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

N749355524

FACILITY: MARYSVILLE ETHANOL, LLC		**SRN / ID:** N7493
LOCATION: 2512 BUSHA HIGHWAY, MARYSVILLE		**DISTRICT:** Warren
CITY: MARYSVILLE		**COUNTY:** SAINT CLAIR
CONTACT: Aric Metevia , Plant Manager		**ACTIVITY DATE:** 08/19/2020
STAFF: Rem Pinga	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Level 2 Scheduled Inspection		
RESOLVED COMPLAINTS:		

On August 19, 2020, I conducted a Level 2 Target inspection of Marysville Ethanol, LLC (ME), located at 2512 Busha Highway in Marysville, Michigan 48040. The purpose of the inspection was to determine the facility's compliance with the Federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), the Administrative Rules, and the facility's Permit to Install (PTI) No. 175-05D. This facility is also subject to the New Source Performance Standards (NSPS) 40 CFR Part 60 Subparts A, Db, Kb, and VV. During the inspection, I was accompanied by Mr. Aric Metevia, Plant Manager and facility contact person.

To comply with the COVID-19 Emergency AQD Field Inspection Guidance Update (June 2020), the inspection was announced and scheduled. I adhered to the facility's COVID-19 safety protocols such as temperature check and completing a checklist/questionnaire of health/contact information. I entered the facility wearing face mask, face shield, safety glasses, hard hat, and safety shoes. Following AQD guidance, I requested the additional recordkeeping information sent to me via email during inspection.

PTI No. 175-05D was issued as a synthetic minor permit to opt the facility out of the Clean Air Act of 1990, Title V, Renewable Operating Permit (ROP) requirements. This stationary source is not considered a major source of criteria pollutants because the company has agreed to accept facility-wide CO, NOx, SO2, VOC, PM, PM10, and PM2.5 emission rates restrictions supported by monthly 12-month rolling total emission rates recordkeeping requirements. It is also not considered a major source of Hazardous Air Pollutant (HAP) emissions because the company has agreed to accept facility-wide single HAP and combined/aggregate HAPs emission rates restrictions, supported by monthly 12-month rolling total emission rates recordkeeping requirements, to demonstrate continued compliance as a synthetic minor facility. Under PTI No. 175-05D, special condition, FGFACILITY, the facility is restricted to the following potential emission limits: CO – 96.4 tons/year (tpy), NOx – 94.3 tpy, SO2 – 48 tpy, VOC – 56.3 tpy, PM – 43.1 tpy, PM10 – 42.9 tpy, PM2.5 – 29.6 tpy, single HAP < 10.0 tpy, and aggregate HAPs < 22.0 tpy.

Opt-out PTI No. 175-05D was issued to Marysville Ethanol, LLC for the operation of a natural gas fired, dry mill Ethanol plant to produce up to 65 million gallons of denatured ethanol per year. The facility began operations on October 12, 2007. PTI No. 175-05D contained 6 emission units: EU-FERMENTATION, EU-DDGSCOOLING, EU-COOLINGTWR, EU-METHANATOR,EU-NH3STGTANK, and EU-WDGS; and 6 flexible groups: FG-SOLIDSHAND, FG-RTO, FG-ETHLOAD, FG -NSPSTANKS, FG-NSPSVV, and FG-FACILITY.

EU-FERMENTATION – this emission unit pertains to four fermenter tanks and beer well. In the Ethanol production process, this is the stage where the yeast and mash are transferred to four fermentation tanks. The fermentation tanks operate at different stages (one emptying, one filling, and two working) to produce independent batches. As mentioned in the past, this process takes about 50-70 hours fermentation period per batch. Each tank is equipped with an external heat exchanger for maintaining temperature. Each tank is cleaned by a Clean-in-Place (CIP) system prior to re-fill. CIP solution (heated water and ~5% NAOH) is injected at the top of each tank by a rotating arm. A pressure relief valve is located on the roof of each fermentation tank.

The contents of each fermentation tank are transferred to the beer well. Per PTI No. 175-05D, special condition EU-FERMENTATION (III.1), emissions are controlled by a CO2 scrubber, C40. The scrubbing liquid consists of water and sodium bisulfite. CO2 from the Beer Well is routed to the CO2 scrubber before it is vented to the atmosphere. Since the 2014 inspection, the facility installed a pre-condenser that is located between the Beer Well and the CO2 scrubber. The CO2 can be routed to the bottom of the pre-condenser where water from the bottom of the CO2 scrubber is sent to the top of the pre-condenser. The pre-condenser uses the water to remove ethanol from CO2 and concentrate it up so it can be sent back to the Beer Well where it will eventually be separated in the distillation process. The pre-condenser helps improve the overall efficiency of the facility. During the walk-through inspection, I observed that the CO2 scrubber appeared to be operating properly. The minimum scrubber liquid flow established during the stack test, conducted January 29, 2008, and included in the MAP, is 30 gallons per minute (gpm). I observed liquid flow through two observation windows. During the walk-through inspection, I observed a liquid flow rate of 45.83 gpm for scrubber C40. Per PTI No. 175-05D, special condition EU-FERMENTATION (IV.1), the scrubber is equipped with a liquid flow rate indicator and a sodium bisulfite flow rate gauge. The company records liquid flow rate on a daily basis. Per PTI No. 175-05D, special condition EU-FERMENTATION (IV.2), the facility installed a device to measure the sodium bisulfite injection rate. The minimum sodium bisulfite injection rate established during the stack test, and included in the MAP, is 2.5 gallons per hour (gph). The company uses an electronic metering device to ensure that the addition rate is maintained at 2.5 gph. The company uses a gauge glass to check the sodium bisulfite flow rate once per shift. During the walk-through inspection, I observed the sodium bisulfite flow rate at 2.6 gpm. Per PTI No. 175-05D, special

condition EU-FERMENTATION (VI.1), the facility records daily scrubber liquid flow and sodium bisulfite flow rate and I obtained random copies. Data for scrubber liquid flow rates showed greater than 30 gpm and in compliance with the tested flow rates. Per PTI No. 175-05D, special condition EU-FERMENTATION (V.1), Marysville Ethanol LLC conducted stack test on January 29, 2008 to verify compliance with VOC, Acetaldehyde, and Acrolein hourly emission rates. Per PTI No. 175-05D, special condition EU-FERMENTATION (I.1), the stack test result showed the VOC emission rate at 2.18 lb./hr. (pph) and in compliance with the 5.90 pph permit limit. Per PTI No. 175-05D, special condition EU-FERMENTATION (I.2), the Acetaldehyde emission rate was at 0.32 pph and in compliance with the 0.85 pph permit limit. Per PTI No. 175-05D, special condition EU-FERMENTATION (I.3), the Acrolein emission rate was < 0.0103 pph and in compliance with the 0.1860 pph permit limit.

EU-DDGSCOOLING – pertains to the Dry Distiller's Grains with Solubles (DDGS) cooling system. From the dryers the DDGS is transferred to a cooling cyclone (EU-DDGSCOOLING), which uses ambient air to cool the DDGS. Per PTI No. 175-05D, special condition EU-DDGSCOOLING (III.1), emissions from the cooling cyclone are controlled by a baghouse, C70. Per PTI No. 175-05D, special condition EU-DDGSCOOLING (IV.1), the baghouse is equipped with a pressure drop gauge. According to the MAP, the pressure drop should read 6" w.g. (inches water gage) or less per the vendor's suggested operating range. During the walk-through inspection, I observed a pressure drop of 0.52" w.g. I did not observe any VE from the DDGS baghouse stack. Per PTI No. 175-05D, special condition EU-DDGSCOOLING (VI.1 & 3), the facility conducts monthly visible emissions check, inspects the baghouse system, and keeps records as specified in the MAP. The filter bags are continuously cleaned by a rotating sweep arm with reverse air flow nozzles. The dust drops to a hopper and is conveyed to DDGS storage. Per PTI No. 175-05D, special condition EU-DDGSCOOLING (VI.2 & 4), the facility monitors and records the pressure drop once per shift. Per PTI No. 175-05D, special condition EU-DDGSCOOLING (V.1), the facility conducted stack test on January 29, 2008 and March 20, 2008 to verify compliance with PM10, VOC, Acetaldehyde, and Acrolein hourly emission rates. Per PTI No. 175-05D, special condition EU-DDGSCOOLING (I.1), the stack test result showed the PM10 emission rate at 0.078 pph and in compliance with the 1.20 pph permit limit. Per PTI No. 175-05D, special condition EU-DDGSCOOLING (I.2), the stack test result showed the VOC emission rate at 0.0928 pph and in compliance with the 1.50 pph permit limit. Per PTI No. 175-05D, special condition EU-DDGSCOOLING (I.3), the Acetaldehyde emission rate was at 0.0469 pph and in compliance with the 0.061 pph permit limit. Per PTI No. 175-05D, special condition EU-DDGSCOOLING (I.4), the Acrolein emission rate was < 0.0096 pph and in compliance with the 0.0260 pph permit limit.

EU-COOLINGTWR – pertains to the four-cell cooling tower. The four-cell cooling tower is used to cool process water from the fermentation tanks and the 190-proof condenser. The cooling tower has four pumps used to circulate the water through

the system. The cooling tower is equipped with drift eliminators. Per PTI No. 175-05D, special condition EU-COOLINGTWR (II.1, IV.1, & VI.1), the facility utilizes the maximum calculated capacity of the pumps to show compliance with cooling water circulation rate permit limit of 1,800,000 gallons per hour. The calculated water flow rate was 1,620,000 gallons/ hour and in compliance with the permit limit. Per PTI No. 175-05D, special condition EU-COOLINGTWR (II.1 & VI.1), the facility sends out samples for testing cooling water total dissolved solids (TDS) to Eurofins TestAmerica Michigan quarterly. The 03/02/2020 result showed 1,200 ppm TDS and less than the permit limit of 2,500. Per PTI No. 175-05D, special condition EU-COOLINGTWR (III.1), the maintenance of the emission unit is conducted according to the MAP.

EU-METHANATOR – pertains to the biomethanator for wastewater treatment. Emissions from this emission unit are controlled by DDGS dryers and regenerative thermal oxidizer C10 or flare C60 while the DDGS dryers are not operating. Per Mr. Metevia, this unit has been out of service since October 2016.

EU-NH3STGTANK - pertains to the 18,000-gallon anhydrous ammonia storage tank. Per Mr. Metevia, the ammonia tank has been emptied since February 2013 as the current enzymes utilized by the facility for Ethanol production no longer requires the use of ammonia for pH control.

EU-WDGS – pertains to Wet Distiller's Grains and Solubles (WDGS) handling operations. To produce the WDGS, the company would transfer the solids removed by the centrifuges to the wet cake pad. Per Mr. Metevia, WDGS refers to DGS that contains > 30% moisture. Per PTI No. 175-05D, special condition EU-WDGS (III.1 & VI.1), Mr. Metevia mentioned that the facility mainly produces DDGS, about 12% moisture content, but may produce WDGS and utilizes the Odor Management Plan to control odor usually from storage of WDGS.

FG-SOLIDSHAND – pertains to corn receiving, storing, milling, and handling operations. This flexible group also includes DDGS storage and handling operations. Dry corn grains are received at the facility Monday through Friday. Trucks unload the grains into one of three pits located in the grain bay of the Grain Receiving Building. The building is enclosed except for truck/rail entrance and exit doors, which are only kept open during grain receiving hours. There are three different kinds of grain delivery trucks; hopper (corn is dropped from bottom of truck into hopper), back-drop (trailer is lifted on incline to allow corn to drop from back of truck), and straight (conveyor system inside trailer allows corn to automatically exit from back of truck without an incline). The pits, which empty into hoppers, are maintained under negative pressure. The corn is conveyed from the hoppers to storage bins.

The emission units and control equipment under this flexible group are EU-GRAINRECEIVE - Baghouse C20, EU-DRYMILLING - Baghouse C30, and EU-

DDGSLOADOUT - Baghouse C90. Particulate emissions from EU-GRAINRECEIVE equipment (receiving equipment, elevator legs, conveyors, storage bins, and ancillary equipment) are controlled by baghouse C20. The corn is conveyed from storage bins to two hammer mills for processing into flour. The hammer mills are continuously operated. Particulate emissions from EU-DRYMILLING equipment (hammer mill feed, hammer mills, scalping equipment, elevator legs, conveyors, and ancillary equipment) are controlled by baghouse C30. The DDGS is stored in an enclosed building before it is transferred off-site by truck. Trucks are loaded in the DDGS Bay in the Grain Receiving Building. Emissions from EU-DDGSLOADOUT equipment are controlled by baghouse C90. The baghouse operation is triggered by start-up of loadout. Baghouses C20, 30, & 90 are each equipped with a pressure drop gauge.

Per PTI No. 175-05D, special condition FG-SOLIDSHAND (V.1), the facility conducted stack test as discussed above to verify compliance with PM10 hourly emission rates for EU-GRAINRECEIVE, EU-DRYMILLING, and EU-DDGSLOADOUT. Per PTI No. 175-05D, special condition FG-SOLIDSHAND (I.1), the stack test result of 0.761 pph PM10 emission rate for EU-GRAINRECEIVE was in compliance with the 1.670 pph permit limit. Per PTI No. 175-05D, special condition FG-SOLIDSHAND (I.2), the stack test result of 0.404 pph PM10 emission rate for EU-DRYMILLING was in compliance with the 1.180 pph permit limit. Per PTI No. 175-05D, special condition FG-SOLIDSHAND (I.1), the stack test result of 0.088 pph PM10 emission rate for EU-DDGSLOADOUT was in compliance with the 0.160 pph permit limit. Per PTI No. 175-05D, special condition FG-SOLIDSHAND (II.1 & VI.2), the facility kept monthly 12-month rolling total bushels of grains received. Per records submitted and as of June 2020, the 18,735,721 monthly 12-month rolling total bushels of grains received are less than the 23,214,300 bushels permit limit. Per PTI No. 175-05D, special condition FG-SOLIDSHAND (II.2 & VI.3), the facility kept monthly 12-month rolling total DDGS throughput for EU-DDGSLOADOUT. Per records submitted and as of June 2020, the 135,034 tons of monthly 12-month rolling total DDGS throughput for EU-DDGSLOADOUT, were less than the 210,884 tons permit limit. Per PTI No. 175-05D, special condition FG -SOLIDSHAND (III.1), I observed Baghouses C20, C30, and C90 during walk-through inspection and they appeared to be operating properly and maintained according to the MAP. I did not observe any visible emissions while walking around the baghouses. Baghouse C30 was down for maintenance at that time and no milling was being conducted. Per PTI No. 175-05D, special condition FG-SOLIDSHAND (IV.1), the baghouses were equipped with a pressure drop gauge each. During the walk-through inspection, I observed the following readings: Baghouse C20 – 2.84” w.g., Baghouse C30 – 0.00” w.g., and Baghouse C90 – 0.35” w.g. Per PTI No. 175-05D, special condition FG-SOLIDSHAND (VI.1 & 4), the facility conducts monthly visible emissions observations and keeps records on the vents of EU-GRAINRECEIVE, EU-DRYMILLING, and EU-DDGSLOADOUT that included the observer, dates, times, and status of VE observed. Per PTI No. 175-05D, special condition FG-SOLIDSHAND (VI.5), the facility conducts pressure

drop readings on Baghouses C20, C30, and C90 once every shift, thus complies with the once per day requirement, and keeps records of the pressure drops according to the MAP.

FG-RTO – pertains to all equipment controlled by the regenerative thermal oxidizer (RTO C10), including mash preparation, ethanol distillation, the methanator, and the DDGS dryers. This flexible group consists of the following emission units: EU-MASHPREP, EU-DISTILLATION, EU-METHANATOR, EU-DRYERS, and EU-RTO&HRSG.

After corn is processed into flour and stored and as part of EU-MASHPREP, the stored flour is conveyed from the hammer mills to a blending tank where water and enzymes are added. The blend goes through a series of two slurry tanks. Steam is added to the first slurry tank. The mash is pumped into a cook tube, which provides heat for liquefaction. Two liquefaction tanks are then used to hold and mix the mash. The liquefaction tanks vent outside through a small stack but produce minimal emissions. A cooling system is used to bring the mash temperature down to an optimal level before yeast is introduced and for the yeast to propagate. Yeast propagation tanks use fresh mash to continuously propagate the yeast up to desired levels. Gaseous emissions from the blending tank, slurry tanks, and yeast tanks are sent to the RTO C10 for control. The yeast and the mash are transferred to the four fermentation tanks and the process is discussed under EU-FERMENTATION. After the fermentation process, Beer from the Beer Well is pumped into the Beer Column to begin the separation of the mash/solids and water from the Ethanol. A Beer Flash is a vessel that is recently added and located between the Beer Well and the Beer Column. Beer can be routed to the Beer Flash Vessel where entrained CO2 is allowed to separate from the Beer. The CO2 is put back into the Beer Well and the Beer is then pumped into the Beer Column. The Beer Flash improves operational reliability and efficiency in the Distillation section of the facility. The solids are sent to a whole stillage tank. The remaining liquid is transferred to a thin stillage tank and then to four centrifuges for additional removal of solids. The company utilizes a rectifier column, a side stripper, a 190-proof condenser, a 200-proof condenser, and three molecular sieves to concentrate and produce 190 proof (95%) and 200 proof (100%) alcohol.

The removed solids are transferred into two in-line dryers, Dryer A and Dryer B. The dryers are rated at 45 MMBtu/hr and are used to produce DDGS to be sold as livestock feed. The dryers fire sweet natural gas from direct supplier pipeline and from <1% biomethanator gas produced in EU-METHANATOR (no longer in service). Syrup separated from thin stillage water by eight in-series evaporators is added to the grain in Dryer B for additional nutrients in the DDGS. Each dryer is equipped with a device to monitor gas usage on a continuous basis. The company records dryer gas usage on a daily and monthly basis.

Emissions from the dryers, mash preparation equipment, and distillation equipment, are controlled by a 125 MMBtu/hr. RTO. The facility is subject to the New Source Performance Standards (NSPS) of 40 CFR Part 60 Subpart Db due to the firing capacity of the RTO. As discussed above, a stack test was conducted in 2008 to determine the RTO C10 emissions. Per PTI No. 175-05D, special condition FG-RTO (I.1 & V.1), the stack test result of 1.63 pph PM10 emission rate for the RTO C10 was in compliance with the 3.67 pph permit limit. Per PTI No. 175 -05D, special condition FG-RTO (I.2 & V.1), the stack test result of 1.63 pph PM emission rate for the RTO C10 was in compliance with the 3.67 pph permit limit. Per PTI No. 175-05D, special condition FG-RTO (I.4 & V.3), the stack test result of 9.20 pph NOx emission rate for the RTO C10 was in compliance with the 21.50 pph permit limit. Per PTI No. 175-05D, special condition FG-RTO (I.5 & V.1), the stack test result of 0.8708 pph VOC emission rate for the RTO C10 was in compliance with the 4.1 pph permit limit. Per PTI No. 175-05D, special condition FG-RTO (I.6 & V.2), the stack test result of 7.24 pph CO emission rate for the RTO C10 was in compliance with the 21.6 pph permit limit. Per PTI No. 175-05D, special condition FG-RTO (I.7 & V.1), the stack test result of 0.68 pph SO2 emission rate for the RTO C10 was in compliance with the 10.96 pph permit limit. Per PTI No. 175-05D, special condition FG-RTO (I.8 & V.1), the stack test result of < 0.1695 pph Acetaldehyde emission rate for the RTO C10 was in compliance with the 0.34 pph permit limit. Per PTI No. 175-05D, special condition FG-RTO (I.9 & V.1), the stack test result of < 0.1175 pph Acrolein emission rate for the RTO C10 was in compliance with the 0.20 pph permit limit. Per PTI No. 175-05D, special condition FG-RTO (II.1), the facility uses only natural gas as fuel in EU-DRYERS and EU-RTO&HRSG. Per PTI No. 175-05D, special condition FG-RTO (II.2), submitted records showed the June 2020 monthly 12-month rolling total Dryer A and Dryer B natural gas usages are 255 million standard cubic feet (MMSCF) and 223 MMSCF respectively and in compliance with the 394 MMSCF permit limit. Per PTI No. 175-05D, special condition FG-RTO (II.3), submitted records showed the June 2020 monthly 12-month rolling total off-gas usage in EU-RTO&HRSG is 955 MMSCF and in compliance with the 1,095 MMSCF permit limit. Per PTI No. 175-05D, special condition FG-RTO (III.2), the 2008 stack test established the RTO combustion temperature at 1486°F. The PTI and the company's MAP allow the company to operate at +/- 50°F based on a three-hour rolling average. During walk -through inspection, I noted the RTO C10 combustion chamber temperature at 1471°F. Per PTI No. 175-05D, special condition FG-RTO (IV.1), Mr. Metevia mentioned that the EU-RTO&HRSG is equipped with low-NOx burners and a heat recovery steam generator. Per PTI No. 175-05D, special condition FG-RTO (VI.1 & 6), the facility conducts and records the monthly visible emissions observations on EU-RTO&HRSG. Per PTI No. 175-05D, special condition FG-RTO (VI.2 & 7), the facility monitors and conducts daily, monthly, and monthly 12-month rolling total natural gas usage and annual capacity factor for EU-RTO&HRSG. Per PTI No. 175-05D, special condition FG-RTO (VI.3 & 8), a temperature gauge continuously measures the combustion chamber temperature. Calibration on the gauge is conducted each year during the scheduled plant shutdown. The temperature

readings are recorded by a computer system in the Control Room, as well as by PEMS, every 15 minutes. An alarm (audio & visual) is triggered in the Operator Control Room and in the Energy Center Control Room, when the temperature drops below 1436°F. The company immediately performs corrective action when the alarm is triggered. The operators maintain records of out of range temperatures, reasons for exceedances, and corrective actions. The RTO is also equipped with a device to monitor gas usage on a continuous basis. The company keeps records of RTO gas usage on a daily and monthly basis. The company maintains fuel supplier certifications of the sulfur content for the natural gas. Biogas samples are also sent out for sulfur content analysis. Per PTI No. 175-05D, special condition FG-RTO (VI.4 & 5), the facility installed and operates a Predictive Emissions Monitoring System (PEMS) on the RTO. The PEMS uses boiler operator data to predict NOx emissions from FG-RTO. A Relative Accuracy Test Audit (RATA) is performed every year on the PEMS during fall to validate data accuracy. The PEMS records the average hourly NOx emission rate in lb/MMBtu, 30-day rolling average NOx emission rate in lb/MMBTU, instances of excess emissions, instances of system malfunctions, and instances of out of range NOx readings. The operators keep records of emission exceedances, reasons for exceedances, and corrective actions. The company submits to AQD excess emission reports (EERs) and PEMS summary reports on a quarterly basis. Appendix B of PTI 175-05D requires the Company to perform Quality Assurance Procedures in accordance with 40 CFR Part 60, Appendix B, PS-16. The company has been conducting quarterly relative accuracy audits (RAAs) of the PEMS in accordance with 40 CFR 60, Appendix B PS-16. The RAAs consist of at least three 30 –minute portable analyzer determinations and are to be conducted each quarter except on quarters when RATA is performed. On February 11, 2020, the facility conducted and passed the most recent annual relative accuracy test audit (RATA) on the Nitrogen Oxides (NOx) and Oxygen PEMS as required by NSPS Subpart Db and PTI No. 175-05D.

FG-ETHLOAD – pertains to denatured ethanol truck and rail load-out. This flexible group comprises of emission units EU-ETHLOAD_TRK, EU-ETHLOAD_RL and the emissions are controlled by a loadout flare C50. Per PTI No. 175-05D, special condition FG-ETHLOAD (II.1), submitted records showed the June 2020 monthly 12-month rolling total ethanol and denaturant throughput rate is 55,142,118 gallons/year and in compliance with the 65 million gallons permit limit. Per PTI No. 175-05D, special condition FG-ETHLOAD (II.2), submitted records showed the June 2020 monthly 12-month rolling total denaturant throughput rate is 1,184,953 gallons/year and in compliance with the 3.095 million gallons permit limit. Per PTI No. 175-05D, special condition FG-ETHLOAD (III.1), the loadout flare C50 has an interlock loadout system with an electronic pilot and flame detection system. Per Mr. Metevia, denatured ethanol is currently transferred off-site by truck only. The flare is air-assisted and equipped with an interlock system which automatically starts-up the flare if a truck hooks up to load-out. The loading and vapor return lines are equipped with vapor tight fittings. Per PTI No. 175-05D, special condition

FG-ETHLOAD (III.2), the MAP specifies that a flame shall be present at all times that the flare is used and that there shall be no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. The facility conducts flare maintenance following the MAP. During walk-through inspection, there was no truck loading, thus I did not verify any visible emissions.

FG-NSPSTANKS – known as the tank farm and pertains to Ethanol, gasoline denaturant, and denatured ethanol storage tanks. The tank farm includes 5 storage tanks under emission units: EU-190PROOF (165,000 gal. ethanol), EU-200PROOF (165,000 gal. ethanol), EU-DENATTANK (165,000 gal. gasoline denaturant), EU-DENATETOH1 (750,000 gal. denaturant ethanol), EU-DENATETOH2 (750,000 gal. denaturant ethanol). Per PTI No. 175-05D, special condition FG-NSPSTANKS (III.2), EU-DENATTANK is equipped with a permanent submerged fill pipe. Per PTI No. 175-05D, special condition FG-NSPSTANKS (III.1 & IV), the emission units comply with applicable requirements in 40 CFR Part 60 Subparts A and Kb. Each tank is equipped with an internal floating roof (IFR) and is labeled for contents. Per PTI No. 175-05D, special condition FG-NSPSTANKS (VI), the facility conducts inspections of the tanks. The seals are visually inspected prior to every fill. I obtained copies of inspection records that were conducted in May, July, and August 2020. Per the inspection records, all tanks have floating roofs; the seals looked good; no liquids present in the roofs, no holes or tears observed; and all hatches are closed. I also obtained a copy of a third party “API 653 Out of Service Inspection Report” on EU-190PROOF conducted by QSQUALSPEC.

FG-NSPSVV – pertains to 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 subject to 40 CFR Part 60 Subpart VV. Per PTI No. 175-05D, special condition FG-NSPSVV (III, IV, VI, & VII), the facility follows the Leak Detection and Repair Plan (LDAR) to comply with the applicable requirements of NSPS Subpart VV. The facility submits semi-annual LDAR reports to AQD based on quarterly assessments for equipment inspections conducted, leaks detected, and actions taken. The facility performs walk-through inspections once per shift. They visually inspect the distillation area, energy center (RTO & dryers), process area (mash prep & fermentation building), the tank farm, and the ethanol load-out area. They maintain records of their walk-through observations.

FG-FACILITY – pertains to Source-Wide applicable requirements including criteria pollutants, individual HAP and aggregate HAPs emission limit restrictions to opt the facility out of the Clean Air Act of 1990, Title 5, Renewable Operating Permit requirements. Per PTI No. 175-05D, special condition FG-FACILITY (I.1), the source-wide 39.34 tpy June 2020 monthly 12-month rolling total NOx emission rate was in compliance with the 94.30 tpy permit limit. Per PTI No. 175-05D, special

condition FG-FACILITY (I.2), the source-wide 34.22 tpy June 2020 monthly 12-month rolling total VOC emission rate was in compliance with the 56.30 tpy permit limit. Per PTI No. 175-05D, special condition FG-FACILITY (I.3), the source-wide 32.50 tpy June 2020 monthly 12-month rolling total CO emission rate was in compliance with the 96.40 tpy permit limit. Per PTI No. 175-05D, special condition FG-FACILITY (I.4), the source-wide 1.63 tpy June 2020 monthly 12-month rolling total PM emission rate was in compliance with the 43.10 tpy permit limit. Per PTI No. 175-05D, special condition FG-FACILITY (I.5), the source-wide 11.79 tpy June 2020 monthly 12-month rolling total PM10 emission rate was in compliance with the 42.90 tpy permit limit. Per PTI No. 175-05D, special condition FG-FACILITY (I.6), the source-wide 5.44 tpy June 2020 monthly 12-month rolling total PM2.5 emission rate was in compliance with the 29.60 tpy permit limit. Per PTI No. 175-05D, special condition FG-FACILITY (I.7), the source-wide 2.64 tpy June 2020 monthly 12-month rolling total SO2 emission rate was in compliance with the 48.00 tpy permit limit. Per PTI No. 175-05D, special condition FG-FACILITY (I.8), the source -wide 2.36 tpy June 2020 monthly 12-month rolling total emission rate for individual HAP (Acetaldehyde) was in compliance with the < 10.00 tpy permit limit. Per PTI No. 175-05D, special condition FG-FACILITY (I.9), the source-wide 2.96 tpy June 2020 monthly 12-month rolling total emission rate for aggregate HAPs was in compliance with the < 22.00 tpy permit limit. Per PTI No. 175-05D, special condition FG-FACILITY (II.1), the 1,433 MSCF FG-FACILITY monthly 12-month rolling total natural gas combustion rate, as reported for June 2020, was in compliance with the 1,620 MSCF permit limit. Per PTI No. 175-05D, special condition FG-FACILITY (III.1), the facility submitted a copy of the Malfunction Abatement Plan (MAP) and discussed with AQD staff how the MAP is being implemented to address maintenance, any recordkeeping requirements, and potential malfunction abatements at the facility. Per PTI No. 175-05D, special condition FG-FACILITY (III.2), I obtained a copy of the Odor Management Plan (OMP) which is primarily used when the facility is producing and storing WDGS. Per PTI No. 175-05D, special condition FG-FACILITY (III.3 & 5), the facility maintains a Fugitive Emissions Control Plan to control fugitive emissions from DDG, corn receiving, truck routes, and miscellaneous potential sources at the facility. I obtained a copy of the facility layout that shows the equipment/building locations. The main roads, parking lots, and truck staging areas are paved but the facility maintains a sweeper for additional dust control including spillage. Per PTI No. 175-05D, special condition FG-FACILITY (III.4), the facility also maintains an Emergency Response Plan that is shared with the local fire department. Per PTI No. 175-05D, special condition FG-FACILITY (IV.1 & 2), I observed a sign posted outside the guardhouse by the main entrance gate with the emergency phone numbers for the owner, primary operator, local and state police, local fire department, and ambulance service. I also observed that the entire facility is fenced, posted warning signs at various locations along the fence and within facility grounds.

Overall, I did not find any noncompliance issues during inspection.

NAME _____ DATE September 30, 2020 SUPERVISOR _____