



Florida Department of Environmental Protection

Southwest District
13051 N. Telecom Parkway
Temple Terrace, Florida 33637-0926

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

FINAL PERMIT

PERMITTEE

Agri-Source Fuels, LLC
15000 Citrus Country Dr., Suite 110
Dade City, Florida 33523

Authorized Representative:

Mr. Jeff Sims, Florida Operations Manager

Air Permit No. 1010505-002-AC
Permit Expires: 04/01/2012
Minor Air Construction Permit
Project Name: After-The-Fact Construction
and Construction Modification of a
Biodiesel Production Facility

This is the final air construction permit, which authorizes Agri-Source Fuels, LLC the after-the-fact construction of a new glycerin refining process with a maximum production capacity of 1.2 million gallons of refined glycerin per any consecutive 12-month period. This project is in addition to the after-the-fact construction of the existing biodiesel facility, the construction modifications to add a new methanol vapor recovery system and other associated modifications to the facility's existing processes and equipment. Prior to completing the construction modifications to add the methanol recovery system, the facility is permitted to produce a maximum of 12.0 million gallons of biodiesel per any consecutive 12-month period. After completion of the construction modifications, the facility will be permitted to produce a maximum of 60.0 million gallons of biodiesel per any consecutive 12-month period. The proposed work will be conducted at the Agri-Source Fuels, LLC (Standard Industrial Classification No. 2869). The facility is located in Pasco County at 15000 Citrus Country Dr., Suite 110 in Dade City, Florida. The UTM coordinates are Zone 17, 383.45 km East, and 3139.53 km North. As noted in the Final Determination provided with this final permit, no changes or only minor changes and clarifications were made to the draft permit.

This final permit is organized by the following sections:

Section 1. General Information

Section 2. Administrative Requirements

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review

requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Hillsborough County, Florida

Mara Grace Nasca October 1, 2009
Mara Grace Nasca Effective Date
District Air Program Administrator
Southwest District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination, the Final Permit and the Appendices) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on October 1, 2009 to the persons listed below.

Mr. Jeff Sims, Florida Operations Manager
Agri-Source Fuels, LLC
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Mr. John Ellington, P.E.
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Mr. William Preston, P.A.
bill@wprestonpa.com

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

Sabrina Grubbs October 1, 2009
(Clerk) (Date)

Agri-Source Fuels, LLC

Air Permit No. 1010505-002-AC
Project Name: After-The-Fact
Construction and Construction
Modification of a Biodiesel
Production Facility

FACILITY AND PROJECT DESCRIPTION

Project Description and Affected Emission Unit

This permit modifies Construction Permit 1010505-001-AC, which authorized: (1) the after-the-fact construction of a biodiesel production facility with a production limit of 12 million gallons of biodiesel per year; and (2) the construction modification that includes the installation of a methanol distillation column and associated equipment, two evaporators to recover methanol from glycerin byproduct and a methyl ester drying system.

This permit authorizes the construction modification of the facility that will include the addition of a methanol vapor recovery system and a glycerin refining system along with other modifications to the process and equipment. After completion of the methanol vapor recovery system and the glycerin refining system, the facility will be permitted to produce up to 60 million gallons of biodiesel per year and up to 1.2 million gallons of refined glycerin per year.

This project will modify the following emissions units.

Facility ID No. 1010505	
ID No.	Emission Unit Description
001	Biodiesel Production and Glycerin Refining
002	Hot Oil Heater

NOTE: Please reference the Permit No., Facility ID, and Emission Unit ID in all correspondence, test report submittals, applications, etc.

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is not a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.
- This facility is a synthetic non-Title V source for the pollutants volatile organic compounds (VOC) and hazardous air pollutants (HAP).

PERMIT HISTORY/AFFECTED PERMITS

Modifies and Replaces Construction Permit No.1010505-001-AC

SECTION 2. ADMINISTRATIVE REQUIREMENTS (FINAL)

1. Permitting Authority: The permitting authority for this project is the Florida Department of Environmental Protection (Department), Southwest District's Air Resource Management Section. The Southwest District's mailing address and phone number is:

Florida Department of Environmental Protection
Southwest District Office
Air Resource Management Section
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone: 813-632-7600

All documents related to applications for permits to operate an emissions unit shall be submitted to the above address.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Southwest District Office's Air Resource Management Section (see above mailing address and phone number).
3. Appendices: The following Appendices are attached as part of this permit:
 - a. Appendix A. Citation Formats and Glossary of Common Terms;
 - b. Appendix B. General Conditions;
 - c. Appendix C. Common Conditions;
 - d. Appendix D. Common Testing Requirements;
 - e. Appendix E. 40 CFR 60, Subpart A;
 - f. Appendix F. 40 CFR 60, Subpart Dc;
 - g. Appendix G. 40 CFR 60, Subpart Kb;
 - h. Appendix H. 40 CFR 60, Subpart NNN;
 - i. Appendix I. 40 CFR 60, Subpart VVa.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
[Rule 62-4.080, F.A.C.]

SECTION 2. ADMINISTRATIVE REQUIREMENTS (FINAL)

6. Modifications: Unless otherwise exempt by rule, the permittee shall not initiate any construction, reconstruction, or modification at the facility and shall not install/modify any pollution control device at the facility without obtaining prior authorization from the Department. Modification is defined as: Any physical change or changes in the method of operations or addition to a facility that would result in an increase in the actual emissions of any air pollutant subject to air regulations, including any not previously emitted, from any emission unit or facility.
[Rules 62-210.200 - Definition of "Modification" and 62-210.300(1)(a), F.A.C.]
7. Annual Operating Report: On or before **April 1** of each year, the permittee shall submit a completed DEP Form 62-210.900(5), "Annual Operating Report for Air Pollutant Emitting Facility" (AOR) for the preceding calendar year. The report may be submitted electronically in accordance with the instructions received with the AOR package sent by the Department, or a hardcopy may be sent to the Compliance Authority.
[Rule 62-210.370(3), F.A.C.]
8. Application for Non-Title V Air Operation Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Non-Title V air operation permit is required for continued operation of the permitted emissions units. The permittee shall apply for a Non-Title V air operation permit (to incorporate construction modifications) at least 90 days prior to expiration of this permit, but no later than 180 days after each of the following events: (1) the actual startup date of Emission Unit ID. No. 001 following the construction modification to add the methanol vapor recovery system; and (2) the actual startup date of Emission Unit ID. No. 001 following the construction modification to add glycerin refining system. See Specific Condition No. A.16., "Startup Notifications". To apply for a Non-Title V air operation permit, the applicant shall submit the following:
- the appropriate permit application form (*see current version of Rule 62-210.900, F.A.C. (Forms and Instructions)*), and/or FDEP Division of Air Resource Management website at: <http://www.dep.state.fl.us/air/>;
 - the appropriate operation permit application fee from Rule 62-4.050(4)(a), F.A.C.;
 - copies of the most recent two months of records specified in Specific Condition No(s). A.19. and B.5.; and
 - a copy of the notification required by Specific Condition No(s). A.17., "40 CFR 60 Subpart NNN - Notification of Compliance Method"

The application shall be submitted to the Permitting Authority.

[Rules 62-4.030, 62-4.050, 62-4.220, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)

A. EU No. 001

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
001	<p data-bbox="268 271 1410 306"><u>Biodiesel Production and Glycerin Refining (Process Without Methanol vapor Recovery):</u></p> <p data-bbox="268 323 1410 499">The facility (without a methanol vapor recovery system) will be permitted to produce up to 12 million gallons per year of methyl ester which is commercially known as Biodiesel (B100). The facility will also produce glycerin as a byproduct of the process. All process tanks vent directly to the atmosphere and the hazardous air pollutant methanol is synthetically limited below the Title V threshold by limiting biodiesel production.</p> <p data-bbox="268 536 676 571">1) <u>Raw Materials and Reaction</u></p> <p data-bbox="316 571 1410 1038">Biodiesel will be produced from the reaction of tri-glycerides (in the form of animal fats or plant oils), 30 percent sodium methylate (used as the catalyst for the reaction) and excess methanol. The raw materials, tri-glycerides, methanol and 30% sodium methanol are all received by truck. Tri-glycerides are unloaded into tank 23D and heated to 160 degF using hot oil from the facility's hot oils system. Tri-glycerides may also be unloaded into one of the multipurpose tanks (TK-24A, TK-24B, TK-24C, TK-24D, TK-27A, TK-27B, TK-27C, TK-27D, TK-28A, TK-28B, TK-29A, TK-29B, TK-29C, TK-29D, TK-30A, TK-30B, TK-30C, and TK-30D). Methanol is unloaded into tank MT-1. Methanol is also recovered from the process after the glycerin settling step. Sodium methylate is unloaded into tanks NMT-1 and NMT-2. Methanol recovered from the process, methanol from tank MT-1 and 30% sodium methylate solution are pumped to Mix Tank-1 resulting in a solution with a final concentration of up to approximately 7% sodium methylate.</p> <p data-bbox="316 1052 1410 1411">The heated tri-glycerides and sodium methylate solution are continuously pumped to a mixing tee at a ratio of 100 parts oil and 18 parts methylate solution by weight. The mixture is pumped through a high shear mixer (CM-1) to one of the batch reactor (TK-B1 or TK-B2). After the reaction is complete, the batch (consisting of a mixture of the product biodiesel and the byproduct glycerin) is pumped to one of several settling tanks (TK-5, TK-6, TK-7, TK-12, TK-13, TK-14, TK-15, TK-19, TK-20, TK-21, TK-22). Glycerin is relatively insoluble in biodiesel and is denser than biodiesel. As a result, a biodiesel layer forms as the top layer in the settling tank and a bottoms layer (Bottoms) consisting of glycerin, methanol, soap, caustic and water forms in the bottom of the tank. The settling process may take up to 4 day.</p> <p data-bbox="268 1446 568 1481">2) <u>Glycerin Processing</u></p> <p data-bbox="316 1481 1410 1659">After the settling process is complete, the Bottoms from the settling tanks are pumped to one of several glycerin holding tanks (TK-23A, TK-23B, TK-23C, TK-25A, TK-25B, TK-26A, TK-26B, TK-26C, TK-26D). These tanks may also be used to hold crude glycerin or condensate from the second stage evaporator. Crude glycerin is a product containing glycerin, water soap, methyl ester and less than 1% methanol that is sold</p>

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	<p>to glycerin producers.</p> <p>The Bottoms inventory is processed through two evaporators (in series) and a distillation column to produce crude glycerin and recover methanol. The Bottoms are treated with small amounts of hydrochloric acid to adjust the pH to a neutral value and reduce foaming in the evaporator. The first evaporator produces low methanol content Bottoms (approximately 5%) which are diluted with wash water from the multipurpose tanks and fed to the second evaporator. The first evaporator also produces condensate rich in methanol that can be fed to the distillation column or used directly as recovered methanol. The second evaporator produces crude glycerin and a vapor consisting of water and methanol. The crude glycerin is transferred to and stored in tanks TK-25A and TK-25B and then ultimately pumped to trucks or rail cars and shipped to customers. Vapors from the second evaporator are fed to the distillation column. Methanol recovered from the distillation column overhead stream is stored in tank TK-106. Water from the distillation column bottoms is stored in the multipurpose tanks (TK-29A, TK-29B, TK-29C, TK-29D, TK-30A, TK-30B, TK-30C and TK-30D). This water is then either sent to a waste water treatment plant or reused in the process.</p> <p>3) <u>Biodiesel Processing</u> Biodiesel remaining in the settler (after the Bottoms removed) is pumped to one of several wash tanks (TK-2, TK-3, TK-4, TK-11, TK-17, TK-18). At this step, biodiesel still contains some glycerin and methanol and must be washed with water. Water, which is relatively insoluble in biodiesel, is sprayed on top of the biodiesel and settles to the bottom of the tank. Glycerin and methanol are more soluble in water than in biodiesel and is absorbed in the water layer. The water is allowed to settle for one day and is pumped to the multipurpose tanks. The washed biodiesel is pumped to the drying tanks to remove moisture and is then pumped to tanks B-3 or B-4. Tanks B-3 and B-4 contain the material "Purolite" which is used to remove any residual soaps, water and methanol impurities from the biodiesel allowing it to meet product specifications. The biodiesel overflows from tanks B-3 and B-4 and is then pumped through a filter and then through an economizer and chiller system that cools the biodiesel to a temperature of approximately 45 degF. Waxes in the biodiesel crystallize at this temperature and are filtered out. The biodiesel is again passes through the economizer to return the temperature to ambient and is then stored in one of the multipurpose tanks. From the multipurpose tanks, biodiesel is pumped to trucks or rail cars and shipped to customers.</p>
001	<p><u>Biodiesel Production and Glycerin Refining (Process With Methanol vapor Recovery):</u> The facility (with the methanol vapor recovery system included) will be permitted to</p>

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produce up to 60 million gallons per year of methyl ester which is commercially known as Biodiesel (B100). The facility will also produce glycerin as a byproduct of the process. The methanol vapor recovery system includes a common vent header used to collect methanol vapors from process tanks and prevents them from emitting directly to the atmosphere. The system also includes a chiller system used to condense and recover the methanol vent vapors for reuse in the process. The hazardous air pollutant methanol is synthetically limited below the Title V threshold by limiting biodiesel production and by recovering methanol vapors from process tanks vents.

1) Raw Materials and Reaction

Biodiesel will be produced from the reaction of tri-glycerides (in the form of animal fats or plant oils), 30 percent sodium methylate (used as the catalyst for the reaction) and excess methanol. The raw materials, tri-glycerides, methanol and 30% methanol are all received by truck. Tri-glycerides are unloaded into tank 23A, 23B, 23C and 23D and heated to 130 degF using hot oil from the facility's hot oils system. Methanol is unloaded into methanol storage tanks MT-1 and MT-2. Methanol is also recovered from the process and returned to one of the methanol storage tanks. Sodium Methylate is unloaded into tanks NMT-1, NMT-2, NMT-3 and NMT-4. Methanol and 30% sodium methylate solution are pumped to Mix Tank-1 or Mix Tank-2 resulting in a solution with a final concentration of approximately 4% sodium methylate.

The heated Tri-glycerides and sodium methylate solution are continuously pumped to a mixing tee at a ratio of 100 parts oil and 18 parts methylate solution by weight. The mixture is pumped through a high shear mixer (CM-1, HSM-1, or HSM-2) to tank LMT-1 or LMT-2 which operates as constant level tanks. From these tanks, the mixture is pumped to a batch reactor (TK-B1, TK-B2, TK-104 or TK-105). After the reaction is complete, the batch (consisting of a mixture of the product biodiesel and the byproduct glycerin) is pumped to one of several settling tanks (TK-5, TK-6, TK-7, TK-12, TK-13, TK-14, TK-15, TK-20, TK-22, TK-26A, TK-26B, TK-26C or TK-27A). Glycerin is relatively insoluble in biodiesel and is denser than biodiesel. As a result, a biodiesel layer forms as the top layer in the settling tank and a bottoms layer (Bottoms) consisting of glycerin, methanol, soap, caustic and water forms in the bottom of the tank. The settling process may take up to 4 day.

2) Glycerin Processing

After the settling process is complete, the Bottoms from the settling tanks are pumped to bottom holding tank TK-24C or TK-24D. The biodiesel layer from the top of the settling tank is pumped to the Glycerin Wash Settling Tank (TK-26D) and washed with de-methylated glycerin. Glycerin settles to the bottom of tank TK-26D and is also pumped to one of the Bottoms Holding Tank (TK-24C or TK-24D). The glycerin, methanol and water collected in the bottoms holding tanks is pumped to Evaporator E-1 where water and methanol are evaporated and fed to Methanol Column C-1.

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Methanol recovered from the distillation column overhead is collected in the reflux tank (TK-103) which drains to the methanol recovery tank (TK-106) and is then pumped to tanks MT-1 or MT-2. Water from the distillation column bottoms is collected in the Reboiler Water Tank (TK-102). The glycerin from the evaporator is pumped to the De-Methylated Bottoms pH Adjustment Tank (TK-31). The pH is lowered with hydrochloric acid to a value between 3 and 9 to manage fatty acids and meet customer requirements. The glycerin is then pumped to the Fatty Acid Settling Tank (TK-21) where the fatty acid floats in the top of the tank. The fatty acid is pumped to tank TK-1 and shipped to customers. The glycerin in tank TK-21 is pumped to the Crude Glycerin pH Adjustment Tank (TK-32). The glycerin pH is adjusted with sodium hydroxide to meet customer requirements. The glycerin is then pumped to one of the Crude Glycerin Tanks (TK-8, TK-16, TK-24A or TK-24B) and then shipped by trucks or rail to customers. Crude glycerin can also be further refined in the glycerin refining process.

3) Biodiesel Processing

Biodiesel remaining in the settler (after the Bottoms removed) is pumped to the Glycerin Wash Settling Tank (TK-26D) and washed with de-methylated glycerin. The top layer, consisting primarily of biodiesel, is pumped to a water wash settling tanks (TK-27B or TK-27D). The biodiesel in the settling tanks are given a final wash with recycled water from the methanol distillation column's Reboiler Water Tank (TK-102). The washed biodiesel is pumped to the Drying Column (D-1) removing any remaining water and methanol and collecting it as condensate in the Dryer Condensate Tank (TK-100). Dried biodiesel that meets the customer specifications for impurities is then pumped from Drying Column C-1 to biodiesel product tanks (TK-29A, TK-29B, TK-29C, TK-29D, TK-30A, TK-30B, TK-30C and TK-30D). The biodiesel is then filtered and shipped by trucks or rail to customer. Dried biodiesel that does not meet the customer specifications for impurities is pumped from Drying Column C-1 to tank TK-10. From tank TK-10, biodiesel is then pumped to tank B3 which overflows to tank A3 or tank B4 which overflows to A4. These tanks contain the material "Purolite" which remove any residual soaps, water and methanol impurities from the biodiesel. The biodiesel from tanks A3 or A4 is then pumped to tank BLT-1 and then through a filter to one of the biodiesel product tanks (TK-17, TK-18, or TK-19). The biodiesel is shipped by trucks or rail to customer.

4) Methanol Vapor Recovery

The vent recovery system is used to recover methanol vapors from the process. The system consists of several process tank vents connected together by a common header system. The header vents to the atmosphere through a chiller system that condenses the methanol vapors. The recovered methanol is then pumped to either the Methanol Storage Tanks (MT-1 or MT-2) or to the bottoms holding tanks (TK-24C or TK-24D)

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	<p>for reuse.</p> <p>Tanks connected to the vent recovery system include tanks MT-1, MT-2, NMT-1, NMT-2, NMT-3, NMT-4, Mix Tank-1, Mix Tank-2, LMT-1, LMT-2, TK-B1, TK-B2, TK-2, TK-3, TK-4, TK-5, TK-6, TK-7, TK-9, TK-10, TK-11, TK-12, TK-13, TK-14, TK-15, TK-20, TK-22, TK-24C, TK-24D, TK-25A, TK-25B, TK-26A, TK-26B, TK-26C, TK-26D, TK-27A, TK-27B, TK-27D, Methanol Recovery Tank, TK-103, TK-104, TK-105, and TK-106.</p> <p>Tanks venting directly to the atmosphere include tanks TK-1, TK-8, TK-16, TK-17, TK-18, TK-19, TK-21, TK-24A, TK-24B, TK-29A, TK-29B, TK-29C, TK-29D, TK-30A, TK-30B, TK-30C, TK-30D, TK-31, TK-32, TK-100, TK-101, TK-A-3, TK-A-3, TK-B-3, TK-B-4, TK-BLT-1, Vacuum Pump and S-2.</p>
001	<p>5) <u>Glycerin Refining</u></p> <p>In the glycerin refining operation, the crude glycerin is first contacted with activated carbon to reduce the level of impurities by adsorbing fats and other impurities. The glycerin is then treated with sodium hydroxide in the agitated pH Adjustment Tank (T-2100) to convert traces of dissolved fats and esters to non-volatile soap. The resulting mixture is transferred to the Saponification Tank (T-2101) and then fed to the glycerin distillation unit (V-2101). This distillation unit operates under a high vacuum (approximately 8mm Hg absolute) and elevated temperature (approximately 328 °F). The glycerin fraction distills from the bottom phase and vapor from the distillation unit overhead is condensed in the staged condenser system. Glycerin is condensed in the initial product condenser and then transferred to the glycerin product surge tank (T-2107). The condensed glycerin is then pumped through a series of activated carbon columns to remove traces of fatty acids ester, odor and color impurities. The glycerin leaving the final carbon column is transferred to one of the three shift tanks (T-2108, T-2109, or T-2110). Any glycerin escaping the initial product condenser is collected via an indirect water condenser and is returned to the process as yellow glycerin. Vapors leaving the indirect water condenser pass through a series of two chilled water condensers to remove water vapor and any light volatiles. The final condensate is recycled back to the methanol recovery system.</p>

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PERFORMANCE RESTRICTIONS

A.1. Federal Regulatory Requirements: This emission unit is subject to the regulatory requirements listed below.

- A. 40 CFR 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984”, which is adopted by reference in Rule 62-204.800, F.A.C. Specifically, methanol storage tanks MT-1 and MT-2 are subject to and shall be in compliance with all applicable requirements of 40 CFR 60 Subpart Kb.
- B. 40 CFR 60, Subpart NNN – Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, which is adopted by reference in Rule 62-204.800, F.A.C. Specifically, the Methanol Column (C-1) and the Glycerin Evaporator (V-2101) are subject to and shall be in compliance with all applicable requirements of 40 CFR 60 Subpart NNN.
- C. 40 CFR 60, Subpart VVa – Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006, which is adopted by reference in Rule 62-204.800, F.A.C.

[Rule 62-204.800(8), F.A.C.]

A.2. Permitted Capacity: Biodiesel production shall not exceed the following limits.

Description	Maximum Annual Production (per any consecutive 12-month period)
<u>Biodiesel Production Limit</u> prior to completing the construction modification to add a methanol vapor recovery system.	12.0 Million Gallons of Biodiesel
<u>Biodiesel Production Limit</u> after completing the construction modification to add a methanol vapor recovery system.	60.0 Million Gallons of Biodiesel
<u>Refined Glycerin Production Limit</u> after completing the construction modification to add a methanol vapor recovery system.	1.2 Million Gallons of Refined Glycerin

Note: Compliance with biodiesel and glycerin production limits will limit the VOC and HAP potential emissions.

[Rule 62-210.200(PTE), F.A.C.]

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- A.3. Restricted Operation: The hours of operation are not limited (8760 hours per year).
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
- A.4. Fugitive Organic Solvents (OS), and Volatile Organic Compounds: The permittee shall not store, pump, handle, process, load, unload, or use in any process or installation OS, or VOCs without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. The following procedures shall be utilized to minimize pollutant emissions:
- A. Maintain covers, lids, etc., on all containers of VOC/OS when they are not being handled, tapped, etc.
 - B. Prevent excessive air turbulence across exposed VOC/OS.
 - C. All fittings, valve lines, etc., shall be properly maintained.
 - D. All VOC/OS spills shall be attended to in a timely manner and the waste properly disposed of, recycled, etc.
- [Rule 62-296.320(1), FAC]

OPERATION AND EMISSIONS STANDARDS

- A.5. 40 CFR 60 Subpart NNN - Operation Standards: The permittee shall comply with one of the following provisions of 40 CFR 60.662 (40 CFR 60.662 (a), (b), or (c)) listed below for each distillation unit vent stream:
- A. 40 CFR 60.662(a) - Reduce emissions of TOC (less methane and ethane) by 98 weight-percent, or to a TOC (less methane and ethane) concentration of 20 ppmv, on a dry basis corrected to 3 percent oxygen, whichever is less stringent. If a boiler or process heater is used to comply with this paragraph, then the vent stream shall be introduced into the flame zone of the boiler or process heater; or
 - B. 40 CFR 60.662(b) - Combust the emissions in a flare that meets the requirements of 40 CFR 60.18; or
 - C. 40 CFR 60.662(c) - Maintain a total resource effectiveness (TRE) index value greater than 1.0 without use of VOC emission control devices.
- [Rule 62-204.800(8) F.A.C.; 40 CFR 60.662]
- A.6. 40 CFR 60 Subpart VVa - Operation Standards: The permittee shall comply with all applicable requirements of 40 CFR 60.482-1a through 40 CFR 60.482-10a or with 40 CFR 60.480a(e) for all equipment. The permittee shall also comply with all applicable requirements of 40 CFR 60.482-11a for connectors. The following is a list of the standards contained in the subpart:

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- 60.482-1a Standards: General.
- 60.482-2a Standards: Pumps in light liquid service.
- 60.482-3a Standards: Compressors.
- 60.482-4a Standards: Pressure relief devices in gas/vapor service.
- 60.482-5a Standards: Sampling connection systems.
- 60.482-6a Standards: Open-ended valves or lines.
- 60.482-7a Standards: Valves in gas/vapor service and in light liquid service.
- 60.482-8a Standards: Pumps, valves and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service.
- 60.482-9a Standards: Delay of repair.
- 60.482-10a Standards: Closed vent systems and control devices.
- 60.482-11a Standards: Connectors in gas/vapor service and in light liquid service.

[Rule 62-204.800(8) F.A.C.; 40 CFR 60.482-1a and 40 CFR 60.482-11a]

- A.7. 40 CFR 60 Subpart Kb – Standards: The permittee shall comply with all applicable requirements of 40 CFR 60.112b “Standards for volatile organic compounds” for Methanol Storage Tanks MT-1 and MT-2.
[Rule 62-204.800(8) F.A.C.; 40 CFR 60.112b]

{Permitting notes: (1) Methanol Storage Tank MT-2 does not exist prior to completion of the construction modification to add the methanol vapor recovery system. It will be added to the process as a part of the construction modification. (2) The addition of the methanol vapor recovery system may also affect the classification of tanks MT-1 and MT-2. After the construction modification, these tanks may meet the specifications for a “closed vent system” as described in 40 CFR 60.112b(a)(3). }

TESTING REQUIREMENTS

- A.8. 40 CFR 60 Subpart NNN - Initial Compliance Demonstration

- A. After completing the construction modification to add the methanol distillation column (C-1), the permittee shall demonstrate compliance with the standard selected (see Specific Condition No. A.17 [40 CFR 60.662]) for each vent stream on and after the date on which the initial performance required by 40 CFR 60.664 is completed, but no later than 60 days after achieving the maximum production rate at which the emission unit will operate, or no later than 180 days after the initial start-up with the methanol distillation column (C-1), which ever comes first.
- B. After completing the construction modification to add the methanol vapor recovery system, the permittee shall demonstrate compliance with the standard selected (Specific Condition No. A.17 [40 CFR 60.662]) for each vent stream on and after the date on which

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the initial performance required by 40 CFR 60.664 is completed, but no later than 60 days after achieving the maximum production rate at which the modified emission unit will operate, or no later than 180 days after the initial start-up with the methanol vapor recovery system, which ever comes first.

- C. After completing the construction modification to add the glycerin refining system, the permittee shall demonstrate compliance with the standard selected (Specific Condition No. A.17 [40 CFR 60.662]) for each vent stream on and after the date on which the initial performance required by 40 CFR 60.664 is completed, but no later than 60 days after achieving the maximum production rate at which the emission unit will operate, or no later than 180 days after the initial start-up with the glycerin refining system, which ever comes first.

[Rules 62-4.070(3), 62-204.800(8) F.A.C.; 40 CFR 60.662]

- A.9. 40 CFR 60 Subpart NNN - Compliance After Initial Demonstration: Subsequent compliance demonstrations will be determined based upon the compliance method selected by the permittee (see Specific Condition No. A.17).

[Rule 62-204.800(8) F.A.C.; 40 CFR 60.482-1a]

- A.10. 40 CFR 60 Subpart VVa - Initial Compliance Demonstration:

A. Initial Demonstration For Existing Equipment. The permittee shall demonstrate compliance with the requirements of the applicable standards listed in Specific Condition No. A.6. (i.e. 40 CFR 60.482-1a through 40 CFR 60.482-11a) or with 40 CFR 60.480a(e) for all existing equipment (i.e., equipment installed and operating on the effective date of Construction Permit 1010505-001-AC) within 180 days of the effective date of Construction Permit 1010505-001-AC .

B. Initial Demonstration After Modification to Add Methanol Distillation Column Complete. The permittee shall demonstrate compliance with the requirements of the applicable standards listed in Specific Condition No. A.6. (i.e. 40 CFR 60.482-1a through 40 CFR 60.482-11a) or with 40 CFR 60.480a(e) for all new equipment (i.e., equipment added as a part of a construction modification to add Methanol Distillation Column C-1) within 180 days after the start-up.

C. Initial Demonstration After Modification to Add Glycerin Refining System Complete. The permittee shall demonstrate compliance with the requirements of the applicable standards listed in Specific Condition No. A.6. (i.e. 40 CFR 60.482-1a through 40 CFR 60.482-11a) or with 40 CFR 60.480a(e) for all new equipment (i.e., equipment added as a part of a construction modification to add the Glycerin Refining System) within 180 days after the start-up.

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D. Initial Demonstration After Modification to Add Methanol Vapor Recovery Complete. The permittee shall demonstrate compliance with the requirements of the applicable standards listed in Specific Condition No. A.6. (i.e. 40 CFR 60.482-1a through 40 CFR 60.482-11a) or with 40 CFR 60.480a(e) for all new equipment (i.e., equipment added as a part of a construction modification to add the Methanol Vapor Recovery System) within 180 days after the start-up.

[Rule 62-204.800(8) F.A.C.; 40 CFR 60.482-1a]

A.11. 40 CFR 60 Subpart VVa - Compliance After Initial Demonstration: The permittee shall demonstrate compliance with the requirements of the applicable standards listed in Specific Condition No. A.6. (i.e. 40 CFR 60.482-1a through 40 CFR 60.482-11a) or with 40 CFR 60.480(e) for all equipment based on the frequencies specified in each standard. Demonstration of compliance with 40 CFR 60.482-1a to 60.482-11a will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in 40 CFR 60.485a.

[Rule 62-204.800(8) F.A.C.; 40 CFR 60.482-1a]

A.12. 40 CFR 60 Subpart NNN - Test Methods: To demonstrate compliance with the standard selected in Specific Condition No. A.5., the permittee shall use the test methods and procedures outlined in 40 CFR 60.664.

[Rule 62-204.800(8), F.A.C.; 40 CFR 60.664]

A.13. 40 CFR 60 Subpart VVa - Test Methods: To demonstrate compliance with the standards listed in Specific Condition No. A.6. (i.e. 40 CFR 60.482-1a through 40 CFR 60.482-10a) or with 40 CFR 60.480a(e), the permittee shall use the test methods and procedures outlined in 40 CFR 60.485a.

[Rule 62-204.800(8), F.A.C.; 40 CFR 60.485a]

MONITORING REQUIREMENTS

A.14. 40 CFR 60 Subpart NNN - Monitoring of Emissions and Operations: The permittee shall install, calibrate, maintain, and operate according to manufacturer's specifications the monitoring equipment required for each vent stream. Required monitoring equipment is determined based on the requirements of 40 CFR 60.663 and the standard selected in Specific Condition No. A.5. (Operation Standards).

[Rule 62-204.800(8) F.A.C.; 40 CFR 60.663]

NOTIFICATION REQUIREMENTS

A.15. Test Notification: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required test and at least 30 days prior to any test required by 40 CFR 60. The notification must include the following information: the date, time, and location of each

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test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and the telephone number of the person conducting the test.

{Permitting Note: The notification should also include the relevant emission unit ID No(s), test method(s) to be used, and pollutants to be tested.}

[Rules 62-4.070(3) and 62-297.310(7)(a)9., F.A.C.]

A.16. Startup Notifications: The permittee shall notify the Compliance Authority in writing of the actual startup dates for the processes/equipment listed below, no later than 15 days after each such date:

A. Methanol Distillation Column (C-1) and its associated equipment.

B. Methanol Vapor Recovery system and its associated equipment.

C. Glycerin Refining System.

[Rule 62-4.070, F.A.C.; 40 CFR 60.2 ("Startup") and 40 CFR 60.7(a)(3)]

{Permitting note: "Startup" means the setting in operation of an affected facility for any purpose.}

A.17. 40 CFR 60 Subpart NNN - Notification of Compliance Method: The permittee shall notify the Compliance Authority of the specific provisions of 40 CFR 60.662 (40 CFR 60.662 (a), (b), or (c)) (see Specific Condition No. A.5) with which the permittee has elected to comply. Notification shall be submitted with the corresponding Startup Notifications listed in Specific Condition No. A.16. If the permittee elects at a later date to use an alternative provision of 40 CFR 60.662 with which he or she will comply, then the Department shall be notified by the owner or operator 90 days before implementing a change and, upon implementing the change, a performance test shall be performed as specified by 40 CFR 60.664 within 180 days. [Rules 62-4.070(3), 62-204.800(8), F.A.C.; 40 CFR 60.665]

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RECORDS AND REPORTS

- A.18. Daily Production Recordkeeping During Test: On the dates when compliance or performance test are performed, the permittee shall keep the following daily records:
- A. Facility Name, Facility Number (1010505), Emission Unit No. (001), Date;
 - B. The total quantity of biodiesel produced, in gallons, for the day.
 - C. The total quantity of refined glycerin produced, in gallons, for the day (if applicable).
- [Rule 62-4.070(3), F.A.C. and 40 CFR 60.8(c)]
- A.19. Monthly Production Records: To demonstrate compliance with the production limits of Specific Condition No. A.2., the permittee shall keep the following records:
- A. Facility Name, Facility Number (1010505), Emission Unit No. (001), Month, Year;
 - B. The total quantity of biodiesel produced, in gallons, for the month;
 - C. The total quantity of biodiesel produced, in gallons, for the most recent consecutive 12-month period.
 - D. The total quantity of refined glycerin produced, in gallons, for the month;
 - E. The total quantity of refined glycerin produced, in gallons, for the most recent consecutive 12-month period.
- [Rule 62-4.070(3), F.A.C.]
- A.20. 40 CFR 60 Subpart NNN Recordkeeping: The permittee shall keep up-to-date, readily accessible records as required by 40 CFR 60.665(b).
[Rule 62-204.800(8), F.A.C.; 40 CFR 60.665(b)]
- A.21. 40 CFR 60 Subpart VVa Recordkeeping: The permittee shall keep readily accessible records as required by 40 CFR 60.486a. The following list summarizes the records that may be applicable:
- A. Leak Detection Recordkeeping (40 CFR 60.486a(b)&(c)),
 - B. Closed Vent System and Control Devices Recordkeeping (40 CFR 60.486a(d)),
 - C. Equipment Identification and Recordkeeping (40 CFR 60.486a(e)),
 - D. Unsafe-to-Monitor Valves and Pumps/Difficult-to-Monitor Valves Identification Recordkeeping (40 CFR 60.486a(f)),
 - E. Valves Complying with Alternative Standards Recordkeeping (40 CFR 60.486a(g)),
 - F. Seal System and Barrier Fluid Failure Design Criteria Recordkeeping for Pumps and Compressors (40 CFR 60.486a(h)),

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G. Subpart Exemption Recordkeeping (40 CFR 60.486a(i)),

H. Equipment not in VOC Service Recordkeeping (40 CFR 60.486a(j)).

[Rule 62-204.800(8), F.A.C.; 40 CFR 60.486a]

A.22. 40 CFR 60 Subpart Kb Recordkeeping: The permittee shall keep all applicable records and furnish reports as required by 40 CFR 60.115b.
[Rule 62-204.800(8), F.A.C.; 40 CFR 60.115b]

A.23. 40 CFR 60 Subpart VVa - Initial Semiannual Report: The permittee shall submit an initial semiannual report to the Compliance Authority beginning no later than six months after the effective date of Construction Permit 1010505-001-AC . The initial semiannual report shall include the following information:

A. Process unit identification.

B. Number of valves subject to the requirements of 40 CFR 60.482-7a, excluding those valves designated for no detectable emissions under the provisions of 40 CFR 60.482-7a(f).

C. Number of pumps subject to the requirements of 40 CFR 60.482-2a, excluding those pumps designated for no detectable emissions under the provisions of 40 CFR 60.482-2a(e) and those pumps complying with 40 CFR 60.482-2a(f).

D. Number of compressors subject to the requirements of 40 CFR 60.482-3a, excluding those compressors designated for no detectable emissions under the provisions of 40 CFR 60.482-3a(i) and those compressors complying with 40 CFR 60.482-3a(h).

E. Number of connectors subject to requirements of 40 CFR 60.482-11a.

[Rule 62-204.800(8), F.A.C.; 40 CFR 60.487a (a) & (b)]

{Permitting Note: The effective date of Construction Permit 1010505-001-AC was on February 10, 2009.}

A.24. 40 CFR 60 Subpart VVa - Subsequent Semiannual Report: The permittee shall submit semiannual reports to the Compliance Authority. All semiannual reports shall include the following information, summarized from the information in 40 CFR 60.486a:

A. Process unit identification.

B. For each month during the semiannual reporting period,

(1) Number of valves for which leaks were detected as described in 40 CFR 60.482-7a(b) or 40 CFR 60.483-2a,

(2) Number of valves for which leaks were not repaired as required in 40 CFR 60.482-7a(d)(1),

(3) Number of pumps for which leaks were detected as described in 40 CFR 60.482-2a(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii),

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- (4) Number of pumps for which leaks were not repaired as required in 40 CFR 60.482-2a(c)(1) and (d)(6),
- (5) Number of compressors for which leaks were detected as described in 40 CFR 60.482-3a(f),
- (6) Number of compressors for which leaks were not repaired as required in 40 CFR 60.482-3a(g)(1),
- (7) Number of connectors for which leaks were detected as described in 40 CFR 60.482-11a(b)
- (8) Number of connectors for which leaks were not repaired as required in 40 CFR 60.482-11a(d), and
- (9) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

C. Dates of process unit shutdowns which occurred within the semiannual reporting period.

D. Revisions to items reported according to 40 CFR 60.487a(b) if changes have occurred since the initial report or subsequent revisions to the initial report.

[Rule 62-204.800(8), F.A.C.; 40 CFR 60.487a(c)]

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B. EU No. 002

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
002	<p><u>Hot Oil Heater (Process Without Methanol Vapor Recovery)</u></p> <p>This emission unit consists of a Cleaver Brooks CPT 700-50 hot oil heater. The hot oil heater will be fired with biodiesel as the primary fuel with natural gas as a backup and will have heat input rate of approximately 5 million Btu per hour. Approximately 60,000 gallons of biodiesel fuel is required per year to meet the process heating requirements and assuming the heat value of biodiesel is approximately 128 MMBTU/1000 gallons, this equivalent to 7,680 million BTU per year.</p> <p>Pollutants generated by this emission unit are the product of combustion and include CO, NO_x, PM₁₀, SO₂ and VOC. This hot oil heater is subject to New Source Performance Standards (NSPS) Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.</p>
002	<p><u>Hot Oil Heater (Process With Methanol Vapor Recovery)</u></p> <p>This emission unit consists of a Cleaver Brooks CPT 700-50 hot oil heater. The hot oil heater will be fired with natural gas as the primary fuel with biodiesel as a backup and will have a maximum heat input rate of 50 million Btu per hour. Approximately 240 million standard cubic feet of natural gas is required per year to meet the process heating requirements and assuming natural gas has a heat value of approximately 1050 BTU/SCF, this is equivalent to 252,000 million BTUs per year.</p> <p>Pollutants generated by this emission unit are the product of combustion and include CO, NO_x, PM₁₀, SO₂ and VOC. This hot oil heater is subject to New Source Performance Standards (NSPS) Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.</p>

PERFORMANCE RESTRICTIONS

- B.1. Federal Regulatory Requirements: This emission unit is subject to 40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units., which is adopted by reference in Rule 62-204.800, F.A.C.
[Rule 62-204.800(8), F.A.C.]

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B. EU No. 002

B.2. Permitted Capacity: The hot oil heater shall not exceed the following heat input limits:

Description	Maximum Heat Input Rate (per any consecutive 12-month period)
<u>Hot Oil Heater Maximum Heat Input Rate</u> prior to completing the construction modification to add a methanol vapor recovery system.	7,680 Million BTU
<u>Hot Oil Heater Maximum Heat Input Rate</u> after completing the construction modification to add a methanol vapor recovery system.	252,000 Million BTU

[Rule 62-210.200(PTE), F.A.C.]

B.3. Authorized Fuel: The hot oil heater shall be fired with either biodiesel or natural gas fuel only.

[Rules 62-4.070(3), 62-210.200(PTE), F.A.C.]

B.4. Restricted Operation: The hours of operation are not limited (8760 hours per year).

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

RECORDS AND REPORTS

B.5. Monthly Log: To demonstrate compliance with Specific Condition No. B.2. and the record keeping requirements of 40 CFR 60 Subpart Dc, the permittee shall maintain the following records:

A. Facility Name, Facility ID, Emission Unit No. (002), Month and Year;

B. The quantity of each fuel used (biodiesel and natural gas) to fire the hot oil heater for the month;

C. The total quantity of each fuel used (biodiesel or natural gas) to fire the hot oil heater for the most recent consecutive 12-month period;

D. The calculated heat input rate to the hot oil heater (based on fuel consumption and heat values of the fuel) for the most recent consecutive 12-month period.

Monthly records shall be completed by the end of following month and shall be maintained as required by record retention requirements of Appendix C.

[Rules 62-204.800(8) and 62-4.070(3), F.A.C.; 40 CFR 60.48c(g)(2)]