



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: 022007 - 003 Project Number: 2006-08-082

Parent Company: Flick Seed Company

Parent Company Address: PO Box 128, Kingsville, MO 64061

Installation Name: Missouri Bioenergy Fuel, LLC

Installation Address: 102 SW 58 Highway, Centerview, MO 64019

Location Information: Johnson County, S36, T46N, R27W

Application for Authority to Construct was made for:
biomass fuel pellet production from seed hulls. This review was conducted in
accordance with Section (5), 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.

FEB - 1 2007

EFFECTIVE DATE

A handwritten signature in black ink, appearing to read "James H. Hancock".

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 (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 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 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."

Missouri Bioenergy Fuel, LLC
Johnson County, S36, T46N, R27W

1. Emission Limitation
 - A. Missouri Bioenergy Fuel, LLC shall emit less than 15 tons of particulate matter less than ten (10) microns in diameter (PM₁₀) in any consecutive 12 month period from the entire installation.
 - B. Missouri Bioenergy Fuel, LLC shall maintain an accurate record of PM₁₀ emitted into the atmosphere from the entire installation. Attachment A or an equivalent form approved by the Air Pollution Control Program shall be used for this purpose. Missouri Bioenergy Fuel, LLC 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.
 - C. Missouri Bioenergy Fuel, LLC shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records from Special Condition Number 1.B. indicate that the source exceeds the limitation of Special Condition Number 1.B.
2. Missouri Bioenergy Fuel, LLC shall control emissions from the Hammermill Grinding System (EP-5) using a baghouse as specified in the permit application. The baghouse shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse 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 DNR employees may easily observe them. Replacement filters for the baghouse 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).
3. Missouri Bioenergy Fuel, LLC shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the

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SPECIAL CONDITIONS:

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

manufacturer's performance warranty.

4. Missouri Bioenergy Fuel, LLC shall maintain an operating and maintenance log for the baghouse which shall include the following:
 - A. Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - B. Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

5. The application stated that the following emission points (EPs) will be enclosed with closed, four-sided building(s) with roof(s), and that the only opening in these buildings are doors for the trucks to drive in and out:
 - A. EP-1: Ingredient Receiving – Flat Storage
 - B. EP-2: Ingredient Receiving – Hopper Truck
 - C. EP-3: Charge Feed Hopper in Storage Building
 - D. EP-8: Bulk Truck Loadout
 - E. EP-9: Bagging Operation

Based on the applicant's description of the enclosure, a control efficiency of 10% was assigned to these EPs, and will apply as long as the loading and unloading operations of the controlled EPs is done with the doors to the buildings closed. The doors of these buildings shall therefore be closed during all loading and unloading operations associated with these EPs.

6. The process configuration will affect conditioned PTE. Ingredients shall be received by either EP-1 Ingredient Receiving – Flat Storage and EP-3 Charge Feed Hopper in Storage Building, or by EP-2 Ingredient Receiving – Hopper Truck, but not by both pathways simultaneously. The product shall be loaded-out by either EP-8 Bulk Truck Loadout or EP-9 Bagging Operation, but not by both pathways simultaneously.

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

Project Number: 2006-08-082
Installation ID Number: 101-0058
Permit Number:

Missouri Bioenergy Fuel, LLC
102 SW 58 Highway
Centerview, MO 64019

Complete: August 28, 2006
Reviewed: November 17, 2006

Parent Company:
Flick Seed Company
PO Box 128
Kingsville, MO 64061
Johnson County, S36, T46N, R27W

REVIEW SUMMARY

- Missouri Bioenergy Fuel, LLC has applied for authority to construct a facility for producing biomass fuel pellets from seed hulls.
- 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.
- Enclosure of ingredient load in and product load out operations and baghouse and cyclone control equipment are used to control the PM₁₀ 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 PM₁₀ are conditioned to de minimis levels.
- This installation is located in Johnson 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 limited to de minimis levels.

- Emissions testing is not required for the equipment/source.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

This new installation will produce fuel pellets for industrial and home heat sources from agricultural waste products such as seed hulls, wood flour, sawdust, and other select biomass, including some grain. The pellets will be approximately ¼” by 1” long with bulk density ranging from 40 to 45 pounds per cubic foot. The raw materials will have moisture content less than 18% and bulk density of 12 to 45 pounds per cubic foot.

No permits have been issued to Missouri Bioenergy Fuel, LLC from the Air Pollution Control Program.

PROJECT DESCRIPTION

This new installation is to produce fuel pellets from select agricultural and wood-processing waste. The raw materials will be metered and pelletized with moisture and pressure. A 100-hp natural gas boiler is included with the equipment list, but may or may not be used for process heat. The plant’s MHDR is 15 tons of raw materials processed per hour. The controls used are enclosure by building (EPs -1, -2, -3, -8, and -9), cyclone (EPs -6 and -7), and baghouse (EP-5).

Trucks drive into enclosed buildings with doors that close during material load in and product load out. Raw materials are received by a hopper truck (EP-2) or by unloading them onto flat storage (EP-1) and then by charging a feed hopper with them (EP-3). The raw materials are then metered (EP-4), milled (EP-5), pelletized (EP-6), and screened (EP-7). The double deck screen is equipped with a two-way valve to select product in the form of either pellets or crumbles. The product is loaded out by either bulk truck loadout (EP-8) or by bagging (EP-9).

EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 9.9.1.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). Ingredients are received by either EP-1 Ingredient Receiving – Flat Storage and EP-3 Charge Feed Hopper in Storage Building, or by EP-2 Ingredient Receiving – Hopper Truck. Then the materials proceed through the same processing steps: EP-4 Formula Batch Assembly and Mix, EP-5 Hammermill Grinder System, EP-6 Pellet Mill and Cooler Exhaust, EP-7 Pellet

Screening. Then, the product is loaded-out by either EP-8 Bulk Truck Loadout or EP-9 Bagging Operation. The emissions evaluation was based upon worst case scenario, which did not include EPs –2 and –9.

The existing potential emissions and the existing actual emissions from the Emissions Inventory Questionnaire (EIQ) do not apply to this project because this is a new plant.

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 (EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	N/A	N/A	26.44	<15.0
SO _x	40.0	N/A	N/A	0.01	0.01
NO _x	40.0	N/A	N/A	1.75	1.05
VOC	40.0	N/A	N/A	0.10	0.06
CO	100.0	N/A	N/A	1.47	0.88
HAPs	10.0/25.0	N/A	N/A	0.00	0.00

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 all criteria pollutants, including PM₁₀, are below de minimis levels.

APPLICABLE REQUIREMENTS

Missouri Bioenergy Fuel, LLC 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 an Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions.

- *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
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-3.060

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.

Jeannie Kozak
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated August 25, 2006, received August 28, 2006, designating Flick Seed 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 9-25-06.

Mr. Steve Flick
Manager
Missouri Bioenergy Fuel, LLC
102 SW 58 Highway
Centerview, MO 64019

RE: New Source Review Permit - Project Number: 2006-08-082

Dear Mr. Flick:

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 and with your new source review 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 (573) 751-4817, or you may write to me at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, Missouri 65102.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:jkl

Enclosures

c: Kansas City Regional Office
PAMS File 2006-08-082
Permit Number: