

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection**

N692166456

| | |
|---|--------------------------------------|
| FACILITY: Indeck Niles LLC | SRN / ID: N6921 |
| LOCATION: 2200 Progressive Ave, NILES | DISTRICT: Kalamazoo |
| CITY: NILES | COUNTY: CASS |
| CONTACT: Thomas Krysiak , Environmental, Health and Safety Manager | ACTIVITY DATE: 12/07/2022 |
| STAFF: Rachel Benaway | COMPLIANCE STATUS: Compliance |
| SUBJECT: On-site inspection to verify compliance with permit conditions and all state and federal air use regulations. | SOURCE CLASS: MAJOR |
| RESOLVED COMPLAINTS: | |

The purpose of this inspection on 12/7/2022 by AQD staff, Rachel Benaway, was to verify Indeck Niles, LLC (N6921), an electric power generation plant, is in compliance with their Permit to Install (PTI) #75-16B and all state and federal air use regulations. Indeck is considered a major source of emissions for nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOCs), sulfuric dioxide (SO₂), sulfuric acid mist (H₂SO₄), particulate matter (PM, PM 2.5, PM10), and greenhouse gases (GHGs). At this time, the facility is subject to New Source Performance Standards (NSPS) 40 CFR 60 Subparts A, Db, Dc, KKKK, TTTT, and IIII. Thomas Krysiak is the Environmental, Health, and Safety Manager and the Responsible Official for the facility. Madison Mosher is the Compliance Manager for the facility, responsible for submitting requested records. Both individuals were present for the on-site inspection. Personal protection equipment includes a hard hat, safety glasses, and safety shoes.

The facility employs approximately 21 people working 2 shifts per day, 7 days a week. Initial startup for EUAUXBOILER occurred on October 9, 2021. Initial startup of EUCTGHRSG1&2 occurred on December 26, 2021. At the time of this inspection, the facility was conducting a Relative Accuracy Test Audit (RATA) for EUAUXBOILER's Continuous Emissions Monitoring System (CEMS), but EUCTGHRSG1&2 were not operating due to a maintenance outage that will be discussed in this report.

| # | Permitted Equipment | Unit ID |
|-----|--|---------------|
| 2 | 3,651 MMBtu/hr natural gas-fired combustion turbine generators with HRSG, 71 MMBtu/hr duct burners and dry low NOx burners, SCR, and Ox catalyst | EUCTGHRSG1&2 |
| 1 | 182 MMBtu/hr Auxiliary Boiler for CTG/HRSG startup with low NOx burners and flue gas recirculation | EUAUXBOILER |
| 2 | 13.5 MMBtu/hr natural gas-fired fuel gas dew point heater for superheating gas | EUGUELHTR1&2 |
| 1 | 2,922 HP diesel-fired emergency engine | EUENGINE |
| 3 | 3,500-gallon tank for diesel fuel | EUEMFUELTANK |
| 1 | Cold cleaner | EUCOLDCLEANER |
| 1 | Diesel-fired emergency fire pump engine | EUFPEENGINE |
| 1 | 500-gallon tank for diesel fuel | EUFPFUELTANK |
| ≤44 | Natural gas-fired space heaters | FGSPACEHTRS |

The facility has submitted an application to modify PTI #75-16B to resolve discrepancies between equipment that was permitted and that which was actually installed or was never installed. Changes to the PTI are as follows:

| # | Proposed Permitted Equipment | Unit ID | Changes |
|---|--|--------------|---|
| 2 | 3,651 MMBtu/hr natural gas-fired combustion turbine generators with HRSG, 71 MMBtu/hr duct burners and dry low NOx burners, SCR, and Ox catalyst | EUCTGHRSG1&2 | NO CHANGE |
| 1 | 85 MMBtu/hr Auxiliary Boiler for CTG/HRSG startup with low NOx burners and flue gas recirculation | EUAUXBOILER | Now subject to 40 CFR Part 60 Subpart Dc, CEMS no longer required |
| 2 | 7.3 MMBtu/hr natural gas-fired fuel gas dew point heater for superheating gas | EUGUELHTR1&2 | No longer subject to 40 CFR Part 60 Subpart Dc |
| 1 | 2,923 HP diesel-fired emergency engine | EUENGINE | Increase of 1 HP |

| | | | |
|-----|---|---------------|--|
| 3 | 3,500-gallon tank for diesel fuel | EUEMFUELTANK | NO CHANGE |
| 1 | Cold cleaner | EUCOLDCLEANER | NO CHANGE |
| 1 | Diesel-fired emergency fire pump engine- Remove from PTI | EUFPEENGINE | Units installed are EXEMPT (RULE 285(2)(g)) |
| 1 | 500-gallon tank for diesel fuel- Remove from PTI | EUFPFUELTANK | Not installed |
| ≤44 | Natural gas-fired space heaters- Remove from PTI | FGSPACEHTRS | Units installed are EXEMPT (Rule 285(2)(g)) |

The following is a list of special conditions listed in the PTI for each emission unit and flexible group of which staff was able to make a compliance determination. Compliance verification notes have been made below in bold text where the condition is listed. Until a new PTI is issued to reflect different equipment, Staff has verified compliance with all PTI conditions as written or has made a note that the condition is not applicable.

EUAUXBOILER

The natural gas-fired auxiliary boiler facilitates startup of the CTG/HRSG trains and provides steam to the steam turbine generator seals. The boiler is equipped with a low NO_x burner and flue gas recirculation, as well as a Burner Management System and Combustion Control System to automatically maintain the fuel-air ratio and control O₂ trim for the boiler burner. A PTI amendment is currently being processed to correct inconsistencies as the unit installed is actually smaller than that permitted. The installed unit will likely be subject to a different 40 CFR Part 60 Subpart and will most likely not require the maintenance of a CEMS.

Emission Limits:

| SC | Pollutant | Limit | Time Period/Operating Scenario | COMPLIANT? |
|-----|------------------------------|----------------|--|------------|
| I.1 | NO _x | 0.04 lb/MMBTU | 30-day rolling average time period (30-DRT) | Y |
| I.2 | CO | 0.04 lb/MMBTU | Hourly | Y |
| I.3 | PM | 0.005 lb/MMBTU | Hourly | Y |
| I.4 | PM10 | 1.36 pph | Hourly | Y |
| I.5 | PM2.5 | 1.36 pph | Hourly | Y |
| I.6 | SO ₂ | 0.6 lb/MMscf | Based upon fuel receipt records. | Y |
| I.7 | VOC | 0.004 lb/MMBTU | Hourly | Y |
| I.8 | GHGs as CO ₂ e | 93,346 tpy | 12-month rolling time period (12- MRT) | Y |

| SC | Condition | COMPLIANT? |
|-------|---|------------|
| II.1 | Only burn pipeline quality natural gas w/ sulfur content of 2,000 gr per MMscf or less (Certificate of Analysis and ANR tariff agreement submitted) | Y* |
| III.1 | Implement and maintain a Malfunction Abatement Plan (MAP) (MAP submitted on 4/5/2022) | Y |
| IV.1 | Max design heat input capacity shall not exceed 182 MMBTU/hr on fuel heat input basis (Actual heat input highest 2022: 1,078) | Y |
| IV.2 | Shall not operate unless low NO _x burners and flue gas recirculation system are installed, maintained, and operated in a satisfactory manner | Y |
| IV.3 | Install, calibrate, maintain, and operate, in a satisfactory manner, a device to monitor and record the hourly and daily natural gas usage rate | Y* |
| IV.4 | Install, calibrate, maintain, operate in a satisfactory manner, devices to monitor and record the NO _x emissions, and oxygen (O ₂), or carbon dioxide (CO ₂), content of the exhaust gas on continuous basis | Y |
| V.1 | Verify CO, PM, and VOC emission rates from EUAUXBOILER by testing within 180 days of initial startup (Initial test date: 10/27/2021) | Y |
| V.2 | Verify PM10 and PM2.5 emission factors from EUAUXBOILER by testing within 180 days of initial startup (Initial test date: 10/27/2021) | Y |

Monitoring/Recordkeeping:

| SC Condition | COMPLIANT? |
|---|-------------------|
| VI.2 Continuously monitor and record <u>NOx and O2 or CO2 emission rates (SC I.1)</u> | Y |
| VI.3 <u>NOx emission rates (SC I.1: 0.04 lb/MMBTU 30-DRT)</u> -daily (Highest 2022: 0.059 lb/MMBtu) -30-day rolling average (December 2022: 0.03 lb/MMBtu) | Y |
| VI.4 <u>Natural Gas Usage (cubic feet)</u> -hourly -daily -monthly -12-month rolling time | Y |
| VI.5 <u>Annual capacity factor for natural gas</u> -monthly (Highest: 0.019) -12-month rolling time (Highest: 0.016) | Y |
| VI.6 Fuel receipts to certify gas meets definition in 40 CFR 60.41b and indicates sulfur content (Certificate of Analysis submitted) | Y |
| VI.7 <u>PM10 and PM2.5 mass emissions calculations (SC I.4&5: 1.36 pph)</u> -hourly | Y |
| VI.8 Records validating the SO ₂ emission factor in SC I.6 based upon the most recent fuel receipts (Certificate of Analysis submitted) | Y* |
| VI.9 <u>CO₂e mass emissions (SC I.8 limit 93,346 tons per 12-MRT)</u> -monthly (Highest monthly: 1,338 tons) -12-month rolling total (12-MRT December 2022: 5,766 tons) | Y |
| VII.1 Provide written notification of construction and operation (40 CFR 60.7) (Notifications sent on 9/13/2019) | Y |
| VII.2 Provide written notification of the actual date of initial startup (40 CFR 60.49b(a)): a) The design heat input capacity of EUAUXBOILER and identification of the fuels to be combusted in EUAUXBOILER. b) The annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each individual fuel fired. (Notification sent on 10/11/21) | Y |

*Indeck has installed a gas chromatograph to continuously monitor the natural gas Gross Calorific Value (GCV) for EUAUXBOILER, EUCTGHRSG1&2, and EUFUELHTR1&2). A total sulfur analysis of the facility natural gas was conducted during the 2021 stack test and RATA. The submitted fuel analysis certificate indicated results of 0.003 grains/100scf, which is below the SC II.1 limit.

EUAUXBOILER appears to be in compliance with all permit conditions at this time.

EUENGINE

The diesel-fired, Mitsubishi emergency generator is housed within the northeast portion of the property. Conditions and compliance verified for the unit during this inspection are listed below.

Emission Limits:

| SC | Pollutant | Limit | Time Period/Operating Scenario | COMPLIANT? |
|-----|------------------------------------|---------------------------|--------------------------------|------------|
| I.1 | NMHC ^B +NO _x | 6.4 g/kW-hr ^C | Hourly | Y |
| I.2 | CO | 3.5 g/kW-hr ^C | Hourly | Y |
| I.3 | PM | 0.20 g/kW-hr ^C | Hourly | Y |
| I.4 | PM10 | 1.58 pph | Hourly | Y |
| I.5 | PM2.5 | 1.58 pph | Hourly | Y |
| I.6 | GHGs as CO ₂ e | 928 tpy | 12-month rolling time | Y |

Compliance with the above emission limits was demonstrated by EPA certified data from certified engineer specification sheet and submitted emissions calculations.

| SC Condition | COMPLIANT? |
|---------------------|-------------------|
| II.1 | Y |

| | | |
|-------|--|----|
| | Burn only diesel fuel with the maximum sulfur content of 15 ppm (0.0015 percent) by weight, and a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent | |
| III.1 | Shall not operate more than 4 hours per day, except during emergency conditions and required stack testing in SC V.1, and not more than 500 hours per year on a 12-month rolling time period | Y |
| III.2 | May operate EUENGINE for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing | Y |
| III.3 | IF CERTIFIED: Operate/maintain according to manufacturer's instructions and meet requirements of 40 CFR 89, 9, and/or 1068 (Engine is certified.) | Y |
| IV.1 | Equip and maintain EUENGINE with a non-resettable hours meter | Y |
| IV.2 | Maximum rated power output of EUENGINE shall not exceed a nameplate capacity of 2,179 kW | N* |
| IV.3 | Monitor, in a satisfactory manner, the diesel fuel usage on a continuous basis | Y |
| V.1 | Conduct initial performance test IF not installed, configured, operated, and maintained according to manufacturer's instructions | NA |

*A PTI amendment to correct this inconsistency with the installed equipment is currently being processed.

Monitoring/Recordkeeping:

| SC Condition | COMPLIANT? |
|--|-------------|
| VI.2 For certified engine: records of the manufacturer certification documentation. (Notification sent on 10/26/2021) | Y* |
| VI.3 For certified engine: records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.3 | Y* |
| VI.4 <u>Diesel fuel usage</u> -hourly -monthly -12-month rolling time period basis | Y |
| VI.5 <u>PM10 and PM2.5 mass emissions (SC I.4 and SC I.5)</u> -hourly | Y |
| VI.6 <u>CO₂e mass emissions (SC I.6)</u> -monthly -12-month rolling time (Highest 2022: 8.5 TPY) | Y |
| VI.7 <u>Total hours of operation</u> -hourly, -daily, -monthly, -12-month rolling time -What classified operation as emergency -How many hours spent for non-emergency operation | Y Y Y |
| VI.8 Fuel supplier certification records or fuel sample test data for each delivery of diesel fuel oil (40 CFR 80.510(b) and SC II.1) with name of the oil supplier or laboratory, sulfur content, cetane index or aromatic content of the fuel oil (Certificate of Analysis submitted from 1-28-22) | Y** |
| VII.1 Notify the AQD District Supervisor, in writing, of the completion of installation, construction, reconstruction, relocation, or modification within 30 days after completion (Notification sent on 10/26/2021) | Y |
| VII.2 Submit a notification specifying whether EUENGINE will be operated in a certified or an uncertified manner within 30 days following the initial startup and within 30 days of switching the manner of operation (Notification sent on 10/26/2021) | Y |

*Manufacturer's emission data sheet was submitted indicating the EPA certificate data.

**Certificate of Analysis submitted from Intertek/Caleb Brett laboratory, indicating maximum sulfur content of 7.8 mg/kg (7.8 ppm) and minimum cetane index of 44.3.

EUENGINE appears to be in compliance at this time.

EUPENGINE

A 260 brake HP diesel-fueled emergency fire pump engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The fire pump engine has an indicated HP of 300 on the nameplate.

NA: Unit was never installed. A PTI amendment is currently being processed to omit this unit. No compliance verification can be made at this time.

EUCOLDCLEANER

The facility has one parts washer in the maintenance area that is not a heated unit. The washer had the mechanically assisted lid down at the time of inspection and directions for use were clearly posted. The facility submitted an MSDS for the Safety-Kleen Premium cleaning solvent.

| SC Condition | COMPLIANT? |
|--|-------------------|
| II.1 Shall not use cleaning solvents containing more than five percent by weight of the following halogenated compounds: methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chloroform, or any combination thereof | Y |
| III.1 Parts shall be drained for no less than 15 seconds or until dripping ceases | Y |
| IV.2 Perform routine maintenance on each cold cleaner as recommended by the manufacturer | Y |
| IV.3 Cold cleaner must meet one of the following design requirements: (R 336.1225, R 336.1702(a)) | Y |
| a. The air/vapor interface of the cold cleaner is no more than ten square feet. | |
| b. The cold cleaner is used for cleaning metal parts and the emissions are released to the general in-plant environment. | |
| IV.4 Shall be equipped with a device for draining cleaned parts | Y |
| IV.5 Shall be equipped with a cover and the cover shall be closed whenever parts are not being handled in the cold cleaner | Y |

Monitoring/Recordkeeping:

| SC Condition | COMPLIANT? |
|--|-------------------|
| VI.1 If solvent is heated, temperature shall be monitored/recorded at least once each calendar week during routine operating conditions | NA |
| VI.2 Maintain the following information on file for each cold cleaner: | Y |
| a) A serial number, model number, or other unique identifier for each cold cleaner. | |
| b) The date the unit was installed, manufactured or that it commenced operation. | |
| c) The air/vapor interface area. | |
| d) The Reid vapor pressure of each solvent used. | |
| e) If applicable, the option chosen to comply with SC IV.5. | |
| VI.3 Maintain written operating procedures for each cold cleaner. These written procedures shall be posted in an accessible, conspicuous location near each cold cleaner | Y |
| VI.4 As noted in Rule 707(3)(c), if applicable, an initial demonstration that the waste solvent is a safety hazard shall be made prior to storage in non-closed containers. If the waste solvent is a safety hazard and is stored in non-closed containers, verification that the waste solvent is disposed of so that not more than 20 percent, by weight, is allowed to evaporate into the atmosphere shall be made on a monthly basis | NA |

The cold cleaner appears to be in compliance with permit requirements at this time.

FGCTGHRSG

Indeck produces electricity by utilizing two General Electric 7HA.02 natural gas-fired combined cycle combustion turbine generator (CTG or CT) and heat recovery steam generator (HRSG) trains. Each CTG has a maximum design heat input capacity of 3,651 MMBtu/hr and is equipped with a 71 MMBtu/hr natural gas-fired duct burner. The CTG/HRSG train uses dry low NOx burners (DLNB) and selective catalytic reduction (SCR) for NOx pollution control and an oxidation catalyst system for CO and VOC control. The CTG/HRSG trains are housed individually at the center of the property.

Emission Limits:

| SC | Pollutant | Limit | Time Period/Operating Scenario | COMPLIANT? |
|-----|-----------------|---|---|------------|
| I.1 | NO _x | 2 ppmvd at 15% O ₂ (each unit) ^F | 24-hour rolling average, except during startup and shutdown | Y |
| I.2 | NO _x | 15 ppm at 15% O ₂ (each unit) ^F | 30-day rolling average | Y |
| I.3 | NO _x | 27.4 pph (each unit) ^F | 24-hour rolling average, except during startup and shutdown | Y |

| | | | | |
|------|--|--|---|--------------|
| I.4 | NO _x | 286 pph (each unit) ^H | Operating hour during startup or shutdown ^H | Y |
| I.5 | CO | 4 ppmvd at 15% O ₂ (each unit) ^F | 24-hour rolling average, except during startup and shutdown | Y |
| I.6 | CO | 24.7 pph (each unit) ^F | 24-hour rolling average, except during startup and shutdown | Y |
| I.7 | CO | 3,537 pph (each unit) ^H | Operating hour during startup or shutdown ^H | Y |
| I.8 | PM | 9.9 pph (each unit) | Hourly | Y-Stack Test |
| I.9 | PM10 | 19.8 pph (each unit) | Hourly | Y-Stack Test |
| I.10 | PM2.5 | 19.8 pph (each unit) | Hourly | Y-Stack Test |
| I.11 | SO ₂ | 11.7 pph (each unit) | Hourly | Y-Stack Test |
| I.12 | SO ₂ | 0.060 lb/MMBTU | Hourly | Y-Stack Test |
| I.13 | VOC | 4 ppmvd at 15% O ₂ (each unit) ^F | Hourly | Y-Stack Test |
| I.14 | Sulfuric acid mist (H ₂ SO ₄) | 4.6 pph (each unit) | Hourly | Y-Stack Test |
| I.15 | GHGs as CO ₂ e | 1,911,481 tpy (each unit) | 12-month rolling time period | Y |
| I.16 | CO ₂ | 802 lb/MWh | 12-operating month rolling average | Y |
| I.17 | Formaldehyde | 9.3 tpy | 12-month rolling time period | Y |

Results from the stack test conducted on 6/21/2022 through 6/23/2022 demonstrated compliance with the above emission limits with the following emission rates for each unit:

| Pollutant | Unit #1 | Unit #2 |
|--------------------------------------|----------|----------|
| Filterable PM (pph) | 0.9 | 1.43 |
| PM10/2.5 (pph) | 3.97 | 3.35 |
| SO ₂ (pph) | 0.028 | 0.029 |
| SO ₂ (lb/MMBtu) | 8.41E-06 | 8.54E-06 |
| VOC (ppmvd @ 15% O ₂) | 0.00 | 0.00 |
| H ₂ SO ₄ (pph) | 0.03 | 0.04 |

| SC Condition | COMPLIANT? |
|---|------------|
| II.1 Burn only pipeline quality natural gas | Y |
| II.2 Natural gas shall not have a total sulfur content in excess of 20 gr of sulfur per 100 scf | Y |
| III.1 Submit, implement, and maintain a malfunction abatement plan (MAP) within 180 days of trial operation- (MAP received 4/22) | Y |
| III.2 Shall not operate any unit in FGCTGHRSG unless the AQD District Supervisor has approved a plan that describes how emissions will be minimized during startup and shutdown (Combined w/MAP) | Y |
| III.3 Total startup/shutdown hours for each CTG/HRSG train in FGCTGHRSG shall not exceed 500 hours per 12-month rolling time period as determined at the end of each calendar month | Y |
| III.4 Shall operate and maintain EUCTGHRSG1 and EUCTGHRSG2 of FGCTGHRSG, including associated equipment and monitors, in a manner consistent with safety and good air pollution control practice | Y |
| IV.1 Maximum design heat input capacity for each turbine in FGCTGHRSG shall not exceed, on a fuel heat input basis, 3,651 MMBTU/hr and the design heat input capacity for each duct burner in FGCTGHRSG shall not exceed, on a fuel heat input basis, 71 MMBTU/hr | Y |
| IV.2 | Y |

- Shall not operate EUCTGHRSG1 or EUCTGHRSG2 of FGCTGHRSG unless each respective dry low NO_x burners, selective catalytic reduction, and oxidation catalyst are installed, maintained, and operated in a satisfactory manner, for each CTG/HRSG
- IV.3 Shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor and record the NO_x emissions and oxygen (O₂), or carbon dioxide (CO₂), content of the exhaust gas from both EUCTGHRSG1 and EUCTGHRSG2 of FGCTGHRSG on a continuous basis Y
 - IV.4 Install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the CO emissions and oxygen (O₂), or carbon dioxide (CO₂), content of the exhaust gas from both EUCTGHRSG1 and EUCTGHRSG2 of FGCTGHRSG on a continuous basis Y
 - IV.5 Install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the natural gas flow rate for EUCTGHRSG1 and EUCTGHRSG2 of FGCTGHRSG on a continuous basis Y
 - IV.6 Install, calibrate, maintain and operate in a satisfactory manner a sufficient number of watt meters to continuously measure and record the hourly gross electric output from EUCTGHRSG1 and EUCTGHRSG2 of FGCTGHRSG Y
 - V.1 Within 180 days after commencement of initial startup, the permittee shall verify PM, PM10, PM2.5, SO₂, VOC, and H₂SO₄ emission rates from EUCTGHRSG1 and EUCTGHRSG2 of FGCTGHRSG at **maximum routine operating conditions.** Y
(Testing completed 7-15-22 GTG#1&2) (RATA completed 6/22/22)
 - V.2 Shall conduct testing to verify the formaldehyde emission factor from EUCTGHRSG1 and EUCTGHRSG2 of FGCTGHRSG at **maximum routine operating conditions** Y
 - a) An initial test within 180 days after commencement of initial startup.
(Testing completed 7-15-22 GTG#1&2)
 - b) Subsequent tests shall be performed once per year for a period of two years to develop a baseline data set consisting of three separate test reports (the initial test and two subsequent tests).
 - c) Each subsequent test after the baseline data set is developed shall be performed once per year.
 - d) After the baseline data set is developed, if two consecutive test results are less than 75 percent of the base emission factor, then the subsequent test may be performed once every three years
 - e) If a test results in an emission factor at or above the 75 percent threshold, then the subsequent tests shall revert back to an annual timeframe as described in SC V.2(c).
 - f) After the baseline data set is developed, if two consecutive test results are less than 55 percent of the base emission factor, then the subsequent test may be performed once every five years. The emission factor and threshold are above.
 - g) If a test results in an emission factor at or above the 55 percent threshold, then the subsequent tests shall revert back to once every three years if below the 75 percent threshold as described in SC V.2(d) or an annual timeframe as described in SC V.2(c).
 - h) If a test results in an emission factor above the listed base emission factor, then procedures shall be enacted to address future emissions according to the MAP required in SC III.1.

The facility submitted a fuel analysis report indicating no exceedance of the 20 grains per 100 scf limit. The facility submitted hours of operation for the duct burner and turbines with startup and shutdown hours demonstrating compliance with the 12-month rolling time limits listed above. The facility records the NO_x, CO, and O₂ content of exhaust gas from each CT/HRSG train with a Continuous Emissions Monitor (CEMs) for which they meet all timelines and reporting requirements. The facility is tracking natural gas usage for each CT/HRSG train on a continuous basis and submitted reports with monthly and 12-month rolling totals for each unit.

Monitoring/Recordkeeping:

| SC Condition | COMPLIANT? |
|---|------------|
| VI.2 Continuously monitor and record, in a satisfactory manner, the NO _x and CO emissions and the O ₂ , or CO ₂ , emissions (Appendix A) | Y |
| VI.3 NO _x concentration and mass emission records (SC I.1, SC I.2, SC I.3, and SC I.4) -hourly -24-hour rolling average -30-day rolling average | Y |
| VI.4 CO concentration and mass emission records (SC I.5, SC I.6, SC I.7) -hourly -24-hour rolling average | Y |
| VI.5 Natural gas usage -monthly | Y |
| VI.6 CO ₂ e mass emissions (SC I.15) -monthly -12-month rolling total | Y |
| VI.7 CO ₂ mass emissions (40 CFR 60.5535(b) or (c) and 40 CFR 60.5540(a)) | |

- hourly -hourly gross energy output for both units Y
- VI.8 Calculate and keep records of the monthly and initial and each subsequent 12-operating-month calculation (SC I.16) according to the procedures described in 40 CFR 60.5540: Y
 - a) Total data is determined by summing valid operating hours for either CO₂ mass emissions or gross energy output.
 - b) To determine compliance with SC I.16, the total CO₂ mass emissions for each unit, EUCTGHRSG1 and EUCTGHRSG2 of FGCTGHRSG, shall be divided by the total gross energy output value of the same unit, EUCTGHRSG1 or EUCTGHRSG2 of FGCTGHRSG.
 - c) The final calculated value shall be rounded to two significant figures if the calculated value is less than 1,000 and to three significant figures if the calculated value is greater than 1,000.
- VI.9 Total hours of startup and shutdown for each unit Y
 - monthly -12-month rolling total
- VI.10 Formaldehyde mass emissions (SC I.17) Y
 - monthly -12-month rolling total
- VI.11 Maintain records: (40 CFR 60.7(f)) Y
 - a) Compliance tests and any testing required under this permit.
 - b) Monitoring data.
 - c) Total sulfur content and potential sulfur emissions of the natural gas.
 - d) Verification of heat input capacity.
 - e) Identification, type, and amount of fuel combusted on a calendar month basis.
 - f) Gross energy output on a calendar month basis.
 - g) All records required by 40 CFR 60.7.
 - h) Records of the duration of all dates and times of startup and shutdown events.
 - i) All calculations necessary to show compliance with the limits contained in this permit.
 - j) All records related to, or as required by, the MAP and the startup and shutdown plan.
- VII.1 Notify AQD District Supervisor, in writing, of the completion of installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install within 30 days after completion (Rule 204) Y
- VII.2 Provide written notification of the date construction commences and the actual date of initial startup of each unit in FGTURBINES Y
(Notifications received in timely manner)
- VII.3 Submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7 (c) and with 40 CFR 60.4375 and 40 CFR 4380 Y
- VII.4 Prepare and submit the notifications specified in 40 CFR 60.19, as applicable, and 40 CFR 75.61, as applicable, for each unit Y
- VII.5 Submit electronic quarterly reports as follows: (40 CFR 60.5555(a) & (b)) Y
 - a) After each unit has accumulated the first 12-operating months, the permittee shall submit a report for the calendar quarter that includes the twelfth operating month no later than 30 days after the end of that quarter.
 - b) Thereafter, the permittee shall submit a report for each subsequent calendar quarter, no later than 30 days after the end of the quarter.
 - c) Each quarterly report shall include the information specified in 40 CFR 60.5555(a)(2).
 - d) The final quarterly report of each calendar year shall include the information specified in 40 CFR 60.5555(a)(3).
 - e) All electronic reports shall be submitted using the Emissions Collection and Monitoring Plan System (ECMPS) Client Tool provided by the Clean Air Markets Division in the Office of Atmospheric Programs of EPA.
- VII.6 Meet all applicable reporting requirements and submit reports as required under 40 CFR Part 75 Subpart G in accordance with 40 CFR 75.64(a), which is also listed in 40 CFR 60.5555(c)(3)(i) Y

In December of 2022, the facility reported the following 12-month rolling totals:

| (TONS) | Unit 1 | Unit 2 | ROP LIMIT |
|----------------------------|---------|---------|---------------|
| GHGs as CO ₂ e: | 724,087 | 695,938 | 1,911,481 tpy |
| Formaldehyde: | 0.1 | 0.5 | 9.3 |

In December of 2022, the facility reported the following 12-month rolling averages:

| (lb/MWh) | Unit 1 | Unit 2 | ROP LIMIT |
|----------|--------|--------|-----------|
|----------|--------|--------|-----------|

CO2: 764 757 802

The facility tracks all downtime for the CEMs including failed and quality assurance calibration times and submits the information in their quarterly reports. All excursions and corrective actions are reported according to the required timelines and delivery methods. Deviations and all communications are documented. The facility has a record of good communication and attention to corrective actions when necessary.

The facility completed performance testing for CO, total hydrocarbons/volatile organic compounds (THC/VOC), sulfur dioxide (SO2) in fuel, PM, sulfuric acid mist (H2SO4), and formaldehyde on both units within 180 days of initial startup. The stack testing was completed between 7/21/22 and 7/23/22 for EUCTGHRSG1&2. A Relative Accuracy Test Audit (RATA) was complete for both CEMS units on 6/22/22.

The facility sent notification on 9/19/22 detailing a rupture that was discovered on the HRSG expansion joint on 9/14/22. The facility submitted that approximately 99.8% of the flue gas circulating through the duct was still being controlled by the SCR and oxidation catalyst during unit operations, resulting in 0.2% untreated flue gas fugitive emissions. Estimated NOx and CO emissions were then conservatively calculated to demonstrate continued compliance with emission limits during operations. The facility submitted thermal imagery to establish a baseline for the joint tear. Until the facility commenced a maintenance outage to conduct repairs, AQD Staff requested a temporary monitoring plan to include FLIR imagery conducted at least three times a week and a report with the images submitted once a week until the repairs began, with the caveat that if significant change in the size of the rupture was detected, the unit would be shutdown. The facility submitted weekly monitoring data until the unit was shutdown for maintenance on 11/4/22. After repairs were completed, a final report was sent including thermal imagery that confirmed the leak was repaired. The facility also submitted an updated CTGHRSG Startup, Shutdown, and Malfunction/Malfunction Abatement Plan to include a section on fugitive emissions on 11/15/22.

FGCTGHRSG appears to be in compliance with permit requirements at this time.

FGFUELHTR

The facility has two natural gas-fired fuel gas dew point heaters located at the Northeast section of the property, adjacent to the emergency generator. A PTI amendment is currently being processed to correct inconsistencies as the units installed are actually smaller than those permitted and likely no longer subject to 40 CFR Part 60 Subpart Dc.

Emission Limits:

| SC | Pollutant | Limit | Time Period/Operating Scenario | COMPLIANT? |
|-----|---------------------------|----------------------------|--------------------------------|--------------|
| I.1 | NO _x | 1.32 pph (each unit) | Hourly | Y |
| I.2 | CO | 1.11 pph (each unit) | Hourly | Y |
| I.3 | PM | 0.002 lb/MMBTU (each unit) | Hourly | Y-Stack Test |
| I.4 | PM10 | 0.10 pph (each unit) | Hourly | Y-Stack Test |
| I.5 | PM2.5 | 0.10 pph (each unit) | Hourly | Y-Stack Test |
| I.6 | VOC | 0.07 pph (each unit) | Hourly | Y |
| I.7 | GHGs as CO ₂ e | 13,848 tpy | 12-month rolling time period | Y |

Results from the stack test conducted on 6/23/2022 demonstrated an average filterable PM emission rate of 0.0019 lb/MMBtu (0.01 pph) for Unit #1 and 0.0017 lb/MMBtu (0.01 pph) for Unit #2. Emissions calculations were submitted to demonstrate compliance with the remaining emissions limits.

| SC Condition | COMPLIANT? |
|--|------------|
| II.1 Burn only pipeline quality natural gas in either unit of FGFUELHTR, with a sulfur content of 2,000 gr per MMscf or less | Y |
| IV.1 Maximum design heat input capacity for each unit in FGFUELHTR shall not exceed 13.5 MMBTU per hour on a fuel heat input basis | Y |
| IV.2 Install, calibrate, maintain and operate, in a satisfactory manner, a device to monitor and record the hourly and monthly natural gas usage rate for each unit | Y |
| V.1 -Within 365 days after commencement of initial startup, the permittee shall verify PM emission rates from a single unit of FGFUELHTR, at maximum routine operation, by testing at the owner's expense. | Y |

(Testing completed 6/23/22 on Heaters #1&2)

-Within 730 days after commencement of initial startup, the permittee shall verify PM emission rates from the other unit of FGFUELHTR, at maximum routine operation, by testing at the owner's expense.

-Upon request by the AQD District Supervisor, the permittee shall verify the PM emission rates through subsequent testing of one or both units of FGFUELHTR.

Monitoring/Recordkeeping:

| SC Condition | COMPLIANT? |
|--|-------------------|
| VI.2 Natural gas usage (cubic feet) -hourly -monthly -12-month rolling time | Y |
| VI.3 NOx, CO, PM10, PM2.5, VOC mass emissions (SC I.1-5) -hourly | Y |
| VI.4 Keep test reports on file at facility (SC V.1) | Y |
| VI.5 CO2e mass emissions (SC I.7) -monthly -12-month rolling total | Y |
| VI.6 maintain records: | |
| a) Compliance tests and any testing required under the special conditions of this permit. | Y |
| b) Monitoring data. | |
| c) Verification of heat input capacity required to show compliance with SC IV.1. | |
| d) Identification, type and the amounts of fuel combusted in each unit in FGFUELHTR on a calendar month basis. | |
| e) Sulfur content of the fuel combusted in each unit in FGFUELHTR. | |
| f) All records required by 40 CFR 60.7 and 60.48c. | |
| g) All calculations or documents necessary to show compliance with the limits contained in this permit. | |
| VII.1 Provide written notification of the date construction commences and actual startup (Notifications sent 9/3/2019 and 12/8/21) | Y |

FGFUELHTR appears to be in compliance with permit requirements at this time.

FGFEULTANK

Two closed-roof tanks for the purpose of storing ultra-low sulfur diesel with conservation vent valves for VOC control.

NA: Unit was never installed. A PTI amendment is currently being processed to omit this unit. No compliance verification can be made at this time.

All records submitted to demonstrate compliance with permit requirements and emissions limits are included with this report. **Indeck Niles** appears to be in compliance with all permit conditions and state and federal air use regulations at this time.

NAME Rachel Zenaway

DATE 3/23/23

SUPERVISOR RIL 4/6/23