

PUBLIC NOTICE
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY (LDEQ)
LOUISIANA GREEN FUELS LLC / LOUISIANA GREEN FUELS
PROPOSED INITIAL SYNTHETIC MINOR SOURCE AIR OPERATING PERMIT

The LDEQ, Office of Environmental Services, is accepting written comments on the Proposed Initial Synthetic Minor Source Air Operating Permit for Louisiana Green Fuels LLC, P.O. Box 1269 Columbia, LA 71418 for the Louisiana Green Fuels. **The facility is located at 106 Riverton Camp Road Columbia, Caldwell Parish.**

Louisiana Green Fuels LLC requested an Initial Air Operating Permit for this facility.

This permit was processed as an expedited permit in accordance with LAC 33:I.Chapter 18.

Permitted emissions from this facility in tons per year (tpy) are as follows:

| Criteria Pollutants | |
|---------------------|-----------|
| Pollutant | Emissions |
| PM ₁₀ | 80.74 |
| PM _{2.5} | 79.56 |
| SO ₂ | 38.07 |
| NO _x | 75.70 |
| CO | 69.86 |
| VOC | 91.49 |

A working draft of the proposed permit was submitted to the facility representative. Any remarks received during the technical review will be addressed in the "Worksheet for Technical Review of Working Draft of Proposed Permit". All remarks received by LDEQ are included in the record that is available for public review.

This is a state only public notice in accordance with LAC 33:III.531.A.1.

Comments and requests for a public hearing or notification of the final decision can be submitted online on the public notice webpage (<http://www.deq.louisiana.gov/public-notices>), via personal delivery, U.S. mail, or email. **Comments and requests for public hearings must be received by 4:30 pm CDT, Thursday, July 13, 2023.** Delivery may be made to the drop-box at 602 N. 5th St., Baton Rouge, LA 70802. U.S. Mail may be sent to LDEQ, Public Participation Group, P.O. Box 4313, Baton Rouge, LA 70821-4313, and emails may be submitted to DEQ.PUBLICNOTICES@LA.GOV. Persons wishing to receive notice of the final permit action must include a complete mailing address when submitting comments.

Please see additional instructions for comment submission, hand delivery and information regarding electronic submission at <http://www.deq.louisiana.gov/page/the-public-participation-group> or call (225) 219-3276.

If LDEQ finds a significant degree of public interest, a public hearing will be held. LDEQ will send notification of the final permit decision to the applicant and to each person who has submitted written comments or a written request for notification of the final decision.

The Drafted Permit, Permit Application, and Additional Application Information are available for review at the LDEQ, Public Records Center, 602 North 5th Street, Baton Rouge, LA. Viewing hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday (except holidays). **The available information can also be accessed electronically on the Electronic Document Management System (EDMS) on the DEQ public website at www.deq.louisiana.gov.**

Additional copies may be reviewed at the Caldwell Parish Library – Headquarters, 211 Jackson St., Columbia, LA 71418-1499.

Draft air permits, which as a matter of agency practice are placed in a public repository for public review and comments, will be available for public review at the DEQ Public Records Center or online via DEQ's Electronic Document Management System (EDMS) when those public repositories are closed due to COVID-19 **or if a public repository closes due to COVID-19 during the comment period.** In these instances, any person who does not have access to the Public Records Center or the internet may request hard copies of the draft permit from DEQ. Such requests will be processed on a case-by-case basis.

Inquiries or requests for additional information regarding this permit action should be directed to Dave Meyers, LDEQ, Air Permits Division, P.O. Box 4313, Baton Rouge, LA 70821-4313, phone (225) 219-0875.

Persons wishing to be included on the LDEQ permit public notice mailing list, wishing to receive the permit public notices via email by subscribing to the LDEQ permits public notice List Server, or for other public participation related questions should contact the Public Participation Group in writing at LDEQ, P.O. Box 4313, Baton Rouge, LA 70821-4313, by email at DEQ.PUBLICNOTICES@LA.GOV or contact the LDEQ Customer Service Center at (225) 219-LDEQ (219-5337).

Permit public notices can be viewed at the LDEQ permits public notice webpage at <http://www.deq.louisiana.gov/public-notices> and general information related to the public participation in permitting activities can be viewed at <http://www.deq.louisiana.gov/page/the-public-participation-group>.

All correspondence should specify AI Number 234155, Permit Number 0540-00040-00, and Activity Number PER20220001.

Scheduled Publication Date: Thursday, June 8, 2023 – LDEQ Website

JOHN BEL EDWARDS
GOVERNOR



ROGER W. GINGLES
SECRETARY

State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

Certified Mail No.

Agency Interest (AI) No. 234155
Activity No. PER20220001

Dr. Paul Schubert
Chief Executive Officer
Louisiana Green Fuels LLC
P.O. Box 1269
Columbia, LA 71418

RE: Synthetic Minor Permit
Louisiana Green Fuels LLC - Louisiana Green Fuels
Columbia, Caldwell Parish, Louisiana

Dear Dr. Schubert:

This is to inform you that the permit request for the above referenced facility has been approved under LAC 33:III.501. The submittal was approved on the basis of the emissions reported and the approval in no way guarantees the design scheme presented will be capable of controlling the emissions as to the types and quantities stated. A new application must be submitted if the reported emissions are exceeded after operations begin. The synopsis, data sheets, and conditions are attached herewith.

It will be considered a violation of the permit if all proposed control measures and/or equipment are not installed and properly operated and maintained as specified in the application.

Operation of this facility is hereby authorized under the terms and conditions of this permit. This authorization shall expire at midnight, ten years from the issue date below, unless a timely and complete renewal application has been submitted six months prior to expiration. Terms and conditions of this permit shall remain in effect until such time as the permitting authority takes final action on the application for permit renewal.

Please be advised that pursuant to provisions of the Environmental Quality Act and the Administrative Procedure Act, the Department may initiate review of a permit during its term. However, before it takes any action to modify, suspend or revoke a permit, the Department shall, in accordance with applicable statutes and regulations, notify the permittee by mail of the facts or operational conduct that warrant the intended action and provide the permittee with the opportunity to demonstrate compliance with all lawful requirements for the retention of the effective permit.

The permit number cited below and agency interest number cited above should be referenced in future correspondence regarding this facility.

Permit No.: 0540-00040-00

Sincerely,

Bliss M. Higgins
Assistant Secretary
BMH: dm

Date

AIR PERMIT BRIEFING SHEET
AIR PERMITS DIVISION
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

AI No. 234155

Louisiana Green Fuels LLC - Louisiana Green Fuels
Columbia, Caldwell Parish, Louisiana

I. BACKGROUND

Louisiana Green Fuels LLC proposes to construct and operate the Louisiana Green Fuels (LGF) facility, a renewable fuels bio-refinery. This is the initial air permit for this facility.

II. ORIGIN

A permit application dated May 31, 2022, was received requesting a permit. Additional information dated July 5, 2022, July 25, 2022, and April 3, 2023, was also received.

III. DESCRIPTION

The bio-refinery will be designed to process cellulosic biomass with a combined hydrogen and carbon content of 57% on a dry basis. The cellulosic biomass will be gasified to produce a raw synthetic gas (syngas) and ash. The syngas will be cooled and cleaned of particulates within the primary gas clean-up process. Syngas will then be compressed and sent to the secondary syngas clean-up process for trace contaminant treatment. A water-gas shift (WGS) unit will be utilized to adjust the syngas' hydrogen to carbon monoxide (H₂:CO) ratio to an optimum level. Downstream of the WGS unit, acid gas species will be removed to reduce carbon dioxide (CO₂) build-up and the sulfur load, with the objective of meeting an optimum composition prior to the syngas being routed to the Fischer-Tropsch (FT) synthesis unit. The CO₂ and hydrogen sulfide (H₂S) removal will be accomplished using a Rectisol[®] unit, in which over 99.0% of the CO₂ within the process stream will be removed, and H₂S levels will be reduced to parts per billion by volume levels.

