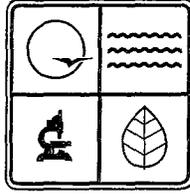


STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI AIR CONSERVATION COMMISSION



PERMIT BOOK

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: **102006-002**

Project Number: **2006-03-081**

Owner: **Ag Processing Inc.**

Owner's Address: **P.O. Box 2047, Omaha, NE 68103**

Installation Name: **Ag Processing Inc.**

Installation Address: **900 Lower Lake Road, St. Joseph, MO 64502**

Location Information: **Buchanan County, S30, T57, R35**

Application for Authority to Construct was made for:

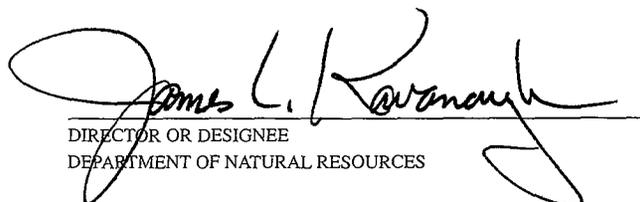
Construction of a 250 million pounds biodiesel production plant. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required.*

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

Standard Conditions (on reverse) and Special Conditions (listed as attachments starting on page 2) are applicable to this permit.

OCT - 3 2006

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. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the 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 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 as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, 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 Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

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 Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

2006-03-081

Ag Processing Inc.

P.O. Box 2047, Omaha, NE 68103

Ag Processing Inc.

900 Lower Lake Road, St. Joseph, MO 64502

Buchanan County, S30, T57, R35

Construction of a 250 million pounds biodiesel production plant. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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Permit No.	
Project No.	2006-03-081

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."

Ag Processing Inc.
Buchanan County, S30, T57, R35

1. Control Equipment – Condenser/Scrubber System
 - A. The condenser/scrubber system must be in use at all times when the associated equipment is in operation and shall be operated and maintained in accordance with the manufacturer's specifications.
 - B. Ag Processing Inc. shall monitor and record the operating pressure of the scrubber using a continuous internal pressure monitor.
 - C. Ag Processing Inc. shall monitor and record the operating pressure drop across each scrubber at least once every twenty four (24) hours. The scrubber shall be equipped with a gauge or meter that indicates the pressure drop across the scrubber. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - D. Ag Processing Inc. shall monitor and record the flow rate through the scrubber at least once every twenty four (24) hours. The scrubber shall be equipped with a flow meter that indicates the flow through the scrubber. The flow rate shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. Ag Processing Inc. shall maintain an operating and maintenance log for the scrubber 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.
 - 3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.

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SPECIAL CONDITIONS:

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

2. Pavement of Haul Roads

- A. Ag Processing Inc. shall pave all haul roads (EP106) with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the Program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve "Control of Fugitive Emissions" while the plant is operating.
- B. Maintenance and/or repair 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.
- C. Ag Processing Inc. shall periodically water, wash and/or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2006-03-081
Installation ID Number: 021-0060
Permit Number:

Ag Processing Inc.
900 Lower Lake Road
St. Joseph, MO 64502

Complete: April 6, 2006
Reviewed: May 9, 2006

Parent Company:
Ag Processing Inc.
P.O. Box 2047
Omaha, NE 68103

Buchanan County, S30, T57, R35

REVIEW SUMMARY

- Ag Processing Inc. has applied for authority to construct a 250 million pounds biodiesel production plant.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. The HAP of concern from this process is methanol.
- New Source Performance Standards (NSPS) apply to this installation. Specifically, 40 CFR Part 60 Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels*, applies to the storage tanks. NSPS Subpart RRR, for VOC Emissions from SOCM I Reactor Processes, applies to the biodiesel plant. In addition, NSPS Subpart VV, for Equipment Leaks of VOC in the SOCM I, applies to the biodiesel plant.
- The Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63, Subpart FFFF, National Emission Standards for Miscellaneous Organic Chemical Production and Processes (MON) applies to the biodiesel plant since the installation is major for HAPs.
- A condenser/scrubber system is being used to control the VOC and HAP emissions from the equipment in this permit as required by MACT Subpart FFFF.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of HAPs are above major source levels. However, a MACT applies to this installation.
- This installation is located in Buchanan County, an attainment area for all criteria air pollutants.
- This installation is on the List of Named Installations [10 CSR 10-6.020(3)(B), Table

2], Number 20, *Chemical Process Plants*.

- Ambient air quality modeling was performed to determine the ambient impact of methanol.
- Emissions testing is required for the source as required by applicable NSPS and MACT.
- A Part 70 Operating Permit application is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended without special conditions.

INSTALLATION DESCRIPTION

Ag Processing Inc. (AgP) proposes to construct and operate a 250 million pounds per year biodiesel manufacturing plant in St. Joseph, Missouri. The biodiesel plant is considered a greenfield construction. However, due to the proximity to the existing AGP extraction/refining plant, the issue of separate installation was considered for permitting purposes.

Installation is defined by 10 CSR 10-6.020 (2)(l)(7) as the following:

“All source operations including activities that result in fugitive emissions, that belong to the same industrial grouping ..., and any marine vessels while docked at the installation, located on one (1) or more contiguous or adjacent properties and under the control of the same person...”

Clearly, the proposed biodiesel plant is located on one (1) or more contiguous or adjacent properties and is under the control of the same person, but does not belong to the same industrial grouping under the Standard Industrial Classification (SIC) code. However, the definition of “support facility” as clarified in the August 7, 1980, preamble to the Prevention of Significant Deterioration (PSD) regulations (45 FR 52695) states:

“Each source is to be classified according to its primary activity, which is determined by its principal product or group of products produced or distributed, or services rendered. Thus, one source classification encompasses both primary and support facilities, even when the latter includes units with a different two-digit SIC code. Support facilities are typically those which convey, store, or otherwise assist in the production of the principal product. Where a single unit is used to support two otherwise distinct sets of activities, the unit is to be included within the source which relies most heavily on its support...”

Therefore, even though the biodiesel plant has a different SIC code than the refinery and extraction plant, a support relationship may classify both plants as one installation.

The Department examined the support facility relationship by focusing on the primary product. In this case, the primary product is refined oil produced by the refinery at the

existing extraction plant, even if the biodiesel plant is built and produces biodiesel. The biodiesel plant, even though it receives all of its refined oil, which is the major raw material, from the onsite refinery, does not convey, store or assist in the production of refined oil. Conversely, the refinery will not receive any raw materials from the biodiesel plant. The biodiesel plant and refinery produce different products and use different processes to produce their specific product.

While there is certainly a mutually beneficial arrangement between the biodiesel plant and the refinery, the biodiesel plant does not "support" the refinery in any way. Instead, two different products are being produced (biodiesel and refined oil), both of which can operate independently if the other shuts down. In addition, the refinery does not exist for the sole purpose of providing feedstock to the biodiesel plant. In fact, the majority of the refinery's product will not go to the biodiesel plant (the 50% output test). The future operation of the refinery is not contingent on the addition of the biodiesel plant and these plants have not historically operated as a single source.

Based on the available information and previously issued EPA guidance, these site specific facts are an indication of a separate installation, not a support facility. Therefore, the Department believes that the proposed biodiesel plant and the extraction plant may be considered two separate installations for permitting purposes.

No permits have been issued to Ag Processing Inc. from the Air Pollution Control Program for this biodiesel plant.

PROJECT DESCRIPTION

Biodiesel is produced from the base-catalyzed transesterification of vegetable oil with methanol. The by-product is glycerine. The primary vegetable oil feedstock will be refined soybean oil from the AgP facility. However, the plant will be designed to accept vegetable oil from alternative sources when AgP is unable to provide the oil.

Three reactors will be used to produce the biodiesel. As the methyl esters are separated from the glycerine by-products, the excess methanol will be recovered and recycled back into the process. Emissions from all of the processing equipment will be vented to a single emission point and controlled by a condenser and scrubber as required by 40 CFR Part 63, Subpart FFFF.

Biodiesel and crude glycerine will be loaded onto tank trucks and rail cars for transport off-site. However, potential emissions were determined assuming all materials being transported on or off-site (i.e. biodiesel, refined oil, and glycerin) will be shipped by truck. All haul roads will be paved.

All steam for the biodiesel plant will be provided by an off-site source. Therefore, no boiler is required. In addition, there will not be a cooling tower associated with the wastewater treatment of the plant.

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. Storage tank emissions were estimated using the EPA TANKS program Version 4.0.9d. Table 1 outlines the new emission points, the maximum hourly design rates (MHDR) and the source of emission factors.

Table 1: Biodiesel Plant Emission Points

Emission Point	Description	MHDR	Emissions Source
EP100	Biodiesel Process Vent	720,000 pounds per day	AgP-Sergeant Bluffs Facility
TK1-12	Methanol Storage Tank	76,310 gallon (capacity)	TANKS 4.0.9d
	Catalyst Storage Tank	21,950 gallon (capacity)	TANKS 4.0.9d
	Hydrochloric Acid Storage Tank	10,000 gallon (capacity)	TANKS 4.0.9d
	Phosphoric Acid Storage Tank	10,000 gallon (capacity)	TANKS 4.0.9d
	Biodiesel Storage Tank #1-4	55,330 gallon, each (capacity)	TANKS 4.0.9d
	Glycerin Storage Tank #1-2	55,330 gallon, each (capacity)	TANKS 4.0.9d
	Glycerin Day Tank	25,430 gallon (capacity)	TANKS 4.0.9d
	Fatty Acid Storage Tank	36,320 gallon (capacity)	TANKS 4.0.9d
EP106	Biodiesel Haul Roads (paved)	400 meters	AP-42 Section 13.2.2
EP101-104	Fugitive Leaks	N/A	EPA Protocol for Equipment Leak Emission Estimates
Fugitive	Biodiesel Loadout	28,540 gallons	AP-42 Section 5.2

Emissions from the process vent were estimated by the applicant using scaled information from the AgP facility in Sergeant Bluffs, Iowa. These emissions will be controlled with a condenser and scrubber system to achieve 98% control as required by 40 CFR Part 63, Subpart FFFF.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). This installation is considered a new installation. Therefore, there are no existing potential or actual emissions associated with this installation. The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	N/A	N/A	0.57	N/A
SO _x	40.0	N/A	N/A	0	N/A
NO _x	40.0	N/A	N/A	0	N/A
VOC	40.0	N/A	N/A	32.62	N/A
CO	100.0	N/A	N/A	0	N/A
HAPs	10.0/25.0	N/A	N/A	25.65	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 HAPs are above major source levels. However, a MACT applies to this installation.

APPLICABLE REQUIREMENTS

Ag Processing 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. 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 Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's 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*
- *New Source Performance Regulations, 10 CSR 10-6.070 – New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels, 40 CFR Part 60 Subpart Kb.*
- *New Source Performance Regulations, 10 CSR 10-6.070 – New Source Performance Standards (NSPS) for VOC Emissions from SOCM I Reactor Processes, 40 CFR Part 60, Subpart RRR.*
- *New Source Performance Regulations, 10 CSR 10-6.070 – New Source Performance Standards (NSPS) for Equipment Leaks of VOC in the SOCM I, 40 CFR Part 60, Subpart VV.*

- *Maximum Achievable Control Technology (MACT) Regulations, 10 CSR 10-6.075, National Emission Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Production and Processes, 40 CFR Part 63, Subpart FFFF.*

AMBIENT AIR QUALITY IMPACT ANALYSIS

Ambient air quality modeling was performed to determine the ambient impact of methanol. Stack parameters and emission rates listed in the application were used to determine the impacts. Table 3 outlines the results of the modeling analysis in $\mu\text{g}/\text{m}^3$. The Risk Assessment Level of methanol is also listed in $\mu\text{g}/\text{m}^3$ on a 24-hour and annual basis. The modeled impacts are below their respective RALs, therefore no further analysis is required.

Table 3: Impact results of Methanol

Pollutant	Modeled Impact	RAL	Time Period
Methanol	40.6	600	24-hour
	6.7	7.13	annual

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.

 Emily E. Wilbur
 Environmental Engineer

 Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated March 22, 2006, received March 23, 2006, designating Ag Processing Inc. 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 April 18, 2006.

Mr. Kelly Jorgensen
Director of Environmental Compliance
Ag Processing Inc.
900 Lower Lake Road
St. Joseph, MO 64502

RE: New Source Review Permit - Project Number: 2006-03-081

Dear Mr. Jorgensen:

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 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 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. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:ewl

Enclosures

c: Kansas City Regional Office
PAMS File: 2006-03-081

Permit Number: