowl Treaters (2)
EU-40	Post-Treater Surge Bin
EU-41	Treated Bagging Bins (2)
EU-42	Treated Bagging Surge Bin
EU-43	Treated Bagger
EU-44	Jumbo Bag/Probox Filling Line (2)

   B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a

SPECIAL CONDITIONS:

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

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.

C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

D. Pioneer Hi-Bred International, Inc. shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours of operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

E. Pioneer Hi-Bred International, Inc. shall maintain an operating and maintenance log for the baghouses 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.

6. Operational Limitation – Parent Seed
   A. Pioneer Hi-Bred International, Inc. shall not exceed 225 tons per day parent seed receiving (EU-22).

   B. Pioneer Hi-Bred International, Inc. shall not exceed 22.5 tons per day parent seed receiving via straight trucks.

   C. Pioneer Hi-Bred International, Inc. shall not exceed 225 tons per day parent seed shipping (EU-24).

   D. Pioneer Hi-Bred International, Inc. shall maintain daily records sufficient to demonstrate compliance with Special Conditions 6.A, 6.B, and 6.C.

7. Operational Limitation – Commercial Seed
   A. Pioneer Hi-Bred International, Inc. shall not exceed 3,600 tons per day commercial seed receiving (EU-01).

   B. Pioneer Hi-Bred International, Inc. shall not exceed 360 tons per day commercial seed receiving via straight trucks.

SPECIAL CONDITIONS:

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

C. Pioneer Hi-Bred International, Inc. shall maintain daily records sufficient to demonstrate compliance with Special Conditions 7.A and 7.B.

8. Operational Limitation – Probulk Shipping

A. Pioneer Hi-Bred International, Inc. shall not exceed 1,800 tons per day probulk seed shipping (EU-26).

B. Pioneer Hi-Bred International, Inc. shall maintain daily records sufficient to demonstrate compliance with Special Condition 8.A.

9. Operational Limitation – Discard Shipping

A. Pioneer Hi-Bred International, Inc. shall not exceed 1,000 tons per day of discard shipping (EU-25).

B. Pioneer Hi-Bred International, Inc. shall maintain daily records sufficient to demonstrate compliance with Special Condition 9.A.

10. Silt Loading of Paved Haul Roads

A. Silt loading shall not exceed 0.2 grams per meter squared (g/m^2) on any of the paved haul roads.

B. Compliance with the silt loading limitation in Special Condition 10.A. shall be demonstrated by conducting a (as defined in Appendix C.1 and C.2 of AP-42 *Compilation of Air Pollution Emission Factors*, Fifth Edition) silt loading performance test once while the plant is operational. The silt loading test shall be representative (as defined in Appendix C of AP-42) and conducted in accordance with ASTM-C-136 method. Testing cannot be conducted immediately after cleaning. If there is a regular cleaning schedule, testing shall be conducted at the midpoint of the cleaning cycle (i.e. if cleaning is scheduled every eight (8) hours, then testing must be done at the midpoint of four (4) hours).

C. The silt loading test shall be performed at the maximum production rate of commercial seed receiving (EU-01) and within one hundred eighty (180) days after installation start-up.

D. Two copies of a written report of the silt loading test results must be submitted to the Director within 90 days of completion of the testing. The report must include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required Environmental Protection Agency (EPA) Method for at least one

SPECIAL CONDITIONS:

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

sample run for each air pollutant tested.

E. If the results of the silt loading testing show that the silt loading exceeds the silt loading used in the emissions analysis herein, then Pioneer Hi-Bred International, Inc. shall evaluate what effects the exceedance would have had on the permit applicability and modeling applicability of this project. Pioneer Hi-Bred International, Inc. shall submit the results of any such evaluation, in an amendment application, within 30 days of submitting the silt loading test results report required in Special Condition 10.D. of this permit.

11. Record Keeping and Reporting Requirements

A. Pioneer Hi-Bred International, Inc. shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

B. Pioneer Hi-Bred International, Inc. shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW
Project Number: 2010-03-088
Installation ID Number: 143-0080
Permit Number:

Pioneer Hi-Bred International, Inc.
11426 US HWY 61 North
New Madrid, MO 63869

Complete: March 31, 2010

Parent Company:
Pioneer Hi-Bred International, Inc.
6900 NW 62nd Ave
Johnston, IA 50131

New Madrid County, S9, T23N, R14E

REVIEW SUMMARY

- Pioneer Hi-Bred International, Inc. has applied for authority to construct a soybean seed conditioning installation.
- Hazardous Air Pollutant (HAP) emissions are expected from the treatment process. HAPs of concern are formaldehyde (CAS 50-00-0) and ethylene glycol (CAS 107-21-1).
- None of the New Source Performance Standards (NSPS) apply to the installation. Total storage capacity is 172,000 bushels.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- Flexible sleeves, baghouses, and a cyclone are being used to control the particulate matter (PM) emissions from the equipment in this permit.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM_{10} and PM are at minor source levels. Potential emissions of $PM_{2.5}$ and VOC are below the de minimis level. Potential emissions of HAPs are not at major source levels.
- This installation is located in New Madrid County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was performed to determine the ambient impact of PM_{10}.
- Silt loading testing is required for the paved haul roads.
- No operating permit is required for the installation. Non-fugitive PM_{10} emissions are

below the de minimis level.

- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Pioneer Hi-Bred International, Inc. (Pioneer) proposes to construct a soybean seed conditioning installation north of New Madrid, Missouri. Bean seed will be received, cleaned, packaged, and shipped. Bean seed may be treated with fungicides, insecticides, inoculants, and identifying colorants. No permits have been issued to Pioneer from the Air Pollution Control Program. Table 2 lists the emission units of the installation.

Table 2: Installation Summary

Designation	Description	MHDR – Modeling Basis (tons per hour)	MHDR – Potential to Emit Basis (tons per hour)
EU-01	Commercial Receiving Pit	150	150
EU-02	Internal Handling	150	150
EU-03	Precleaner	150	150
EU-04	Bulk Storage Bins (10)	150	150
EU-05	Air Screen Cleaners (2)	60	60
EU-06	Spiral Cabinets (8)	54.6	54.6
EU-07	Gravity Separators (6)	53.781	53.781
EU-08	Belt Sorters (2)	15	11.12
EU-09	Rerun Gravity (2)	14.1	10.22
EU-10	Destoners (2)	2.69	2.69
EU-11	Discard Bins (2)	36	12
EU-12	Rework Aspirator	39	1.2
EU-13	Rework Dump	39	1.2
EU-14	Bag Splitter	39	1.2
EU-15	Bagging Scale Surge Bin	30	14.4
EU-16	Jumbo Bag Fill Station	62.5	16.8
EU-17	Jumbo Bag Surge Bins (2)	62.5	16.8
EU-18	Probox Fill Station	62.5	16.8
EU-19	Probox Fill Surge Bins (2)	62.5	16.8
EU-20	50lb Bag Packaging	30	14.4
EU-21	House Vacuum (scf/hr)	[1] 64,440	[1] 64,440
EU-22	Parent Seed Receiving	9.375	9.375
EU-23	Parent Seed Bins (20)	9.375	9.375
EU-24	Parent Seed Loadout	9.375	9.375
EU-25	Discard Bin Loadout (2)	41.67	41.67
EU-26	Probulk Loadout	150	75
EU-27	Parent Bin Farm Load/Unload Road	[2] 9.375	[2] 9.375
EU-28	Commercial Seed Receiving Road	[2] 150	[2] 150
EU-29	Commercial Seed Shipping/Rework Road	[2] 155	[2] 48
EU-30	Probulk Access Road	[2] 75	[2] 75
EU-31	Discard Loadout Road	[2] 41.67	[2] 41.67
EU-32	Parent Seed Receiving Road	[2] 9.375	[2] 9.375
EU-33	Parent Seed Shipping Road	[2] 9.375	[2] 9.375
EU-34	Treated Bag Cutter	27	27
EU-35	Treated Probox and Jumbo Bag Unloading	39	39
EU-36	Treater Pre-Aspirated Surge Bin	39	39
EU-37	Treated Aspirator	39	39
EU-38	Treater Surge Bins (2)	39	39
EU-39	Bowl Treaters (2)	39	39
EU-40	Post-Treater Surge Bin	39	39
EU-41	Treated Bagging Bins (2)	39	39
EU-42	Treated Bagging Surge Bin	39	39
EU-43	Treated Bagger	27	27
EU-44	Jumbo Bag/Probox Filling Line (2)	39	39

MHDR = maximum hourly design rate, [1] Standard cubic feet per hour, [2] Vehicle miles traveled per hour vary

PROJECT DESCRIPTION

Seed beans destined for commercial distribution will be delivered via hopper bottom semi and straight truck and received at the commercial receiving pit (EU-01). The receiving process will occur in a two-sided and roofed area controlled by air intake hoods leading to a baghouse. The hoods are located at each side of the receiving pit and close to the pit grate elevation. The hood faces are perpendicular to the receiving grate. At several locations in the installation, beans will be transferred (EU-02) among processes using enclosed conveyors and drop points. Beans will enter a precleaner (EU-03) and be loaded into ten bulk storage bins (EU-04), with a capacity of 12,000 bushels each. Beans will enter one of two simultaneously operating conditioning towers each consisting of one air screen cleaner (EU-05), four spiral cabinets (EU-06), three gravity separators (EU-07), one belt sorter (EU-08), and one rerun gravity (EU-09). Discard seed from the precleaners and two destoners (EU-10) is stored in two discard bins (EU-11) before being shipped out (EU-25) to local elevators. Typically, twenty percent of seed is discarded during the conditioning process. Total storage capacity is 172,000 bushels.

Some seed may be treated with insecticides, fungicides, inoculants, and identifying colorants. The process consists of unloading seed into surge bins, treatment, loading surge bins, and filling containers with treated seed. Treatments include insecticides Gaucho 600 Flowable and Cruiser 5FS. Fungicides include Trilex Flowable, Allegiance FL, Mertect 340F, Apron XL, and Maxm 4FS. The inoculant is Optimize 400. Colorants include Pioneer PPST 1500 and Sepiret 1586A.

Emissions from the precleaners, air screen cleaners, spiral cabinets, gravity separators, rerun gravity, destoners, and treatment equipment are controlled by baghouses. Some seed is cleaned through the rework aspirator (EU-12) and rework dump (EU-13).

Spec bean seed is conveyed to fifty pound bag surge bins (EU-15), jumbo bag surge bins (EU-17), or 2,500 pound PROBOX surge bins (EU-19) and respective fill stations and packaging. Emissions from the rework aspirator, surge bins, fill stations, and packaging are controlled by a baghouse. Probulk loadout emissions are controlled with a sleeve. A 64,440 standard cubic feet per hour vacuum system (EU-21) connected to a cyclone controls dust on equipment, floors, etc.

Parent seed is seed designed to be planted to grow more seed beans, not seed to be planted to directly grow beans for animal or human consumption. Parent seed will be delivered via hopper bottom semi and straight trucks, then received into portable conveyors at EU-22, and directly stored in twenty bins (EU-23), each holding 1,300 bushels. Parent seed is not cleaned at this installation. Parent seed emissions are uncontrolled, except for a sleeve on loadout (EU-24).

The parent seed bin farm haul road (EU-27) is unpaved. All other haul roads will be paved.

EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies for bean processes were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, *Grain Elevators & Processes* Section 9.9.1 May 2003. Commercial seed receiving and parent seed receiving emissions were each evaluated based upon a 90% hopper truck and 10% straight truck split per ton of seed. Capture efficiency at the commercial receiving pit was determined to be 95%, supported by calculations submitted by Pioneer. Verification of the capture efficiency will be required once the facility is operational. Baghouse capture efficiency for process equipment was assumed at 100 percent, with 99 percent control for PM, PM_{10}, and $PM_{2.5}$. The vacuum system is controlled with a cyclone, assuming 80 percent control. Flexible drop sleeves for parent seed and probulk loadout were assigned 60 percent control.

Potential VOC and HAP emissions from the treatments were calculated using the maximum application rate supplied by the treatment manufacturer. Where Pioneer's application rate exceeded the manufacturer's rate, Pioneer's rate was selected. Not all seed will be treated. Not all treated seed will be coated with all treatments. Conservatively, emissions were evaluated assuming all treatments would be applied simultaneously. All available VOC and HAP were considered emitted.

Paved haul road emissions were calculated using AP-42, *Paved Roads* Section 13.2.1 January, 2011. Silt loading of 0.2 grams per square meter was assumed from testing performed at a similar Pioneer installation in Litchfield, Illinois. Unpaved haul road emissions were calculated using AP-42, *Unpaved Roads* Section 13.2.2 November 2006. Conservatively, the silt content of 8.3 percent was chosen.

Vacuum emissions were calculated using the applicant provided emission factor of 0.02 grains of particulate matter per standard cubic feet, assuming PM_{10} as 25 percent of PM.

Potential Emissions of the Application represent the potential emissions of all processes evaluated on an annual basis. Table 3 provides an emissions summary for this project.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory *De Minimis* Levels	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	52.45	N/A
PM_{10}	15.0	16.22	N/A
$PM_{2.5}$	10.0	2.77	N/A
SOx	40.0	N/A	N/A
NOx	40.0	N/A	N/A
VOC	40.0	16.60	N/A
CO	100.0	N/A	N/A
Combined HAPs	25.0	6.58	N/A
Formaldehyde	10.0	0.05	N/A
Ethylene Glycol	10.0	6.52	N/A

N/A = Not Applicable; N/D = Not Determined

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM_{10} and PM are at minor source levels. Potential emissions of $PM_{2.5}$ and VOC are below the de minimis level. Potential emissions of HAPs are not at major source levels.

APPLICABLE REQUIREMENTS

Pioneer Hi-Bred International, Inc. 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.

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 a hardcopy Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions. Alternatively, submission of an electronic copy via MoEIS is required May 1.

- *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

AMBIENT AIR QUALITY IMPACT ANALYSIS

Air quality modeling was performed to determine the ambient impact of PM_{10}. Modeling was performed at the Department's request because historic modeling data indicated that elevated PM_{10} impacts in the region were likely to approach or exceed increment standards.

The NAAQS results indicate that several violations of the PM_{10} standard would occur. The concentration includes a background concentration of 36.0 $\mu g/m^3$ for the 24-hour averaging period. According to the EPA, in order for a permit to be issued, Pioneer Hi-Bred International, Inc. must demonstrate that they do not have a significant impact at any of the violating receptors regardless of where they are located. On a 24-hour basis, Pioneer Hi-Bred International, Inc. had an insignificant impact at each of the violating receptors. As such, compliance with the 24-hour NAAQS standard has been demonstrated and no further

analysis is necessary.

The increment results obtained from the air quality model indicate that several violations of the PM_{10} standard would occur. Both concentrations include interactive source impacts for the 24-hour and annual averaging periods. According to the EPA, in order for a permit to be issued, Pioneer Hi-Bred International, Inc. must demonstrate that they do not have a significant impact at any of the violating receptors regardless of where they are located. On an annual and 24-hour basis, Pioneer Hi-Bred International, Inc. did not have a significant impact at any of the violating receptors. As such, compliance with the increment standard has been demonstrated and no further analysis is necessary. For further details on the modeling, please refer to the memo titled "Revised Ambient Air Quality Impact Analysis (AAQIA) for Pioneer Hi-Bred International, Inc. – June 24, 2011 Permit Addendum".

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

_____ _____

David Little Date
Environmental Engineer

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated March 31, 2010, received March 31, 2010, designating Pioneer Hi-Bred International, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated April 12, 2010.

Mr. Lance Vaughn
Senior SHE Manager
Pioneer Hi-Bred International, Inc.
6900 NW 62nd Ave
Johnston, IA 50131

RE: New Source Review Permit - Project Number: 2010-03-088

Dear Mr. Vaughn:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions 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 your operating permit 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 David Little, at the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:dll

Enclosures

c: Southeast Regional Office
PAMS File: 2010-03-088

Permit Number: