

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N741226821

FACILITY: Carbon Green Bioenergy		SRN / ID: N7412
LOCATION: 7795 Saddlebag Lake Rd, LAKE ODESSA		DISTRICT: Grand Rapids
CITY: LAKE ODESSA		COUNTY: BARRY
CONTACT: Bill Bosch, EHS Mgr.		ACTIVITY DATE: 09/10/2014
STAFF: Steve Lachance	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Unannounced (scheduled) inspection for FY '014. See CA_N741226821. Includes review of required current NSPS reports (VV and Db.) (SLachance, 9/10/14)		
RESOLVED COMPLAINTS:		

This was an unannounced inspection, although it was designed to concur with scheduled Relative Accuracy Test Audit (RATA) activities. Those, however, took place during the previous evening (as communicated to AQD) based on the threat of dangerous weather conditions (wind, lightening, etc.). SLachance conducted a visible emissions and odor survey from surrounding properties prior to site entry. No visible emissions or odor issues were noted before, during, or after the inspection. Weather conditions were rainy, windy, and about 60 degrees F.

Upon arrival at about 8 AM, Wednesday September 10, 2014, SLachance met with Mr. Bill Bosch, Safety and Environmental Manager, and Mr. Ed Thomas, Plant Manager. After introductions, SLachance stated his intention conduct an Air Quality Inspection and provided copies of the DEQ's "Environmental Inspections: Rights and Responsibilities" brochure to Mr. Bosch and Mr. Thomas. The inspection began with an entry meeting. Discussion included:

- No reported operational issues at this time.
- The 4th Fermentation tank is complete and in service per PTI #254-04E.
- No other changes since the last AQD inspection in 2013.
- The Ammonia Storage Tank is completely out of service; nitrogen blanket, isolated, etc.
- The facility has entered into a lease agreement (effective October 2013) to use the Woodbury Grain (WG) Terminal (adjacent) for corn storage. Corn is trucked from WG to the facility as needed. The "Stationary Source" includes the Carbon Green Bioenergy Plant as well as WB facilities. The WB facility includes about 2 million bushels of storage capacity as well as a natural gas-fired grain drier rated at 10-15 mmBtu heat input capacity.
- (Total grain storage capacity for the facility is therefore about 4.2 million bushels.)
- There has been no correspondence on this Stationary Source matter since 9/23/13 when the facility submitted a combined PTE for the defined Stationary Source.
- The next MAERS (for EI2014) should include WB equipment.
- PTI #254-04E is an "Opt-out" permit specifically addressing NOx, VOC and HAPs. The source is also "major" for GHGs if biogenic GHGs are included; but the fate of EPA's deferral for biogenic GHG with respect to ROP permitting is still in the courts. This is important for this source since it is a "minor" source of GHGs biogenic GHG does not count toward PTE.
- SLachance expressed some technical concerns about the methodology for calculating PTE as included in the 9/23/13 correspondence, especially for the "combined" stationary source. This is a probable action item for the source, their consultant Mr. Mark Horne, and AQD.
- The annual RATA (NOx and O2 on Thermal Oxidizer system) was successfully completed the previous evening.

- *SL provided correct contact information for future quarterly CEM performance/Excess Emissions reports. These have recently been going to AQD-TPU in Lansing (only) and should also be sent to the District Office*
- *SL received Quarterly Excess Emissions/CEMS Performance reports for the last three quarters (through Q4 2014). No issues noted in these; these have been filed properly and separately. Copies of this report will be sent to the District Office from now on.*
- *NSPS VV Semi-Annual Reports have been received in the District and seem appropriate. SLachance reviewed the "draft" report for the period ending June 30, 2014. (This is due for submittal shortly.) No AQD actionable items noted; Leak Detection and Repair (LDAR) procedures are implemented and reported. Detectable leaks (sensor, visible, odorous, etc.) are abated promptly. Discussion of LDAR and implementation thereof (identity of affected equipment, identification of difficult-to-monitor and dangerous-to-monitor equipment, etc. was a continuing thread through the inspection.*
- *All parties reviewed the current permit. A common theme for many of the regulated emission units is compliance through installation as designed (such as stacks), past performance testing for required emission limits (completed) and ongoing implementation of Malfunction Abatement Plans incorporating Prevent/Detect/Abate principles. Required Plans were readily available, having been updated in 2012. They were well organized and appear to incorporate the requirements of Rule 911, including identification of responsible parties, specific proper operating ranges, list of spare parts, etc.*

*Mr. Thomas and Mr. Bosch then escorted SLachance on a tour/physical inspection of the facility. SLachance continued to assess compliance with **PTI #258-04E** during this tour. Highlights from this tour include:*

With the new (fourth) fermenting tank, they'll still overall use/need the same amount of corn, but by gaining fermentation time get a "better yield" of ethanol. The facility can't make enough steam with current equipment to exceed the 59 mmg/yr ethanol production limit.

Ammonia status still on hold; 4% full tank, and would like to decommission.

Their production rate right now is pretty stable at around 143,000 gallons/day anhydrous EtO; and

No rail car shipments of DDG.

The following conditions apply to: EUFIREPUMP

DESCRIPTION: 300 HP emergency firewater diesel pump

Flexible Group ID: FGFACILITY

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate EUFIREPUMP for more than 500 hours per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(1), 40 CFR 52.21(c) & (d))**

They run (test) the pump 30-45 minutes/week. Currently at 17.2 hours for the last 12-month period; no actual emergency use.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the hours of operation for EUFIREPUMP, as required by SC III.1. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52 (c) and (d))**

The attached emission records are compiled on a monthly/12-month rolling period basis by Mr. Bosch and were complete through August 2014. This spreadsheet draws from various other spreadsheets (as briefly reviewed with Mr. Bosch) where continuous production/monitoring etc. are compiled.

The following conditions apply to: EUDDGSCOOLER

DESCRIPTION: DDGS cooling cyclone (centrifugal mechanical separator)

Dried Distilled Grain Solids are basically corn with the starch removed (through fermentation) and so represents a concentrated source of protein, vitamins, etc. It's an added-value product produced along with the "primary" product of fermentation (ethanol.) After fermentation and drying, these solids are hot (200 F) and need to be cooled before storage. From the cooler, these are moved into a near total enclosure after cooling.

Flexible Group ID: FGFACILITY

POLLUTION CONTROL EQUIPMENT: DDGS Cooler baghouse (C70)

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.019 lb/1000 lbs of exhaust gas, on a dry basis	Test Protocol	EUDDGSCOOLER	GC 13	R 336.1205(1), R 336.1331
2. PM10	1.89 lbs/hr	Test Protocol	EUDDGSCOOLER	SC V.1	R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)

Per the previously completed stack test results, they comply. No visible emissions were noted.

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

- The permittee shall not operate EUDDGSCOOLER centrifugal mechanical separator unless the DDGS Cooler baghouse (C70) is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the DDGS Cooler baghouse (C70) includes maintaining it according to the malfunction abatement plan (MAP). (R 336.1205(1), R 336.1331, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))

An appropriate malfunction abatement plan is currently maintained.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

- Within 180 days after commencement of trial operation, verification of PM10 emission rates from EUDDGSCOOLER, by testing at owner's expense, in accordance with Department requirements, will be required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. (R 336.1205(1), R 336.1331, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))

Acceptable stack testing was previously completed.

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVS70	36	135	R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)

Stack per spec.

The following conditions apply to: EUNH3STGTANK

DESCRIPTION: Anhydrous ammonia storage tank; currently isolated/blanketed/out of service.

The following conditions apply to: FGCORNHAND

DESCRIPTION: Corn receiving, storage, and handling

Emission Units: EUTRUCKPIT, EURAILPIT, EURECEIVINGCONV, EUCORNELEV1, EUCORNELEV2, EUCORNBIN1, EUCORNBIN2, EUSCALPER, EUSCALPINGBIN, EUGRINDINGBIN

POLLUTION CONTROL EQUIPMENT: Grain Handling Baghouse (C20)

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.01 lb/1000 lbs of exhaust gas, on a dry basis	Test Protocol	FGCORNHAND	GC13	R 336.1205(1), R 336.1331
2. PM10	1.67 lbs/hr	Test Protocol	FGCORNHAND	SC V.1	R 336.1205(1), R 336.2803, 336.2804, 40 CFR 52.21(c) and (d)

Acceptable stack test was passed previously.

IV. DESIGN/EQUIPMENT PARAMETERS

- The permittee shall not operate FGCORNHAND unless the grain handling baghouse (C20) is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the grain handling baghouse (C20) includes maintaining it according to the malfunction abatement plant (MAP). **(R 336.1205(1), R 336.1331, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

There was no evidence of baghouse problems observed during the site tour; housekeeping practices appear to good/above average.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after commencement of trial operation, verification of PM₁₀ emission rates from FGCORNHAND, by testing at owner's expense, in accordance with Department requirements, will be required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final pl must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test.

(R 336.1205(1), R 336.1331, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))

Stack test done per the above.

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVS20	44	125	R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)

Stack appears to be per specification.

The following conditions apply to: FGCORNMILL

DESCRIPTION: Corn hammermilling and flour handling.

Emission Units: EUSCALPER, EUHAMMERMILL1, EUHAMMERMILL2, EUFLOURELEVATOR, EUFLOURCONVEYOR

POLLUTION CONTROL EQUIPMENT: Milling Baghouse (C30)

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.019 lb/1000 lbs of exhaust gas, on a dry basis	Test Protocol	FGCORNMILL	GC 13	R 336.1205(1), R 336.1331
2. PM ₁₀	1.5 lbs/hr	Test Protocol	FGCORNMILL	SC V.1	R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)

In compliance per previous stack testing and appropriate maintenance of equipment.

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any equipment in FGCORNMILL unless the milling baghouse (C30) is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of milling baghouse (C30) includes maintaining them according to the MAP. **(R 336.1205(1), R 336.1331, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

MAP revised/updated as required and was readily available on-site.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. Within 180 days after commencement of trial operation, verification of PM10 emission rates from FGCORN MIL by testing at owner's expense, in accordance with Department requirements, will be required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test result to the AQD within 60 days following the last date of the test.

(R 336.1205(1), R 336.1331, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))

Stack test was previously completed per above with acceptable emissions results.

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVS30	32	75	R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)

Stack appears to be per specification.

The following conditions apply to: FGFERMENTATION

DESCRIPTION: Ethanol fermentation tanks and beer well

Emission Units: EUFERMENTER1, EUFERMENTER2, EUFERMENTER 3, EUBEERWELL

POLLUTION CONTROL EQUIPMENT: Vent Gas Water Scrubber (C40)

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	10.1 lbs/hr	Test Protocol	FGFERMENTATION	SC V.1, VI.1	R 336.1205(1), R 336.122 R 336.1702(a)
2. Acetaldehyde	1.9 lbs/hr	Test Protocol	FGFERMENTATION	SC V.1, VI.1	R 336.1205(1), R 336.122

Stack testing verified compliance per above.

Sodium bisulfite feed rate is maintained at an average of about 1.6-1.7 gal/hr . See attached.

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any equipment in FGFERMENTATION unless the vent gas scrubber (C40) is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining the scrubber liquid flow rate at a minimum of 45 gallons per minute as determined on a daily basis, or the scrubber liquid flow rate at which compliance with the VOC emission limit was demonstrated during the most recent compliance test; maintaining the sodium bisulfite (38 – 40 percent by weight) addition rate at a minimum of 1 gallons per hour (or its equivalent) as determined on a daily basis, or the chemical and chemical feed rate at which compliance with the acetaldehyde emission limit was demonstrated during the most recent compliance test; and operating the scrubber in accordance with the MAP. (R 336.1205(1), R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)

All the above parameters being met; see attached records.

2. The permittee shall equip and maintain the vent gas scrubber (C40) with liquid flow rate and sodium bisulfite flow rate indicators capable of accurately indicating the flow rates over the entire range of flow rates that constitute satisfactory operation. (R 336.1205(1), R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)

Flow rate monitor installed and is tied into the DCS automatic control system

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. Within 180 days after commencement of trial operation, verification of the VOC and acetaldehyde emission rate from FGDRYERSLIQHAND, by testing at owner's expense, in accordance with Department requirements, will be required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. (R 336.1205(1), R 336.1225, R 336.1702(a), R 336.1901, R 336.2001, R 336.2003, R 336.2004)

Stack testing previously/acceptably completed.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall keep production records on a monthly basis and other records, including the scrubber liquid flow rate and sodium bisulfite flow rate, necessary to demonstrate compliance with the VOC and acetaldehyde emission rate limits listed in SC I.1 and I.2. The VOC and acetaldehyde emission rates may be calculated based upon monthly records, prorated to an hourly rate. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(1), R 336.1225, R 336.1702(a))

Daily logs kept going back 2+ yrs. 45.5 gal/min minimum; for the last couple years the range has been 47-64 gpm.

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVS40	16	75	R 336.1225

Stack appear to be installed per specification.

The following conditions apply to: FGDRYERSLIQHAND

DESCRIPTION: Ethanol distillation and purification, mash preparation, and centrifuges.

Emission Units: EUDDGSDRYER1, EUDDGSDRYER2, EUTO&HRB, EUBEERCOLUMN, EUSIDESTRIP, EURECTIFIER, EUMOLSIEVE1, EUMOLSIEVE2, EUMOLSIEVE3, EUCENTRIFUGE1, EUCENTRIFUGE2, EUCENTRIFUGE3, EUCENTRIFUGE4, EUMASHPREP

POLLUTION CONTROL EQUIPMENT: Thermal Oxidizer (C10)

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.019 lb/1000 lbs of exhaust gas, on a dry basis, corrected to 50% excess air	Test Protocol	FGDRYERSLIQHAND	SC V.1	R 336.1331
2. PM10	4.9 lb/hr	Test Protocol	FGDRYERSLIQHAND	SC V.1, VI.7	R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)
3. VOC	4.9 lb/hr	Test Protocol	FGDRYERSLIQHAND	SC V.1, VI.1, VI.5, VI.8	R 336.1205(1), R 336.122 R 336.1702(a), R 336.19C
4. NOx	20.9 lb/hr	Test Protocol	FGDRYERSLIQHAND	SC V.1, VI.7	R 336.1205(1), R 336.280 R 336.2804, 40 CFR 52.2 (c) and (d)
5. CO	20.4 lb/hr	Test Protocol	FGDRYERSLIQHAND	SC V.1, VI.9	R 336.1205(1), R 336.2804, 40 CFR 52.21(d)
6. NOx	0.1 lb/MMBTU	30-day rolling average	EUTO&HRB	40 CFR 60.46b(c), 60.48b(b)	R 336.1205(1), 40 CFR 60.44b(a)

Met all limits during the previous stack test; and the CEMS were fully operational per the previous night's RATA. Current readings were 38 ppm NOx at 1.6% O₂; and 0.043 #NOx/mmBtu heat input. This constitutes valid, compliant data per the RATA and daily calibration documentation.

II. MATERIAL LIMITS

1. The permittee shall use sweet natural gas and/or biomethanator off-gas as fuel in EUDDGSDRYER1 and EUDDGSDRYER2. **(R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

Per design; verbally verified.

2. The permittee shall use only sweet natural gas as supplemental fuel in the thermal oxidizer. **(R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

Per design; verbally verified.

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Db, as they apply to the equipment in FGDRYERSLIQHAND. **(40 CFR Part 60 Subparts A and Db)**

They meet the general requirements and the Db limits/requirements PM10, NOx and CO for steam generating unit

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate FGDRYERSLIQHAND unless the thermal oxidizer (C10) is installed, maintained and operated in a satisfactory manner. Satisfactory operation of thermal oxidizer (C10) includes maintaining it according to the MAP, attaining a minimum VOC destruction efficiency of 95.0 percent by weight, and maintaining the combustion chamber temperature at or above 90 percent of the average combustion chamber temperature for which a minimum 95.0 percent VOC destruction efficiency was achieved during the most recent compliance test demonstration. **(R 336.1205(1), R 336.1225, R 336.1331, R 336.1702(a), R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

1335 degrees F is their stated minimum. Nothing below that for the past 12 mos. See attached.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after commencement of trial operation, verification of PM₁₀, VOC, NO_x, and CO emission rate and PM₁₀ concentration from FGDRYERSLIQHND and of the VOC control efficiency of the thermal oxidizer (C10), by testing at owner's expense, in accordance with Department requirements, will be required. VOC Star testing procedures and the location of stack testing ports shall be in accordance with federal Reference Method 25A and 1 or 1A, respectively, 40 CFR Part 60 Appendix A. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates, concentration, and control efficiency includes the submittal of a complete report of the test results to the AQD within 60 days following completion of testing. **(R 336.1205(1), R 336.1225, R 336.1331, R 336.1701(a), R 336.1901, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

Acceptable performance stack testing was completed shortly after startup.

2. Within 60 days after achieving the maximum production rate, but not later than 180 days after commencement of trial operation, federal Standards of Performance for New Stationary Sources require verification of NO_x emission rates from EUTO&HRB, by testing at owner's expense, in accordance with 40 CFR Part 60 Subparts A and Db, 60.46b. The permittee shall notify the AQD District Supervisor in writing within 15 days of the date of commencement of trial operation in accordance with 40 CFR 60.7(a)(3). Stack testing procedures and the location of stack testing ports shall be in accordance with the applicable federal Reference Methods, 40 CFR Part 60 Appendix A. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(40 CFR 60.46b)**

Stack test plan submitted, testing done; passed.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall install, calibrate, maintain, and operate in a satisfactory manner a temperature monitoring device in the combustion chamber of the thermal oxidizer (C10) to monitor and record the temperature on a continuous basis, during operation of EUTO&HRB. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. **(R 336.1205(1), R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

Electronic thermocouple calibration is certified for a "range". They have redundant thermocouples. The CEMA look at the DCS thermocouple. When they fail, the number goes high and they're expeditiously replaced.

2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the NO_x emissions for EUTO&HRB on a continuous basis and according to the procedures outlined in Appendix B attached and 40 CFR Part 60.48b(b)(1), (c), (d), (e), (f). **(R 336.1205(1), 40 CFR 60.48b)**

The CEMS meets all the above requirements. RATA was successfully completed the night before; Daily Calibrations available.

3. The permittee shall provide written notification of construction and operation to comply with the federal Standards of Performance for New Stationary Sources, 40 CFR 60.7. This notification shall be submitted to the AQD District Supervisor within the time frames specified in 40 CFR 60.7. **(40 CFR 60.7)**

Notice provided at the time of construction on a timely basis.

4. The permittee shall keep, in a satisfactory manner, daily, monthly and 12-month rolling time period average fuel use records and the annual capacity factor for EUTO&HRB. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each month. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1), 40 CFR 60.49b(d))**

See attached records.

5. The permittee shall keep, in a satisfactory manner, continuous records of the monitored thermal oxidizer (C10) combustion chamber temperature. The permittee shall keep these records on file and make them available to the Department upon request. **(R 336.1205(1), R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

They keep instantaneous, hourly average and 3 hour average temps. See attached.

6. The permittee shall keep, in a satisfactory manner the following records for EUTO&HRB for each calendar day pursuant to the requirements of 40 CFR 60.49b:
- a) Calendar date that EUTO&HRB was in operation **(40 CFR 60.49b(g)(1))**
 - b) Average hourly NOx emission rate (in lb/MMBTU heat input) measured or predicted. **(40 CFR 60.49b(g)(2))**
 - c) 30-day average NOx emission rate in lb/MMBTU heat input, calculated at the end of each operating day from the hourly NOx emission rates for the preceding 30-days. **(40 CFR 60.49b(g)(3))**
 - d) Excess emissions, reasons for excess emissions, and description for corrective actions taken. **(40 CFR 60.49b(g)(4))**
 - e) Identification of the operating days for which NOx data has not been obtained, reasons for not obtaining the data and description of corrective actions taken. **(40 CFR 60.49b(g)(5))**
 - f) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding the data. **(40 CFR 60.49b(g)(6))**
 - g) Identification of the "F" factor used for calculations, method of determining the "F" factor and type of fuel combusted. **(40 CFR 60.49b(g)(7))**
 - h) Identification of the times when the NOx concentration exceeds full span of the continuous emission monitoring system. **(40 CFR 60.49b(g)(8))**
 - i) Description of any modifications to the continuous emission monitoring system that could affect the ability of the continuous emission monitor to comply with Performance Specification 2. **(40 CFR 60.49b(g)(9))**
 - j) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Procedure 1 of Appendix F of 40 CFR Part 60

The permittee shall keep all records on file and make them available to the Department upon request. Reports of the above information shall be submitted every six months in accordance with 40 CFR 60.49b(w). **(R 336.1205(1), 40 CFR 60.49b(g), (h), (i), (o), (w))**

All the above reporting kept in a current manner; see attached report.

7. The permittee shall keep, in a satisfactory manner, production records on a monthly basis and other records necessary to demonstrate compliance with the PM10 emission rate limit listed in SC I.2 and the NOx emission rate limit listed in SC I.4. The PM10 and NOx emission rates may be calculated based upon monthly records, prorated to an hourly rate. The permittee shall keep these records on file and make them available to the Department upon request. **(R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

PM rate is based on the stack test emission factors and NOx are based on CEMS data.

8. The permittee shall keep, in a satisfactory manner, monthly production records and other records necessary to demonstrate compliance with the VOC emission rate limit listed in SC I.3. The VOC emission rate may be calculated based upon monthly records, prorated to an hourly rate. The permittee shall keep these records on file and make them available to the Department upon request. **(R 336.1205(1), R 336.1225, R 336.1702(a), R 336.1901)**

See attached records.

9. The permittee shall keep, in a satisfactory manner, production records on a monthly basis and other records necessary to demonstrate compliance with the CO emission rate limit listed in SC I.5. The CO emission rate may be calculated based upon monthly records, prorated to an hourly rate. The permittee shall keep these records on file and make them available to the Department upon request. **(R 336.1205(1), R 336.2804, 40 CFR 52.21(d))**

CO uses stack test emission factors; see attached report.

10. The permittee shall keep, in a satisfactory manner, records of the occurrence and duration of any startup, shutdown, or malfunction in the operation; or any periods during which a continuous monitoring system or monitoring device is inoperative. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.7)**

The plant operates continuously except for scheduled outages; *CEMS are down only for any malfunction or scheduled maintenance /calibration/audit periods..*

11. The permittee shall submit notification to the AQD District Supervisor of the design heat input capacity, the identification of fuels to be combusted and the annual capacity factor for EUTO&HRB as required by 40 CFR 60.7 and 40 CFR 60.49b(a). **(40 CFR 60.49b(a))**

Notification was received shortly after facility startup.

12. The permittee shall keep records of fuel supplier certifications of the sulfur content of the fuels burned in FGDRYERSLIQHAND. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.45b(k), 40 CFR 60.46b(i), 40 CFR 60.47b(g), 40 CFR 60.48b(j))**

These were readily available.

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVS10	72	135	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)

Stack appears to be installed per specification.

The following conditions apply to: FGDDGSHAND

DESCRIPTION: DDGS storage, handling, and loadout.

Emission Units: EUDDGSSTGPILE, EUDDGSELEV, EUDDGSRAILCONVEY, EUDDGSRAILLOAD, EUDDGSTRUCKLOAD, EUDDGSSTGCONVEY

POLLUTION CONTROL EQUIPMENT: DDGS Handling Baghouse (C90)

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.019 lb/1000 lbs of exhaust gas, on a dry basis	Test Protocol	FGDDGSHAND	GC 13	R 336.1205(1), R 336.1331
1. PM10	0.32 lbs/hr	Test Protocol	FGDDGSHAND	SC V.1	R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)

Per the previously required stack test and ongoing equipment operations/maintenance, they comply.

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any equipment in FGDDGSHAND unless the DDGS handling baghouse (C90) installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the DDGS handling baghouse (C90) includes maintaining it according to the MAP. (R 336.1205(1), R 336.1331, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))

No visible emissions; MAP was readily available.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. Within 180 days after commencement of trial operation, verification of PM10 emission rates from FGDDGSHAND, by testing at owner's expense, in accordance with Department requirements, will be required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. (R 336.1205(1), R 336.1331, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))

Previous acceptable emissions performance/stack testing was completed.

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVS90	14	40	R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)

Stack appears to be installed per specifications.

The following conditions apply to: FGNSPSTANKS

DESCRIPTION: Storage tanks subject to NSPS Kb.

Emission Units: EU190TANK, EUNATGASTANK, EUDENATTANK1, EUDENATTANK2, EU200TANK

POLLUTION CONTROL EQUIPMENT: Internal Floating Roofs

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Kb, as they apply to each storage tank in FGNSPSTANKS. (40 CFR Part 60 Subparts A and Kb)

Low tank level alarms which allow them to manage floating roof performance.

2. The permittee shall not load EUNATGASTANK with gasoline from a delivery vessel unless EUNATGASTANK equipped with a permanent submerged fill pipe. (R 336.1205(1), R 336.1225, R 336.1704, R 336.1910)

All tanks are bottom fill.

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall equip each tank in FGNSPSTANKS according to the requirements of 40 CFR 60.112b(a)(1) through (4). These requirements include, but are not limited to, the following: **(R 336.1205(1), R 336.1225, R 336.1702(b), R 336.1910, 40 CFR Part 60 Subparts A & Kb)**
 - a) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely empty or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. **(40 CFR 60.112b(a)(1)(i))**
 - b) Each internal floating roof shall be equipped with a closure device between the wall of the storage vessel and the edge of the internal floating roof that meets the requirements of 40 CFR 60.112b(a)(1)(ii). **(40 CFR 60.112b(a)(1)(ii))**
 - c) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface. **(40 CFR 60.112b(a)(1)(iii))**
 - d) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. **(40 CFR 60.112b(a)(1)(iv))**
 - e) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. **(40 CFR 60.112b(a)(1)(v))**
 - f) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. **(40 CFR 60.112b(a)(1)(vi))**
 - g) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. **(40 CFR 60.112b(a)(1)(vii))**
 - h) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. **(40 CFR 60.112b(a)(1)(viii))**
 - i) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. **(40 CFR 60.112b(a)(1)(ix))**

Per previous discussions, they have rim mounted seals; all the above requirements are met. Per the above, no roof landings lately and they now have low level monitoring in place to anticipate this and manage levels so that doesn't occur.

2. The permittee shall equip and maintain each FGNSPSTANKS storage tank with the deck and seal configuration listed in the following table, or a deck and seal configuration that results in the same or lower VOC emissions from the tank.

Equipment	Deck Type	Primary Seal	Applicable Requirement
Each tank	Bolted	Vapor-mounted	R 336.1205(1), R 336.1225, R 336.1702(a), R 336.1910

This was not specifically inspected, but appears to be the case. The facility has been very forthcoming and inviting for observation of tank maintenance events.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall perform inspections and monitor operating information for FGNSPSTANKS as required by 40 CFR 60.113b. These requirements include, but are not limited to, the following: **(R 336.1205(1), R 336.1225, R 336.1702(b), R 336.1910, 40 CFR Part 60 Subparts A & Kb)**
 - a) Visually inspect the internal floating roof, the primary seal, and the secondary seal prior to filling the storage vessel with volatile organic liquid (VOL). If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel. **(40 CFR 60.113b(a)(1))**

- b) Visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membrane and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than ten percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than ten years in the case of vessels conducting annual visual inspection as specified in 40 CFR 60.113b(a)(2) and 40 CFR 60.113b(a)(3)(ii) and at intervals no greater than five years in the case of vessels specified in 40 CFR 60.113b(a)(3)(i). **(40 CFR 60.113b(a)(4))**

All such visual inspections are recorded in CMMS (computerized maintenance monitoring software).

- 2. The permittee shall keep records of inspections and operating information for FGNSPSTANKS as required by 40 CFR Part 60 Subparts A and Kb. The permittee shall keep all records on file and make them available to the Department upon request. These requirements include, but are not limited to, the following: **(R 336.1205(1), R 336.1225, R 336.1702(b), R 336.1910, 40 CFR Part 60 Subparts A & Kb)**
 - a) Keep a record of each inspection performed as required by 40 CFR 60.113b(a). Each record shall identify storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). **(40 CFR 60.115b(a)(2))**
 - b) For each storage vessel as specified in 40 CFR 60.110b(a), keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept for the life of the storage vessel. **(40 CFR 60.116b(b))**
 - c) For each storage vessel, the permittee shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period. **(40 CFR 60.116b(c))**

Inspections and records pertaining thereto are kept in CMMS.

VII. REPORTING

- 1. The permittee shall submit reports for FGNSPSTANKS as required by 40 CFR 60.115b. These requirements include, but are not limited to, the following: **(R 336.1205(1), R 336.1225, R 336.1702(b), R 336.1910, 40 CFR Part 60 Subparts A & Kb)**
 - a) A report that describes the control equipment and certifies that the control equipment meets the specifications of 40 CFR 60.112b(a)(1) and 40 CFR 60.113b(a)(1) shall be furnished to the USEPA as an attachment to the notification required by 40 CFR 60.7(a)(3). **(40 CFR 60.115b(a)(1))**
 - b) If any of the conditions described in 40 CFR 60.113b(a)(2) are detected during the annual visual inspection required by 40 CFR 60.113b(a)(2), a report shall be furnished to the USEPA within 30 days of the inspection identifying the tank, the nature of the defects, and the date the tank was emptied or the nature of and date the repair was made. **(40 CFR 60.115b(a)(3))**
 - c) After each inspection required by 40 CFR 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 40 CFR 60.113b(a)(3)(ii), a report shall be furnished to the USEPA within 30 days of the inspection, identifying the tank and the reason did not meet the specifications of 40 CFR 60.112b(a)(1) or 40 CFR 60.113b(a)(3), and list each repair made. **(40 CFR 60.115b(a)(4))**

Initial notifications were submitted.

- 2. The permittee shall submit notifications for FGNSPSTANKS as required by 40 CFR Part 60 Subparts A and Kb. These requirements include, but are not limited to, notifying the AQD in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by 40 CFR 60.113b(a)(1) and (a)(4) afford the AQD the opportunity to have an observer present. If the inspection required by 40 CFR 60.113b(a)(4) is not planned and the permittee could not have known about the inspection 30 days in advance or refilling the tank, the permittee shall notify the AQD at least seven days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written

documentation may be made in writing and sent by express mail so that it is received by the AQD at least seven days prior to the refilling. (40 CFR 60.113b(a)(5))

No tanks have been taken down; no notifications have been required.

The following conditions apply to: FGETHLOAD

DESCRIPTION: Truck and rail ethanol loadout.

Emission Units: EUETHTRUCKLOAD, EUETHRAILLOAD

POLLUTION CONTROL EQUIPMENT: Ethanol Loadout Flare (C50)

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate FGETHLOAD unless the ethanol loadout flare (C50) is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the ethanol loadout flare (C50) includes maintaining it according to the MAP. (R 336.1205(1), R 336.1225, R 336.1702(a), R 336.1910)

Flare is up and running, but load-out was sporadic during the inspection.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall keep, in a satisfactory manner, separate records of the monthly and 12-month rolling time period, as determined at the end of each calendar month, ethanol and denaturant throughput for FGETHLOAD. The permittee shall keep these records on file and make them available to the Department upon request. (R 336.1205(3), R 336.1225, R 336.1702(a))

Records are kept. See attached.

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVS50	60	20	R 336.1225

Stack appears to be installed per specification.

The following conditions apply to: FGMETHANATORS

DESCRIPTION: Biomethanator system.

Emission Units: EUMETHANATORFEED, EUMETHANATOR1, EUMETHANATOR2

POLLUTION CONTROL EQUIPMENT: Thermal Oxidizer (C10), Methanator Flare

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC from natural gas combustion in the flare	0.8 tpy	12-month rolling time period*	FGMETHANATORS	GC 13	R 336.1702(a)
2. NOx from natural gas combustion in the flare	1.0 tpy	12-month rolling time period*	FGMETHANATORS	GC 13	R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)
3. CO from natural gas combustion in the flare	5.2 tpy	12-month rolling time period*	FGMETHANATORS	GC 13	R 336.2804, 40 CFR 52.21(d)
* 12-month rolling time period as determined at the end of each calendar month.					

Based on estimated gas use and run time. See attached report. Use standard nat. gas emission factors.

IV. DESIGN/EQUIPMENT PARAMETERS

- The permittee shall not operate the equipment in FGMETHANATORS unless the off-gases are routed through either the dryers or the methanator flare. The dryers or methanator flare, when off-gases from FGMETHANATORS are routed to either of them, shall be installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the dryers and methanator flare includes maintaining it according to the MAP. (R 336.1702, R 336.1910)

Typically the gas is utilized in the dryers. (Status observed.) They use the flare only if the TO is down. They also use the flare during startup/shutdown periods.

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVMETHFLARE	17	11	R 336.1225, R 336.1702, R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)

Stack appears to be installed per specification.

The following conditions apply to: FGNPSV

DESCRIPTION: All pumps, valves, and pressure relief devices in light liquid and heavy liquid service; all valves and pressure relief devices in gas/vapor service; each sampling connection; and each open ended valve or line and all associated closed vent systems and control devices.

III. PROCESS/OPERATIONAL RESTRICTIONS

- The permittee shall comply with all provisions of the federal NSPS as specified in 40 CFR Part 60 Subparts and VV as they apply to FGNPSV. (40 CFR Part 60 Subparts A and VV)

They do. Mr. Bosch is now doing LDAR himself. Records are recorded in a spreadsheet for long term retention. Valves were readily identified and LDAR was discussed throughout the inspection. Semi-annual LDAR reports are submitted to AQD, and these indicate appropriate leak detection/abatement actions.

2. The permittee shall operate each pressure relief device in gas/vapor service with no detectable emissions, as specified in 40 CFR 60.482-4(a) and (b). **(40 CFR 60.482-4(a) and (b))**

Per above; see also the FCE Summary Sheet.

3. The permittee shall design and operate vapor recovery systems (for example, condensers and absorbers) used to comply with 40 CFR 60 subpart VV to recover the VOC emissions vented to them with an efficiency 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent. **(40 CFR 60.482-10(b))**

None used.

4. The permittee shall design and operate enclosed combustion devices used to comply with 40 CFR 60 subpart VV to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C (1,500 °F). **(40 CFR 60.482-10(c))**

None used.

5. The permittee shall comply with the standards for pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors in 40 CFR 60.482-8. **(40 CFR 60.482-8)**

This is their basis for compliance.

6. The permittee may delay repair of equipment for which leaks have been detected as specified in 40 CFR 60.482-9. **(40 CFR 60.482-9)**

No delays.

7. The permittee shall repair leaks of a closed vent system as specified in 40 CFR 60.482-10(g). **(40 CFR 60.482-10(g))**

No closed vent systems (per previous inspection.)

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall equip each sampling connection system with a closed-purged, closed-loop, or closed-vent system, as specified in 40 CFR 60.482-5. **(40 CFR 60.482-5)**

All sampling connections are double valved closed loop systems (per previous inspection.)

2. The permittee shall equip each open-ended valve or line with a cap, blind flange, plug, or a second valve, as specified in 40 CFR 60.482-6. **(40 CFR 60.482-6)**

No open ended lines without the above (per previous inspection.)

3. The permittee shall operate closed vent systems and control devices used to comply with 40 CFR 60 subpart VV at all times when emissions may be vented to them. **(40 CFR 60.482-10(m))**

No control devices present for VV.

4. The permittee shall, when each leak is detected as specified in 40 CFR 60.482-2, 60.482-3, 60.482-7, 60.482-10 and 60.483-2, take the actions specified in 40 CFR 60.486(b) and (c). **(40 CFR 60.486(b) and (c))**

See LDAR discussion.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall demonstrate compliance with the requirements of 40 CFR Part 60 subparts A and VV within 180 days of initial startup. All required testing shall be at owner's expense. The permittee shall notify the AQD District Supervisor in writing within 15 days of the date of commencement of trial operation in accordance with 40 CFR 60.7(a)(3). Performance testing procedures shall be in accordance with the applicable federal Reference Methods, 40 CFR Part 60 Appendix A. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Compliance with 40 CFR 60.482-1 through 40 CFR 60.482-10 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 60.485. Equipment that is in vacuum service is excluded from the requirements of 40 CFR 60.482-2 to 40 CFR 60.482-10 if it is identified as required in 40 CFR 60.486(e)(5). **(R 336.1225, R 336.1702(b), 40 CFR Part 60 Subparts A and VV, 40 CFR 60.482-1, 40 CFR 60.485)**

Previously completed.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall comply with the standards for pumps in light liquid service in 40 CFR 60.482-2. **(40 CFR 60.482-2)**

They do; LDAR activities and reporting.

2. The permittee shall monitor each valve in gas/vapor service and in light liquid service as specified in 40 CFR 60.482-7. **(40 CFR 60.482-7)**

They do; all valves listed in a spreadsheet.

3. The permittee shall monitor control devices used to comply with 40 CFR 60 subpart VV to ensure that they are operated and maintained in conformance with their designs. **(40 CFR 60.482-10(e))**

No control devices used.

4. The permittee shall inspect each closed vent system according to the procedures and schedule specified in 40 CFR 60.482-10(f). **(40 CFR 60.482-10(f))**

No closed vent systems.

5. The permittee shall record the information specified in 40 CFR 60.482-10(l). **(40 CFR 60.482-10(l))**

See attached.

6. The permittee shall record the information specified in 40 CFR 60.486(d) pertaining to the design requirements for closed vent systems and control devices described in 40 CFR 60.482-10. This information shall be kept in a readily accessible location. **(40 CFR 60.486(d))**

No closed vent systems used (per previous inspection.)

7. The permittee shall record the information specified in 40 CFR 60.486(e) pertaining to all equipment subject to the requirements in 40 CFR 60.482-1 to 60.482-10. This information shall be kept in a readily accessible location. **(40 CFR 60.486(e))**

LDAR records being kept and periodically submitted. Kept in a separate notebook.

8. The permittee shall record the information specified in 40 CFR 60.486(f) pertaining to all valves subject to the requirements of 40 CFR 60.482-7(g) and (h) and to all pumps subject to the requirements of 40 CFR 60.482-2(g). This information shall be kept in a readily accessible location. **(40 CFR 60.486(f))**

See attached.

9. The permittee shall record a schedule of monitoring and the percent of valves found leaking during each monitoring period valves complying with 40 CFR 60.483-2. **(40 CFR 60.486(g))**

See attached

10. The permittee shall record the design criterion required in 40 CFR 60.482-2(d)(5) and 60.482-3(e)(2) and an explanation of the design criterion and any changes to this criterion and the reasons for the changes. This information shall be kept in a readily accessible location. **(40 CFR 60.486(h))**

Per previous inspection; No design changes have been made. But this was not specifically inspected on this date.

11. The permittee shall record the information specified in 40 CFR 486(i) for use in determining exemptions as provided in 40 CFR 60.480(d). This information shall be kept in a readily accessible location. **(40 CFR 60.486(i))**

Per previous inspection; no exemptions.

12. The permittee shall record information and data used to demonstrate that a piece of equipment is not in VOC service. This information shall be kept in a readily accessible location. **(40 CFR 60.486(j))**

Per previous inspection; the P&ID diagram is available on-site.

VII. REPORTING

1. The permittee shall submit reports as required to comply with the federal NSPS as specified in 40 CFR Part 60 Subparts A and VV. The permittee shall keep all required records on file for a period of at least five years and make them available to the Department upon request. **(40 CFR 60.487)**

The facility submits a semi-annual report for 40 CFR 60, Subpart VV every 6 months. See also, the FCE Summary Sheet accompanying this report.

The following conditions apply Source-Wide to: FGFACILITY

These are the requirements that establish the facility as a Synthetic Minor Source.

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NOx	95 tpy	12-month rolling time period*	FGFACILITY	SC VI.2	R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)
2. VOC	98 tpy	12-month rolling time period*	FGFACILITY	SC VI.3	R 336.1205(1)
3. CO	98 tpy	12-month rolling time period*	FGFACILITY	SC VI.4	R 336.1205(1), R 336.2804, 40 CFR 52.21(d)
4. Hazardous Air Pollutants (HAPs)	less than 10 tpy of any individual HAP	12-month rolling time period*	FGFACILITY	SC VI.5	R 336.1205(1)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
5. HAPs	less than 25 tpy of aggregate of HAPs	12-month rolling time period*	FGFACILITY	SC VI.5	R 336.1205(1)
* 12-month rolling time period as determined at the end of each calendar month					

Stack test emissions factors used (CEMS for NO_x); see attached. All records indicate compliance. Records were current and readily available.

Most recent Actuals:

NO_x – **47.25 tons**

VOC – **25.03**

CO – **19.62**

HAPS - **6.68 tons total haps**

Highest individual HAP: **6.63 tons**

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Total ethanol and denaturant	59.9 million gallons per year	12-month rolling time period*	FGFACILITY	SC VI.6	R 336.1205(3), R 336.1225, 336.1702(a)
2. Denaturant	6.0 million gallons per year	12-month rolling time period*	FGFACILITY	SC VI.6	R 336.1205(3), R 336.1225
3. Denaturant	200,000 gallons per year	12-month rolling time period*	EU550TANK	SC VI.7	R 336.1225(2)
4. Denaturant	200,000 gallons per year	12-month rolling time period*	EU1000TANK	SC VI.8	R 336.1225(2)
* 12-month rolling time period as determined at the end of each calendar month.					

Ethanol **54.3 mm** gallons, most recent 12-month rolling time period.

Denaturant: **1.86 mm** gallons, most recent 12-month rolling time period.

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall submit a malfunction abatement plan (MAP) for FGFACILITY to the AQD District Supervisor. The interim MAP and any future revised MAP shall be subject to review and approval, as provided Rule 911. The permittee shall not operate any equipment in FGFACILITY unless the MAP, revised as necessary according to the procedures of Rule 911, is implemented and maintained. The MAP shall include procedures for maintaining and operating equipment in a satisfactory manner, including procedures for minimizing emissions during malfunction events, and a program for corrective action for such events. If the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the MAP within 45 days after such an event occurs. **(R 336.120(1), R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, R 336.2803, R 336.2804, 40 CFR 52.2(c) and (d))**
 - a) The permittee shall submit an interim MAP to the AQD District Supervisor before beginning operation of any equipment in FGFACILITY. **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**
 - b) No later than 270 days after commencing operation of any equipment in FGFACILITY, the permittee shall revise the MAP, based on equipment operating history and the results of the emission testing, and submit revised MAP to the AQD District Supervisor. **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

These were submitted and have been revised as required. These were readily available during the inspection.

2. The permittee shall submit an odor management plan (OMP) for FGFACILITY to the AQD District Supervisor. The OMP shall include procedures for maintaining and operating equipment and managing WDGSE a manner that minimizes the release of odors to the outside air, and a program for corrective action for such events. If the OMP fails to address or inadequately addresses an event that results in an odor release to the outside air at the time the plan is initially developed, the owner or operator shall revise the OMP within 45 days after such an event occurs. **(R 336.1901)**
 - a) The permittee shall submit an interim OMP to the AQD District Supervisor before beginning operation of any equipment in FGFACILITY. **(R 336.1901)**
 - b) No later than 270 days after commencing operation of any equipment in FGFACILITY, the permittee shall revise the OMP based on equipment operating history and submit the revised OMP to the AQD District Supervisor. **(R 336.1901)**

Per above, odor plan submitted and maintained. There have been no recent odor complaints attributable to the facility.

3. The permittee shall not operate FGFACILITY unless an emergency response plan, to be followed in the event an emergency, has been submitted to the local fire department or county emergency response agency and is implemented and maintained. By October 1 each year, the permittee shall review this plan with the local fire department or emergency response agency and make any necessary updates. **(R 336.1901)**

Per above, this Plan was submitted, maintained, and readily available.

4. The permittee shall not operate FGFACILITY unless all plant roadways are paved, except for the construction phase and up to 180 days after completion of the construction phase. **(R 336.1205(1), R 336.1301, 40 CFR 52.21 (c) and (d))**

All inplant roadways are paved.

IV. DESIGN/EQUIPMENT PARAMETERS

1. A sign shall be present and conspicuously placed at the facility entrance stating the emergency phone number for the owner, primary operator, local and state police, local fire department, and ambulance service. **(R 336.1901)**

There sign was observed.

2. The permittee shall install and maintain fencing, warning signs, or other measures as necessary to attempt to prevent unauthorized individuals from entering the plant property and buildings. **(R 336.1225, R 336.1901)**

Various site security measures are in place, including cameras; front fence; 24 hr staffing/monitoring, etc.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. All required calculations shall be completed in a format acceptable to the AQD District Supervisor and made available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

See attached.

2. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period NOx emission calculations to demonstrate compliance with the limit in SC I.1. The permittee shall keep all required records on file and make them available to the Department upon request. **(R 336.1205(1), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

See attached.

3. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period VOC emission calculations to demonstrate compliance with the limit in SC I.2. The permittee shall keep all required records on file and make them available to the Department upon request. **(R 336.1205(1))**

See attached.

4. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period CO emission calculations to demonstrate compliance with the limit in SC I.3. The permittee shall keep all required records on file and make them available to the Department upon request. **(R 336.1205(1), R 336.2804, 40 CFR 52.21(d))**

See attached.

5. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period individual HAP or total HAP, including fugitive emissions, emission calculations to demonstrate compliance with the limits in SC I and I.5. The permittee shall keep all required records on file and make them available to the Department upon request. **(R 336.1205(1))**

Major HAP is acetaldehyde; see attached.

6. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the amount of ethanol and denaturant shipped from the facility. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1), R 336.1225, R 336.1702(a))**

See attached.

7. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the denaturant throughput for EU500TANK. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225(2))**

Per previous inspection, they're keeping monthly.

8. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the denaturant throughput for EU1000TANK. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225(2))**

Per previous inspection, they're keeping monthly.

9. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the amount of ethanol produced at the facility. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1), R 336.1225, R 336.1702(a))**

See attached.

VII. REPORTING

1. The permittee shall provide written notification of construction and operation for FGFACILITY to comply with the federal NSPS, 40 CFR 60.7. This notification shall be submitted to the AQD District Supervisor within the time frames specified in 40 CFR 60.7. **(40 CFR 60.7)**

's notice was originally submitted.

SUMMARY and FOLLOW-UP

-site observations were encouraging. Mr. Bosch and Mr. Thomas were very accommodating and knowledgeable. Housekeeping was very good/above average. Regulated equipment was labeled, accessible. All requested records were readily available, and appear to indicate current and ongoing compliance. Based on this inspection, review of attached records, and all other activities associated with the Full Compliance Evaluation, SL considers the facility to be in compliance with applicable air use requirements. The statement is further based on:

The facility has provided acceptable demonstration that Potential to Emit for a Grain Terminal Elevator can be based on 1.2-times the maximum amount of throughput/drying fuel used in the last 5 years. This is based on an EPA Determination from 1995, and does appear to limit Criteria Pollutants (especially NOX) to <100 t Potential to Emit when combining the Carbon Green facility with the adjacent/leased Woodbury Grains Facility.

ROP applicability for Greenhouse Gas (only) is still unresolved per Court Action. See attached correspondence.

The Carbon Green/Woodbury Grain combined facility has over 4 mm bushels grain storage capacity and appears to be a Grain Elevator subject to 40 CFR 60 Subpart DD - Standards of Performance for Grain Elevators. Since the agricultural community has been a target of repeated outreach for this rule, SL proposes to go the same route with this combined facility; especially since the Carbon Green truck grain loading/unloading facilities are so modern and effective at controlling fugitive particulate. In a separate correspondence, SL will initiate the exploration of this rule to the combined facility.

Attachments:

Updated MAP and Odor Management Plan (note)

Data Summary Report (9/9/14)

RATA Report (9/9/14)

Daily CEMS Calibration Summary (9/10/14)

12-Month Emission Totals Report (current)

Historical Operations Spreadsheet

Monthly Emissions including HAPS

GHG (only) ROP Permitting Correspondence

NAME _____

DATE _____

SUPERVISOR