The purified syngas, now with an optimized H₂:CO ratio, will be sent to the FT synthesis unit where wax and light hydrocarbons will be produced. The wax and light hydrocarbon products from the FT synthesis loop will be directed to the upgrading unit, from which the raw synthetic hydrocarbon products will be hydrocracked and fractionated into saleable fuels, such as naphtha and diesel.

The prefeasibility level design of the project concluded that the facility would be bounded by the delivery of nominally 3,000 US short tons per day of woody biomass feedstock, resulting in a nominal combined diesel and naphtha production rate of 2,354 barrels per stream day.

The LGF facility's 85.5-MW biomass-fired boiler will be a significant contributor to the facility-wide air emissions. Substantial efforts will be made to control emissions of the boiler. NO_x emissions will be controlled by a Selective Non-Catalytic Reduction and Selective Catalytic Reduction system. Carbon monoxide (CO) emissions will be controlled by CO catalyst. Sulfur dioxide (SO₂) and condensable particulate matter (PM) will be controlled by a circulating dry scrubber. Filterable PM emissions will be controlled by a mechanical collector. Approximately 90% of CO₂ emissions will be recovered and injected via the facility's onsite CO₂ sequestration well.

Miscellaneous equipment used for emergency power generation, fire mitigation, and fugitive dust control will be located onsite. Enclosed conveyors will be utilized to move materials between various plant

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operations, storage, and loading operations. A baghouse will also control particulate emissions at various key locations throughout the woody biomass handling and transfer area.

Permitted emissions from this facility in tons per year (tpy) are as follows:

| Criteria Pollutants | |
|---------------------|-----------|
| Pollutant | Emissions |
| PM ₁₀ | 80.74 |
| PM _{2.5} | 79.56 |
| SO ₂ | 38.07 |
| NOx | 75.70 |
| CO | 69.86 |
| VOC | 91.49 |

| LAC 33:III.Chapter 51 Toxic Air Pollutants (TAPs) | |
|---|-----------|
| Pollutant | Emissions |
| 1,1,1-Trichlorethane | 0.01 |
| Acetaldehyde | 0.07 |
| Acrolein | 2.30 |
| Ammonia | 9.41 |
| Barium (and compounds) | 0.01 |
| Benzene | 0.42 |
| Benzyl chloride | 0.08 |
| Bromoform | 0.04 |
| Carbon disulfide | 0.04 |
| Chromium VI (and compounds) | 0.01 |
| Dichloromethane | 0.04 |
| Ethyl benzene | 0.05 |
| Formaldehyde | 0.46 |
| Hydrochloric acid | 0.35 |
| Hydrofluoric acid | 0.35 |
| Lead compounds | 0.01 |
| Manganese (and compounds) | 0.02 |
| Mercury (and compounds) | 0.01 |
| Methanol | 0.56 |
| Methyl chloride | 0.15 |
| Methyl ethyl ketone | 0.04 |
| Methyl isobutyl ketone | 0.04 |
| n-Hexane | 2.84 |
| Naphthalene | 0.03 |
| Phosphorus, Total (as P) | 0.11 |
| Polynuclear Aromatic Hydrocarbons | 1.483 |

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AI No. 234155
Louisiana Green Fuels LLC - Louisiana Green Fuels
Columbia, Caldwell Parish, Louisiana

LAC 33:III.Chapter 51 Toxic Air Pollutants (TAPs)

| Pollutant | Emissions |
|------------------------|---------------|
| Styrene | 0.48 |
| Sulfuric Acid | 0.89 |
| Toluene | 0.11 |
| Xylene (mixed isomers) | 3.52 |
| Zinc (and compounds) | 0.03 |
| Total TAPs | 23.963 |

IV. TYPE OF REVIEW

This permit was reviewed for compliance with the Louisiana Air Quality Regulations, New Source Performance Standards (NSPS), and National Emission Standards for Hazardous Air Pollutants (NESHAP). Prevention of Significant Deterioration (PSD) does not apply.

This facility will be a minor source of LAC 33:III.Chapter 51 TAPs. The facility will include affected sources under 40 CFR 60 Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units; 40 CFR 60 Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984; and 40 CFR 63 JJJJJ – NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources. The emergency engines will comply with 40 CFR 63 Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines by complying with the applicable standards in 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

V. PUBLIC NOTICE

A notice requesting public comment on the proposed permit was published on the department's website on DATE TO BE ADDED. On DATE TO BE ADDED, copies of the public notice were mailed to the individuals who have requested to be placed on the mailing list maintained by the Office of Environmental Services (OES). All comments will be considered prior to the final permit discussion.

VI. EFFECTS ON AMBIENT AIR

Based on the level of permitted emissions, emissions from the facility are not anticipated to prevent the attainment or maintenance of any state or national ambient air quality standard.

VII. GENERAL CONDITION XVII ACTIVITIES

None.

**AIR PERMIT BRIEFING SHEET
AIR PERMITS DIVISION
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

**AI No. 234155
Louisiana Green Fuels LLC - Louisiana Green Fuels
Columbia, Caldwell Parish, Louisiana**

VIII. INSIGNIFICANT ACTIVITIES

| ID No. | Description | Citation |
|----------|-------------------------------------|------------------------|
| IA-22-01 | CPI Waste Oil Tank, <10,000 gallons | LAC 33:III.501.B.5.A.3 |

General Information

AI ID: 234155 Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

| Alternate Identifiers | Name | User Group | Dates |
|-----------------------|------------|------------|------------|
| 0540-00040 | CDS Number | CDS Number | 06-10-2022 |

Physical Location: 106 Riverton Camp Rd
Columbia, LA 71418

Facility Email: paulschubert@strategicbiofuels.com
Main Phone: 3185024053

Mailing Address: 303 Wall St
PO Box 1269
Columbia, LA 71418

Location of Front Gate: -92.101678 Longitude, 32.187372 Latitude, Coordinate Method: Lat.\Long. - DMS, Coordinate Datum: NAD83

| Related People: | Mail Address | Work Phone | Email | Relationship |
|-----------------|--------------------------------|------------|------------------------------------|--------------------------|
| Paul Schubert | 303 Wall St Columbia, LA 71418 | 3185024053 | paulschubert@strategicbiofuels.net | Responsible Official for |

| Related Organizations: | Mailing Address | Work Phone | Relationship |
|---------------------------|--------------------------------|------------|---|
| Louisiana Green Fuels LLC | PO Box 1269 Columbia, LA 71418 | 3185024053 | Air Billing Party for Operates Owns |

SIC Codes: 2869, Industrial organic chemicals, nec

NAIC Codes: 325199, All Other Basic Organic Chemical Manufacturing

Note: This report entitled "General Information" contains a summary of facility-level information contained in LDEQ's TEMPO database for this facility and is not considered a part of the permit. Please review the information contained in this document for accuracy and completeness. If any changes are required, or if you have questions regarding this document, please email the Permit Support Services Division at facupdate@la.gov.

INVENTORIES

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

Subject Item Inventory:

| ID | Description | Tank Volume | Max Operating Rate | Normal Operating Rate | Comments | Operating Time |
|------------------------------|---|----------------------|-------------------------------|-------------------------------|----------|----------------|
| Louisiana Green Fuels | | | | | | |
| EQT 0001 | 22-01 - Biomass Boiler Stack | | 1168 MM BTU/hr | 1168 MM BTU/hr | | 8760 hr/yr |
| EQT 0002 | 22-02 - Biomass Handling Baghouse | | 412800 SCFM | 344000 SCFM | | 8760 hr/yr |
| EQT 0003 | 22-03 - Biomass Dryer No. 1 | | 19 tons/hr | 15.9 tons/hr | | 8760 hr/yr |
| EQT 0004 | 22-04 - Biomass Dryer No. 2 | | 19 tons/hr | 15.9 tons/hr | | 8760 hr/yr |
| EQT 0005 | 22-05 - Biomass Dryer No. 3 | | 19 tons/hr | 15.9 tons/hr | | 8760 hr/yr |
| EQT 0006 | 22-06 - Biomass Dryer No. 4 | | 19 tons/hr | 15.9 tons/hr | | 8760 hr/yr |
| EQT 0007 | 22-07 - Gasification Heater Common Stack | | 226 MM BTU/hr | 188.3 MM BTU/hr | | 8760 hr/yr |
| EQT 0008 | 22-08 - Reactor Charge Heater | | 18.7 MM BTU/hr | 15.6 MM BTU/hr | | 8760 hr/yr |
| EQT 0009 | 22-09 - SO2 Scrubber | | 2.8 MM BTU/hr | 2.8 MM BTU/hr | | 8760 hr/yr |
| EQT 0010 | 22-10 - Flare | | 8 MM BTU/hr | 6.7 MM BTU/hr | | 8760 hr/yr |
| EQT 0011 | 22-11 - Emergency Generator Diesel Engine No. 1 | | 1006 horsepower | 1006 horsepower | | 100 hr/yr |
| EQT 0012 | 22-12 - Emergency Generator Diesel Engine No. 2 | | 201 horsepower | 201 horsepower | | 100 hr/yr |
| EQT 0013 | 22-13 - Diesel Fire Water Pump No. 1 | | 800 horsepower | 800 horsepower | | 100 hr/yr |
| EQT 0014 | 22-14 - Diesel Fire Water Pump No. 2 | | 800 horsepower | 800 horsepower | | 100 hr/yr |
| EQT 0015 | 22-15 - Cooling Tower | | 30000 gallons/min | 30000 gallons/min | | 8760 hr/yr |
| EQT 0016 | 22-16 - Fractionator Feed Heater | | 4.6 MM BTU/hr | 3.8 MM BTU/hr | | 8760 hr/yr |
| EQT 0017 | 22-17 - 2072-TNK-0201 - Naphtha Storage Tank | 117500 gallons | 180 bbl/day | 65700 bbl/yr | | 8760 hr/yr |
| EQT 0018 | 22-18 - 2072-TNK-0202 - Naphtha Storage Tank | 117500 gallons | 180 bbl/day | 65700 bbl/yr | | 8760 hr/yr |
| EQT 0019 | 22-19 - 2072-TNK-0203 - Naphtha Storage Tank | 287900 gallons | 360 bbl/day | 131400 bbl/yr | | 8760 hr/yr |
| EQT 0020 | 22-20 - 2072-TNK-0204 - Diesel Storage Tank | 571100 gallons | 1000 bbl/day | 365000 bbl/yr | | 8760 hr/yr |
| EQT 0021 | 22-21 - 2072-TNK-0205 - Diesel Storage Tank | 571100 gallons | 1000 bbl/day | 365000 bbl/yr | | 8760 hr/yr |
| EQT 0022 | 22-22 - 2072-TNK-0206 - Diesel Sales Tank | 1.21 million gallons | 2000 bbl/day | 730000 bbl/yr | | 8760 hr/yr |
| EQT 0023 | 22-23 - 2043-TNK-0301 - Sulfuric Acid Storage Tank | 11200 gallons | 767.12 gallons/day | 280000 gallons/yr | | 8760 hr/yr |
| EQT 0024 | 22-24 - 1041-TNK-0101 - Methanol Storage Tank | 106300 gallons | | 36000 gallons/yr | | 8760 hr/yr |
| EQT 0025 | 22-25 - 2072-TNK-0207 - Diesel Blending Tank | 12700 gallons | 3.26 bbl/day | 1190 bbl/yr | | 8760 hr/yr |
| EQT 0026 | WW-01 - Wastewater Treatment System | | 26000 gallons/day | 26000 gallons/day | | 8760 hr/yr |
| EQT 0027 | 22-02(a) - Collector #1, Truck Receiving Area | | 52800 SCFM | 44000 SCFM | | 8760 hr/yr |
| EQT 0028 | 22-02(b) - Collector #2, Dryer Island Area | | 144000 SCFM | 120000 SCFM | | 8760 hr/yr |
| EQT 0029 | 22-02(c) - Dried Chip Conveying and Storage Area | | 86400 SCFM | 72000 SCFM | | 8760 hr/yr |
| EQT 0030 | 22-02(d) - Gasifier Feed/Distribution Systems | | 129600 SCFM | 108000 SCFM | | 8760 hr/yr |
| EQT 0031 | 22-09(a) - Thermal Oxidizer | | 3.4 MM BTU/hr | 2.8 MM BTU/hr | | 8760 hr/yr |
| EQT 0032 | 22-09(a)(1) - LHC Intermediate and Off spec Tank TNK-0101 | 4060 bbl | | | | 8760 hr/yr |
| EQT 0033 | 22-09(a)(2) - Wax Intermediate and Off spec Tank TNK-0102 | 2120 bbl | | | | 8760 hr/yr |
| EQT 0034 | 22-09(a)(3) - Slops Tank #1 TNK-0103 | 11331 bbl | | | | 8760 hr/yr |
| EQT 0035 | 22-09(a)(4) - Slops Tank #2 TNK-0104 | 11331 bbl | | | | 8760 hr/yr |
| EQT 0036 | 22-09(a)(5) - Railcar Loading | | | | | 8760 hr/yr |
| FUG 0001 | FUG-01 - Fugitive Leak Emissions | | | | | 8760 hr/yr |
| FUG 0002 | FUG-02 - Fugitive Roadway Emissions | | 272 vehicle miles traveled/yr | 272 vehicle miles traveled/yr | | 8760 hr/yr |

Stack Information:

| ID | Description | Diameter (feet) | Discharge Area (square feet) | Height (feet) | Velocity (ft/sec) | Flow Rate (cubic ft/min-actual) | Temperature (oF) |
|------------------------------|-----------------------------------|-----------------|------------------------------|---------------|-------------------|---------------------------------|------------------|
| Louisiana Green Fuels | | | | | | | |
| EQT 0001 | 22-01 - Biomass Boiler Stack | 3 | | 200 | 665.74 | 282350 | 186 |
| EQT 0002 | 22-02 - Biomass Handling Baghouse | 5 | | 25 | 292 | 344000 | 100 |

INVENTORIES

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

Stack Information:

| ID | Description | Diameter (feet) | Discharge Area (square feet) | Height (feet) | Velocity (ft/sec) | Flow Rate (cubic ft/min-actual) | Temperature (oF) |
|------------------------------|--|-----------------|------------------------------|---------------|-------------------|---------------------------------|------------------|
| Louisiana Green Fuels | | | | | | | |
| EQT 0003 | 22-03 - Biomass Dryer No. 1 | 1.5 | | 25 | 282.94 | 30000 | 190 |
| EQT 0004 | 22-04 - Biomass Dryer No. 2 | 1.5 | | 25 | 282.94 | 30000 | 190 |
| EQT 0005 | 22-05 - Biomass Dryer No. 3 | 1.5 | | 25 | 282.94 | 30000 | 190 |
| EQT 0006 | 22-06 - Biomass Dryer No. 4 | 1.5 | | 25 | 282.94 | 30000 | 190 |
| EQT 0007 | 22-07 - Gasification Heater Common Stack | 6 | | 30 | 64.65 | 109672 | 785 |
| EQT 0008 | 22-08 - Reactor Charge Heater | .3 | | 20 | 4.95 | 21 | 785 |
| EQT 0009 | 22-09 - SO2 Scrubber | .5 | | 30 | 405.31 | 4775 | 785 |
| EQT 0010 | 22-10 - Flare | 4 | | 270 | .01 | 10 | 785 |
| EQT 0011 | 22-11 - Emergency Generator Diesel Engine No. 1 | .67 | | 10 | 284.96 | 6028 | 847 |
| EQT 0012 | 22-12 - Emergency Generator Diesel Engine No. 2 | .3 | | 10 | 259.84 | 1102 | 825 |
| EQT 0013 | 22-13 - Diesel Fire Water Pump No. 1 | .67 | | 10 | 284.96 | 6028 | 847 |
| EQT 0014 | 22-14 - Diesel Fire Water Pump No. 2 | .67 | | 10 | 284.96 | 6028 | 847 |
| EQT 0015 | 22-15 - Cooling Tower | | | | | | 77 |
| EQT 0016 | 22-16 - Fractionator Feed Heater | .3 | | 20 | 4.95 | 21 | 785 |
| EQT 0017 | 22-17 - 2072-TNK-0201 - Naphtha Storage Tank | .33 | | 35 | .19 | 1 | 77 |
| EQT 0018 | 22-18 - 2072-TNK-0202 - Naphtha Storage Tank | .33 | | 35 | .19 | 1 | 77 |
| EQT 0019 | 22-19 - 2072-TNK-0203 - Naphtha Storage Tank | .33 | | 43 | .19 | 1 | 77 |
| EQT 0020 | 22-20 - 2072-TNK-0204 - Diesel Storage Tank | .33 | | 51 | .19 | 1 | 77 |
| EQT 0021 | 22-21 - 2072-TNK-0205 - Diesel Storage Tank | .33 | | 51 | .19 | 1 | 77 |
| EQT 0022 | 22-22 - 2072-TNK-0206 - Diesel Sales Tank | .33 | | 45 | .19 | 1 | 77 |
| EQT 0023 | 22-23 - 2043-TNK-0301 - Sulfuric Acid Storage Tank | .33 | | 22 | .19 | 1 | 77 |
| EQT 0024 | 22-24 - 1041-TNK-0101 - Methanol Storage Tank | .33 | | 29 | .19 | 1 | 77 |
| EQT 0025 | 22-25 - 2072-TNK-0207 - Diesel Blending Tank | .33 | | 18 | .19 | 1 | 77 |
| EQT 0026 | WW-01 - Wastewater Treatment System | | | | | | 77 |
| FUG 0001 | FUG-01 - Fugitive Leak Emissions | | | | | | 77 |
| FUG 0002 | FUG-02 - Fugitive Roadway Emissions | | | | | | 77 |

Relationships:

| ID | Description | Relationship | ID | Description |
|----------|---|--------------|----------|-----------------------------------|
| EQT 0027 | 22-02(a) - Collector #1, Truck Receiving Area | Vents to | EQT 0002 | 22-02 - Biomass Handling Baghouse |
| EQT 0028 | 22-02(b) - Collector #2, Dryer Island Area | Vents to | EQT 0002 | 22-02 - Biomass Handling Baghouse |
| EQT 0029 | 22-02(c) - Dried Chip Conveying and Storage Area | Vents to | EQT 0002 | 22-02 - Biomass Handling Baghouse |
| EQT 0030 | 22-02(d) - Gasifier Feed/Distribution Systems | Vents to | EQT 0002 | 22-02 - Biomass Handling Baghouse |
| EQT 0031 | 22-09(a) - Thermal Oxidizer | Vents to | EQT 0009 | 22-09 - SO2 Scrubber |
| EQT 0032 | 22-09(a)(1) - LHC Intermediate and Off spec Tank TNK-0101 | Vents to | EQT 0009 | 22-09 - SO2 Scrubber |
| EQT 0033 | 22-09(a)(2) - Wax Intermediate and Off spec Tank TNK-0102 | Vents to | EQT 0009 | 22-09 - SO2 Scrubber |
| EQT 0034 | 22-09(a)(3) - Slops Tank #1 TNK-0103 | Vents to | EQT 0009 | 22-09 - SO2 Scrubber |
| EQT 0035 | 22-09(a)(4) - Slops Tank #2 TNK-0104 | Vents to | EQT 0009 | 22-09 - SO2 Scrubber |
| EQT 0036 | 22-09(a)(5) - Railcar Loading | Vents to | EQT 0009 | 22-09 - SO2 Scrubber |

Subject Item Groups:

| ID | Group Type | Group Description |
|----------|---------------------------|-----------------------------------|
| CRG 0001 | Common Requirements Group | CRG-1 - Heaters subject to Ch. 13 |

INVENTORIES

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

Subject Item Groups:

| ID | Group Type | Group Description |
|----------|---------------------------|--|
| CRG 0002 | Common Requirements Group | CRG-2 - Thermal Oxidizer Tanks Group |
| CRG 0003 | Common Requirements Group | CRG-3 - Emergency Diesel Generators |
| CRG 0004 | Common Requirements Group | CRG-4 - Diesel Firewater Pumps |
| CRG 0005 | Common Requirements Group | CRG-5 - Storage Tanks Subject to Ch. 21 and Kb |
| UNF 0001 | Unit or Facility Wide | Entire Facility - Louisiana Green Fuels |

Group Membership:

| ID | Description | Member of Groups |
|----------|---|------------------|
| EQT 0007 | 22-07 - Gasification Heater Common Stack | CRG0000000001 |
| EQT 0008 | 22-08 - Reactor Charge Heater | CRG0000000001 |
| EQT 0011 | 22-11 - Emergency Generator Diesel Engine No. 1 | CRG0000000003 |
| EQT 0012 | 22-12 - Emergency Generator Diesel Engine No. 2 | CRG0000000003 |
| EQT 0013 | 22-13 - Diesel Fire Water Pump No. 1 | CRG0000000004 |
| EQT 0014 | 22-14 - Diesel Fire Water Pump No. 2 | CRG0000000004 |
| EQT 0016 | 22-16 - Fractionator Feed Heater | CRG0000000001 |
| EQT 0017 | 22-17 - 2072-TNK-0201 - Naphtha Storage Tank | CRG0000000005 |
| EQT 0018 | 22-18 - 2072-TNK-0202 - Naphtha Storage Tank | CRG0000000005 |
| EQT 0019 | 22-19 - 2072-TNK-0203 - Naphtha Storage Tank | CRG0000000005 |
| EQT 0024 | 22-24 - 1041-TNK-0101 - Methanol Storage Tank | CRG0000000005 |
| EQT 0032 | 22-09(a)(1) - LHC Intermediate and Off spec Tank TNK-0101 | CRG0000000002 |
| EQT 0033 | 22-09(a)(2) - Wax Intermediate and Off spec Tank TNK-0102 | CRG0000000002 |
| EQT 0034 | 22-09(a)(3) - Slops Tank #1 TNK-0103 | CRG0000000002 |
| EQT 0035 | 22-09(a)(4) - Slops Tank #2 TNK-0104 | CRG0000000002 |

NOTE: The UNF group relationship is not printed in this table. Every subject item is a member of the UNF group.

Annual Maintenance Fee:

| Fee Number | Air Contaminant Source | Multiplier | Units of Measure |
|------------|----------------------------------|------------|------------------|
| 1710 | 1710 Minor Source Negotiated Fee | 1452 | |

SIC Codes:

| | | |
|------|-----------------------------------|-----------|
| 2869 | Industrial organic chemicals, nec | AI 234155 |
| 2869 | Industrial organic chemicals, nec | UNF 001 |

EMISSION RATES FOR CRITERIA POLLUTANTS AND CO2e

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

Louisiana Green Fuels

| Subject Item | PM 10 | | | PM 2.5 | | | SO 2 | | | NOx | | |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | Avg lb/hr | Max lb/hr | Tons/Year |
| EQT 0001 22-01 | 14.54 | 17.45 | 63.70 | 14.54 | 17.45 | 63.70 | 7.48 | 8.98 | 32.76 | 13.14 | 15.77 | 57.55 |
| EQT 0002 22-02 | 0.30 | 0.35 | 1.29 | 0.30 | 0.35 | 1.29 | | | | | | |
| EQT 0003 22-03 | | | | | | | | | | | | |
| EQT 0004 22-04 | | | | | | | | | | | | |
| EQT 0005 22-05 | | | | | | | | | | | | |
| EQT 0006 22-06 | | | | | | | | | | | | |
| EQT 0007 22-07 | 1.41 | 1.70 | 6.19 | 1.41 | 1.70 | 6.19 | 0.48 | 0.58 | 2.10 | 1.21 | 1.45 | 5.30 |
| EQT 0008 22-08 | 0.12 | 0.14 | 0.51 | 0.12 | 0.14 | 0.51 | 0.27 | 0.32 | 1.17 | 0.76 | 0.92 | 3.35 |
| EQT 0009 22-09 | 1.23 | 1.48 | 5.39 | 1.23 | 1.48 | 5.39 | 0.07 | 0.09 | 0.31 | 0.91 | 1.10 | 4.00 |
| EQT 0010 22-10 | 0.05 | 0.06 | 0.22 | 0.05 | 0.06 | 0.22 | 0.12 | 0.14 | 0.50 | 0.33 | 0.39 | 1.44 |
| EQT 0011 22-11 | 0.70 | 0.85 | 0.04 | 0.70 | 0.85 | 0.04 | 7.11 | 8.54 | 0.36 | 22.53 | 27.04 | 1.13 |
| EQT 0012 22-12 | 0.44 | 0.52 | 0.02 | 0.44 | 0.52 | 0.02 | 0.41 | 0.49 | 0.02 | 6.21 | 7.45 | 0.31 |
| EQT 0013 22-13 | 0.56 | 0.67 | 0.03 | 0.56 | 0.67 | 0.03 | 5.66 | 6.79 | 0.28 | 17.92 | 21.50 | 0.90 |
| EQT 0014 22-14 | 0.56 | 0.67 | 0.03 | 0.56 | 0.67 | 0.03 | 5.66 | 6.79 | 0.28 | 17.92 | 21.50 | 0.90 |
| EQT 0015 22-15 | 0.38 | 0.75 | 1.64 | 0.38 | 0.75 | 1.64 | | | | | | |
| EQT 0016 22-16 | 0.03 | 0.03 | 0.12 | 0.03 | 0.03 | 0.12 | 0.07 | 0.08 | 0.29 | 0.19 | 0.22 | 0.82 |
| EQT 0017 22-17 | | | | | | | | | | | | |
| EQT 0018 22-18 | | | | | | | | | | | | |
| EQT 0019 22-19 | | | | | | | | | | | | |
| EQT 0020 22-20 | | | | | | | | | | | | |

EMISSION RATES FOR CRITERIA POLLUTANTS AND CO2e

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

Louisiana Green Fuels

| Subject Item | CO | | | VOC | | |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| | Avg lb/hr | Max lb/hr | Tons/Year | Avg lb/hr | Max lb/hr | Tons/Year |
| EQT 0001 22-01 | 12.97 | 15.56 | 56.81 | 8.18 | 9.81 | 35.82 |
| EQT 0002 22-02 | | | | | | |
| EQT 0003 22-03 | | | | 2.43 | 2.91 | 10.63 |
| EQT 0004 22-04 | | | | 2.43 | 2.91 | 10.63 |
| EQT 0005 22-05 | | | | 2.43 | 2.91 | 10.63 |
| EQT 0006 22-06 | | | | 2.43 | 2.91 | 10.63 |
| EQT 0007 22-07 | 0.41 | 0.49 | 1.77 | 1.02 | 1.22 | 4.45 |
| EQT 0008 22-08 | 1.29 | 1.54 | 5.63 | 0.08 | 0.10 | 0.37 |
| EQT 0009 22-09 | 0.23 | 0.28 | 1.01 | 0.02 | 0.02 | 0.07 |
| EQT 0010 22-10 | 0.55 | 0.66 | 2.42 | 0.04 | 0.04 | 0.16 |
| EQT 0011 22-11 | 5.99 | 7.18 | 0.30 | 0.63 | 0.76 | 0.03 |
| EQT 0012 22-12 | 1.34 | 1.60 | 0.07 | 0.13 | 0.15 | 0.01 |
| EQT 0013 22-13 | 4.76 | 5.71 | 0.24 | 0.50 | 0.61 | 0.03 |
| EQT 0014 22-14 | 4.76 | 5.71 | 0.24 | 0.50 | 0.61 | 0.03 |
| EQT 0015 22-15 | | | | | | |
| EQT 0016 22-16 | 0.31 | 0.38 | 1.37 | 0.02 | 0.03 | 0.09 |
| EQT 0017 22-17 | | | | 0.15 | 0.15 | 0.66 |
| EQT 0018 22-18 | | | | 0.15 | 0.15 | 0.66 |
| EQT 0019 22-19 | | | | 0.20 | 0.20 | 0.89 |
| EQT 0020 22-20 | | | | 0.06 | 0.06 | 0.28 |

EMISSION RATES FOR CRITERIA POLLUTANTS AND CO2e

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

Louisiana Green Fuels

| Subject Item | PM 10 | | | PM 2.5 | | | SO 2 | | | NOx | | |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | Avg lb/hr | Max lb/hr | Tons/Year |
| EQT 0021 22-21 | | | | | | | | | | | | |
| EQT 0022 22-22 | | | | | | | | | | | | |
| EQT 0024 22-24 | | | | | | | | | | | | |
| EQT 0025 22-25 | | | | | | | | | | | | |
| EQT 0026 WW-01 | | | | | | | | | | | | |
| FUG 0001 FUG-01 | | | | | | | | | | | | |
| FUG 0002 FUG-02 | 0.83 | | 1.56 | 0.21 | | 0.38 | | | | | | |

Note: Emission rates associated with alternate operating scenarios (SCN) are not included in permitted totals unless otherwise noted in a footnote.

EMISSION RATES FOR CRITERIA POLLUTANTS AND CO2e

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

Louisiana Green Fuels

| Subject Item | CO | | | VOC | | |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| | Avg lb/hr | Max lb/hr | Tons/Year | Avg lb/hr | Max lb/hr | Tons/Year |
| EQT 0021 22-21 | | | | 0.06 | 0.06 | 0.28 |
| EQT 0022 22-22 | | | | 0.13 | 0.13 | 0.57 |
| EQT 0024 22-24 | | | | 0.01 | 0.01 | 0.03 |
| EQT 0025 22-25 | | | | 0.001 | 0.001 | <0.01 |
| EQT 0026 WW-01 | | | | 0.48 | 0.57 | 2.09 |
| FUG 0001 FUG-01 | | | | 0.56 | | 2.44 |
| FUG 0002 FUG-02 | | | | | | |

EMISSION RATES FOR TAP/HAP & OTHER POLLUTANTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

All phases

| Emission Pt. | Pollutant | Avg lb/hr | Max lb/hr | Tons/Year |
|------------------------|-----------------------------------|---------------|-----------|-----------|
| EQT 0001 22-01 | 1,1,1-Trichloroethane | 0.001 | 0.001 | <0.01 |
| | Acetaldehyde | 0.014 | 0.02 | 0.06 |
| | Acrolein | 0.52 | 0.63 | 2.30 |
| | Ammonia | 1.84 | 2.21 | 8.05 |
| | Benzene | 0.09 | 0.10 | 0.38 |
| | Chromium VI (and compounds) | 0.001 | 0.001 | <0.01 |
| | Ethyl benzene | 0.002 | 0.002 | 0.01 |
| | Formaldehyde | 0.08 | 0.09 | 0.34 |
| | Hydrochloric acid | 0.08 | 0.10 | 0.35 |
| | Hydrofluoric acid | 0.08 | 0.10 | 0.35 |
| | Lead compounds | <0.001 | <0.001 | <0.01 |
| | Manganese (and compounds) | 0.004 | 0.01 | 0.02 |
| | Mercury (and compounds) | 0.002 | 0.002 | 0.01 |
| | Methyl chloride | 0.01 | 0.01 | 0.03 |
| | Phosphorus, Total (as P) | 0.03 | 0.03 | 0.11 |
| | Polynuclear Aromatic Hydrocarbons | 0.34 | 0.41 | 1.48 |
| | EQT 0003 22-03 | Sulfuric acid | 0.20 | 0.24 |
| Toluene | | 0.004 | 0.01 | 0.02 |
| Xylene (mixed isomers) | | 0.002 | 0.002 | 0.01 |
| Benzyl chloride | | 0.004 | 0.01 | 0.02 |
| Bromoform | | 0.003 | 0.003 | 0.01 |
| Carbon disulfide | | 0.001 | 0.001 | <0.01 |
| Dichloromethane | | 0.001 | 0.001 | <0.01 |
| Ethyl benzene | | 0.002 | 0.003 | 0.01 |
| Methyl chloride | | 0.01 | 0.01 | 0.03 |
| Methyl ethyl ketone | | 0.001 | 0.002 | 0.01 |
| Methyl isobutyl ketone | | <0.001 | <0.001 | <0.01 |
| n-Hexane | | 0.01 | 0.02 | 0.06 |
| EQT 0004 22-04 | Styrene | 0.03 | 0.03 | 0.12 |
| | Toluene | 0.001 | 0.002 | 0.01 |
| | Xylene (mixed isomers) | 0.20 | 0.24 | 0.87 |
| | Benzyl chloride | 0.004 | 0.01 | 0.02 |
| | Bromoform | 0.003 | 0.003 | 0.01 |
| | Carbon disulfide | 0.001 | 0.001 | <0.01 |
| | Dichloromethane | 0.001 | 0.001 | <0.01 |
| | Ethyl benzene | 0.002 | 0.003 | 0.01 |
| | Methyl chloride | 0.01 | 0.01 | 0.03 |
| | Methyl ethyl ketone | 0.001 | 0.002 | 0.01 |
| | Methyl isobutyl ketone | <0.001 | <0.001 | <0.01 |
| | n-Hexane | 0.01 | 0.02 | 0.06 |
| EQT 0005 22-05 | Styrene | 0.03 | 0.03 | 0.12 |
| | Toluene | 0.001 | 0.002 | 0.01 |
| | Xylene (mixed isomers) | 0.20 | 0.24 | 0.87 |
| | Benzyl chloride | 0.004 | 0.01 | 0.02 |
| | Bromoform | 0.003 | 0.003 | 0.01 |
| EQT 0005 22-05 | Carbon disulfide | 0.001 | 0.001 | <0.01 |
| | Dichloromethane | 0.001 | 0.001 | <0.01 |
| | Ethyl benzene | 0.002 | 0.003 | 0.01 |
| | Methyl chloride | 0.01 | 0.01 | 0.03 |
| | | | | |

EMISSION RATES FOR TAP/HAP & OTHER POLLUTANTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

All phases

| Emission Pt. | Pollutant | Avg lb/hr | Max lb/hr | Tons/Year |
|-------------------|-----------------------------------|-----------|-----------|-----------|
| | Methyl ethyl ketone | 0.001 | 0.002 | 0.01 |
| | Methyl isobutyl ketone | <0.001 | <0.001 | <0.01 |
| | n-Hexane | 0.01 | 0.02 | 0.06 |
| | Styrene | 0.03 | 0.03 | 0.12 |
| | Toluene | 0.001 | 0.002 | 0.01 |
| | Xylene (mixed isomers) | 0.20 | 0.24 | 0.87 |
| EQT 0006 22-06 | Benzyl chloride | 0.004 | 0.01 | 0.02 |
| | Bromoform | 0.003 | 0.003 | 0.01 |
| | Carbon disulfide | 0.001 | 0.001 | <0.01 |
| | Dichloromethane | 0.001 | 0.001 | <0.01 |
| | Ethyl benzene | 0.002 | 0.003 | 0.01 |
| | Methyl chloride | 0.01 | 0.01 | 0.03 |
| | Methyl ethyl ketone | 0.001 | 0.002 | 0.01 |
| | Methyl isobutyl ketone | <0.001 | <0.001 | <0.01 |
| | n-Hexane | 0.01 | 0.02 | 0.06 |
| | Styrene | 0.03 | 0.03 | 0.12 |
| | Toluene | 0.001 | 0.002 | 0.01 |
| | Xylene (mixed isomers) | 0.20 | 0.24 | 0.87 |
| EQT 0007 22-07 | Ammonia | 0.31 | 0.37 | 1.35 |
| | Barium (and compounds) | 0.001 | 0.001 | <0.01 |
| | Formaldehyde | 0.01 | 0.02 | 0.06 |
| | n-Hexane | 0.33 | 0.40 | 1.46 |
| | Toluene | 0.001 | 0.001 | <0.01 |
| | Zinc (and compounds) | 0.01 | 0.01 | 0.02 |
| EQT 0008 22-08 | Formaldehyde | 0.001 | 0.001 | 0.01 |
| | n-Hexane | 0.03 | 0.03 | 0.12 |
| | Zinc (and compounds) | <0.001 | 0.001 | <0.01 |
| EQT 0009 22-09 | Ammonia | 0.001 | 0.001 | <0.01 |
| | n-Hexane | 0.01 | 0.01 | 0.02 |
| EQT 0010 22-10 | Formaldehyde | <0.001 | 0.001 | <0.01 |
| | n-Hexane | 0.01 | 0.01 | 0.05 |
| EQT 0011 22-11 | Benzene | 0.01 | 0.01 | <0.01 |
| | Formaldehyde | 0.001 | 0.001 | <0.01 |
| | Naphthalene | 0.001 | 0.001 | <0.01 |
| | Polynuclear Aromatic Hydrocarbons | 0.001 | 0.002 | <0.001 |
| | Toluene | 0.002 | 0.002 | <0.01 |
| | Xylene (mixed isomers) | 0.001 | 0.002 | <0.01 |
| EQT 0012 22-12 | Acetaldehyde | 0.001 | 0.001 | <0.01 |
| | Benzene | 0.001 | 0.002 | <0.01 |
| | Formaldehyde | 0.002 | 0.002 | <0.01 |
| | Toluene | 0.001 | 0.001 | <0.01 |
| EQT 0013 22-13 | Benzene | 0.004 | 0.01 | <0.01 |
| | Formaldehyde | <0.001 | 0.001 | <0.01 |
| | Naphthalene | 0.001 | 0.001 | <0.01 |
| | Polynuclear Aromatic Hydrocarbons | 0.001 | 0.001 | <0.001 |
| | Toluene | 0.002 | 0.002 | <0.01 |
| | Xylene (mixed isomers) | 0.001 | 0.001 | <0.01 |
| EQT 0014 22-14 | Benzene | 0.004 | 0.01 | <0.01 |
| | Formaldehyde | <0.001 | 0.001 | <0.01 |

EMISSION RATES FOR TAP/HAP & OTHER POLLUTANTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

All phases

| Emission Pt. | Pollutant | Avg lb/hr | Max lb/hr | Tons/Year |
|-----------------------------|-----------------------------------|-----------|-----------|-----------|
| | Naphthalene | 0.001 | 0.001 | <0.01 |
| | Polynuclear Aromatic Hydrocarbons | 0.001 | 0.001 | <0.001 |
| | Toluene | 0.002 | 0.002 | <0.01 |
| | Xylene (mixed isomers) | 0.001 | 0.001 | <0.01 |
| EQT 0016 22-16 | n-Hexane | 0.01 | 0.01 | 0.03 |
| EQT 0017 22-17 | n-Hexane | 0.05 | 0.05 | 0.20 |
| EQT 0018 22-18 | n-Hexane | 0.05 | 0.05 | 0.20 |
| EQT 0019 22-19 | n-Hexane | 0.06 | 0.06 | 0.27 |
| EQT 0023 22-23 | Sulfuric acid | 0.001 | 0.001 | <0.01 |
| EQT 0024 22-24 | Methanol | 0.01 | 0.01 | 0.03 |
| FUG 0001 FUG-01 | Methanol | 0.12 | | 0.53 |
| | n-Hexane | 0.06 | | 0.25 |
| UNF 0001 Entire Facility | 1,1,1-Trichloroethane | | | 0.01 |
| | Acetaldehyde | | | 0.07 |
| | Acrolein | | | 2.30 |
| | Ammonia | | | 9.41 |
| | Barium (and compounds) | | | 0.01 |
| | Benzene | | | 0.42 |
| | Benzyl chloride | | | 0.08 |
| | Bromoform | | | 0.04 |
| | Carbon disulfide | | | 0.04 |
| | Chromium VI (and compounds) | | | 0.01 |
| | Dichloromethane | | | 0.04 |
| | Ethyl benzene | | | 0.05 |
| | Formaldehyde | | | 0.46 |
| | Hydrochloric acid | | | 0.35 |
| | Hydrofluoric acid | | | 0.35 |
| | Lead compounds | | | 0.01 |
| | Manganese (and compounds) | | | 0.02 |
| | Mercury (and compounds) | | | 0.01 |
| | Methanol | | | 0.56 |
| | Methyl chloride | | | 0.15 |
| | Methyl ethyl ketone | | | 0.04 |
| | Methyl isobutyl ketone | | | 0.04 |
| | n-Hexane | | | 2.84 |
| | Naphthalene | | | 0.03 |
| | Phosphorus, Total (as P) | | | 0.11 |
| | Polynuclear Aromatic Hydrocarbons | | | 1.483 |
| | Styrene | | | 0.48 |
| | Sulfuric acid | | | 0.89 |
| | Toluene | | | 0.11 |
| | Xylene (mixed isomers) | | | 3.52 |
| | Zinc (and compounds) | | | 0.03 |

Note: Emission rates associated with alternate operating scenarios (SCN) are not included in permitted totals unless otherwise noted in a footnote. Emission rates attributed to the UNF reflect the sum of the TAP/HAP limits of the individual emission points (or caps) under this permit, but do not constitute an emission cap.

EMISSION RATES FOR TAP/HAP & OTHER POLLUTANTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

CRG 0001 CRG-1 - Heaters subject to Ch. 13

Group Members: EQT 0007 EQT 0008 EQT 0016

- 1 [LAC 33:III.1313.C] Total suspended particulate \leq 0.6 lb/MMBTU of heat input.
Which Months: All Year Statistical Basis: None specified

CRG 0002 CRG-2 - Thermal Oxidizer Tanks Group

Group Members: EQT 0032 EQT 0033 EQT 0034 EQT 0035

- 2 [40 CFR 60.112b(a)(3)(ii)] VOC, Total \geq 95 % reduction efficiency using a closed vent system and control device. Subpart Kb. [40 CFR 60.112b(a)(3)(ii)]
Which Months: All Year Statistical Basis: None specified
- 3 [40 CFR 60.112b(a)(3)] Equip with a closed vent system and control device. Design the closed vent system to collect all VOC vapors and gases discharged from the storage vessel and operate with no detectable emissions. Subpart Kb. [40 CFR 60.112b(a)(3)]
- 4 [40 CFR 60.113b(c)(1)] Submit operating plan for approval by the Administrator as outlined in 40 CFR 60.113b(c)(1). The operating plan shall be submitted as an attachment to the notification required by 40 CFR 60.7(a)(1) and shall be postmarked no later than 30 days after commencement of construction. [40 CFR 60.113b(c)(1)]
- 5 [40 CFR 60.113b(c)(2)] Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies. [40 CFR 60.113b(c)(2)]
- 6 [40 CFR 60.115b(c)] After installing control equipment in accordance with 40 CFR 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the records specified in 40 CFR 60.115b(c)(1) and (2). [40 CFR 60.115b(c)]
- 7 [40 CFR 60.116b(b)] Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Keep copies of all records for the life of the source as specified by 40 CFR 60.116b(a). Subpart Kb. [40 CFR 60.116b(b)]
- 8 [LAC 33:III.2103.B] Equip with a submerged fill pipe.
- 9 [LAC 33:III.2103.E.1] VOC, Total \geq 95 % control efficiency using a vapor loss control system. This limitation does not apply during periods of planned routine maintenance which may not exceed 240 hours per year.
Which Months: All Year Statistical Basis: None specified
- 10 [LAC 33:III.2103.E] Equip with a vapor loss control system that consists of a gathering system capable of collecting volatile organic compound vapors and a vapor disposal system capable of processing such organic vapors. Ensure that all tank gauging and sampling devices are gas-tight except when gauging or sampling is taking place.
- 11 [LAC 33:III.2103.I] Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Keep records of the information specified in LAC 33:III.2103.I.1 through I.7, as applicable. Maintain records for at least two years.

CRG 0003 CRG-3 - Emergency Diesel Generators

Group Members: EQT 0011 EQT 0012

- 12 [40 CFR 60.4205(b)] Comply with the emission standards for new nonroad CI engines in 40 CFR 60.4202, for all pollutants, for the same model year and maximum engine power. Subpart III. [40 CFR 60.4205(b)]
- 13 [40 CFR 60.4206] Operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4204 and 40 CFR 60.4205 over the entire life of the engine. Subpart III.
- 14 [40 CFR 60.4207(b)] Use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. Subpart III. [40 CFR 60.4207(b)]

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

CRG 0003 CRG-3 - Emergency Diesel Generators

Group Members: EQT 0011 EQT 0012

- 15 [40 CFR 60.4209(a)] Operating time monitored by hour/time monitor continuously during operation. If the emergency engine meets the standards applicable to emergency engines, install a non-resettable hour meter prior to startup of the engine. Subpart III. [40 CFR 60.4209(a)]
Which Months: All Year Statistical Basis: None specified
- 16 [40 CFR 60.4211(a)(1)] Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions, except as permitted in 40 CFR 60.4211(g). Subpart III. [40 CFR 60.4211(a)(1)]
- 17 [40 CFR 60.4211(a)(2)] Change only those emission-related settings that are permitted by the manufacturer, except as permitted in 40 CFR 60.4211(g). Subpart III. [40 CFR 60.4211(a)(2)]
- 18 [40 CFR 60.4211(a)(3)] Meet the requirements of 40 CFR 1068, as applicable, except as permitted in 40 CFR 60.4211(g). Subpart III. [40 CFR 60.4211(a)(3)]
- 19 [40 CFR 60.4211(c)] Ensure engine is certified to the emission standards in 40 CFR 60.4204(b), or 40 CFR 60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. Install and configure according to the manufacturer's emissions-related specifications, except as permitted in 40 CFR 60.4211(g). Subpart III. [40 CFR 60.4211(c)]
- 20 [40 CFR 60.4211(e)(2)] Conduct a performance test to demonstrate initial compliance with emission standards according to the requirements specified in 40 CFR 60.4212 or 40 CFR 60.4213, as appropriate, within 60 days after commencing operation after a modification or reconstruction. Subpart III. [40 CFR 60.4211(e)(2)]
- 21 [40 CFR 60.4211(f)(1)] There is no time limit on the use of emergency stationary ICE in emergency situations. Subpart III. [40 CFR 60.4211(f)(1)]
- 22 [40 CFR 60.4211(f)(2)(i)] Operate for maintenance checks and readiness testing for a maximum of 100 hours per calendar year, provided that the tests are recommended by the federal, state or local government; the manufacturer; the vendor; the regional transmission organization or equivalent balancing authority and transmission operator; or the insurance company associated with the engine. LDEQ may be petitioned for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if records are maintained indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. Subpart III. [40 CFR 60.4211(f)(2)(i)]
- 23 [40 CFR 60.4211(f)(3)] Operate for up to 50 hours per calendar year in non-emergency situations. Count the 50 hours of operation in non-emergency situations as part of the 100 hours per calendar year for maintenance and testing provided in 40 CFR 60.4211(f)(2)(i). Do not use the 50 hours per calendar year for non-emergency situations for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity, except as provided in 40 CFR 60.4211(f)(3)(i). Subpart III. [40 CFR 60.4211(f)(3)]
- 24 [40 CFR 60.4211(f)] Operate according to the requirements in 40 CFR 60.4211(f)(1), (f)(2)(i), and (f)(3). In order for the engine to be considered an emergency stationary ICE under 40 CFR 60 Subpart III, any operation other than as described in 40 CFR 60.4211(f)(1), (f)(2)(i), and (f)(3) is prohibited. If the engine is not operated according to these requirements, the engine will not be considered an emergency engine under 40 CFR 60 Subpart III and must meet all requirements for non-emergency engines. Subpart III. [40 CFR 60.4211(f)]
- 25 [40 CFR 60.4211(g)] Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year after the engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions (can include within 1 year of startup), or within 1 year after the emission-related settings are changed in a way that is not permitted by the manufacturer. Conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance, if the engine is greater than 500 HP. Subpart III. [40 CFR 60.4211(g)]
- 26 [40 CFR 60.4211(g)] Keep a maintenance plan and records of conducted maintenance. Subpart III. [40 CFR 60.4211(g)]
- 27 [40 CFR 60.4211(g)] Maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. Subpart III. [40 CFR 60.4211(g)]
- 28 [40 CFR 60.4212] Conduct performance tests according to 40 CFR 60.4212(a) through (e). Subpart III.

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

CRG 0003 CRG-3 - Emergency Diesel Generators

Group Members: EQT 0011 EQT 0012

- 29 [40 CFR 60.4214(b)] Operating time recordkeeping by electronic or hard copy upon occurrence of event. If the emergency engine meets the standards applicable to emergency engines in the applicable model year, keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. Record the time of operation of the engine and the reason the engine was in operation during that time. Subpart IIII. [40 CFR 60.4214(b)]
- 30 [40 CFR 63.6590(c)] Meet the requirements of 40 CFR 60 Subpart IIII for compression ignition engines. Subpart ZZZZ. [40 CFR 63.6590(c)]
- 31 [LAC 33:III.1101.B] Opacity \leq 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes. Determine opacity by using Method 9 of 40 CFR Part 60, Appendix A.
Which Months: All Year Statistical Basis: None specified
- 32 [LAC 33:III.1311.C] Opacity \leq 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes.
Which Months: All Year Statistical Basis: Six-minute average

CRG 0004 CRG-4 - Diesel Firewater Pumps

Group Members: EQT 0013 EQT 0014

- 33 [40 CFR 60.4205(c)] Non-methane hydrocarbons plus Nitrogen oxides (NOx) \leq 4.8 g/BHP-hr (6.4 g/KW-hr). Subpart IIII. [40 CFR 60.4205(c)]
Which Months: All Year Statistical Basis: None specified
- 34 [40 CFR 60.4205(c)] Particulate matter (10 microns or less) (PM10) \leq 0.15 g/BHP-hr (0.20 g/KW-hr). Subpart IIII. [40 CFR 60.4205(c)]
Which Months: All Year Statistical Basis: None specified
- 35 [40 CFR 60.4206] Operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4204 and 40 CFR 60.4205 over the entire life of the engine. Subpart IIII.
- 36 [40 CFR 60.4207(b)] Use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. Subpart IIII. [40 CFR 60.4207(b)]
- 37 [40 CFR 60.4209(a)] Operating time monitored by hour/time monitor continuously during operation. If the emergency engine meets the standards applicable to emergency engines, install a non-resettable hour meter prior to startup of the engine. Subpart IIII. [40 CFR 60.4209(a)]
Which Months: All Year Statistical Basis: None specified
- 38 [40 CFR 60.4211(a)(1)] Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions, except as permitted in 40 CFR 60.4211(g). Subpart IIII. [40 CFR 60.4211(a)(1)]
- 39 [40 CFR 60.4211(a)(2)] Change only those emission-related settings that are permitted by the manufacturer, except as permitted in 40 CFR 60.4211(g). Subpart IIII. [40 CFR 60.4211(a)(2)]
- 40 [40 CFR 60.4211(a)(3)] Meet the requirements of 40 CFR 1068, as applicable, except as permitted in 40 CFR 60.4211(g). Subpart IIII. [40 CFR 60.4211(a)(3)]
- 41 [40 CFR 60.4211(f)(1)] There is no time limit on the use of emergency stationary ICE in emergency situations. Subpart IIII. [40 CFR 60.4211(f)(1)]
- 42 [40 CFR 60.4211(f)(2)(i)] Operate for maintenance checks and readiness testing for a maximum of 100 hours per calendar year, provided that the tests are recommended by the federal, state or local government; the manufacturer; the vendor; the regional transmission organization or equivalent balancing authority and transmission operator; or the insurance company associated with the engine. LDEQ may be petitioned for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if records are maintained indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. Subpart IIII. [40 CFR 60.4211(f)(2)(i)]

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

CRG 0004 CRG-4 - Diesel Firewater Pumps

Group Members: EQT 0013 EQT 0014

- 43 [40 CFR 60.4211(f)(3)] Operate for up to 50 hours per calendar year in non-emergency situations. Count the 50 hours of operation in non-emergency situations as part of the 100 hours per calendar year for maintenance and testing provided in 40 CFR 60.4211(f)(2)(i). Do not use the 50 hours per calendar year for non-emergency situations for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity, except as provided in 40 CFR 60.4211(f)(3)(i). Subpart III. [40 CFR 60.4211(f)(3)]
- 44 [40 CFR 60.4211(f)] Operate according to the requirements in 40 CFR 60.4211(f)(1), (f)(2)(i), and (f)(3). In order for the engine to be considered an emergency stationary ICE under 40 CFR 60 Subpart III, any operation other than as described in 40 CFR 60.4211(f)(1), (f)(2)(i), and (f)(3) is prohibited. If the engine is not operated according to these requirements, the engine will not be considered an emergency engine under 40 CFR 60 Subpart III and must meet all requirements for non-emergency engines. Subpart III. [40 CFR 60.4211(f)]
- 45 [40 CFR 60.4211(g)] Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year after the engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions (can include within 1 year of startup), or within 1 year after the emission-related settings are changed in a way that is not permitted by the manufacturer. Conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance, if the engine is greater than 500 HP. Subpart III. [40 CFR 60.4211(g)]
- 46 [40 CFR 60.4211(g)] Keep a maintenance plan and records of conducted maintenance. Subpart III. [40 CFR 60.4211(g)]
- 47 [40 CFR 60.4211(g)] Maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. Subpart III. [40 CFR 60.4211(g)]
- 48 [40 CFR 60.4212] Conduct performance tests according to 40 CFR 60.4212(a) through (e). Subpart III.
- 49 [40 CFR 60.4214(b)] Operating time recordkeeping by electronic or hard copy upon occurrence of event. If the emergency engine meets the standards applicable to emergency engines in the applicable model year, keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. Record the time of operation of the engine and the reason the engine was in operation during that time. Subpart III. [40 CFR 60.4214(b)]
- 50 [40 CFR 63.6590(c)] Meet the requirements of 40 CFR 60 Subpart III for compression ignition engines. Subpart ZZZZ. [40 CFR 63.6590(c)]
- 51 [LAC 33:III.1101.B] Opacity \leq 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes. Determine opacity by using Method 9 of 40 CFR Part 60, Appendix A.
Which Months: All Year Statistical Basis: None specified
- 52 [LAC 33:III.1311.C] Opacity \leq 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes.
Which Months: All Year Statistical Basis: Six-minute average

CRG 0005 CRG-5 - Storage Tanks Subject to Ch. 21 and Kb

Group Members: EQT 0017 EQT 0018 EQT 0019 EQT 0024

- 53 [40 CFR 60.112b(a)(1)(i)] Equip with a fixed roof in combination with an internal floating roof. 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 emptied 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. Subpart Kb. [40 CFR 60.112b(a)(1)(i)]

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

CRG 0005 CRG-5 - Storage Tanks Subject to Ch. 21 and Kb

Group Members: EQT 0017 EQT 0018 EQT 0019 EQT 0024

- 54 [40 CFR 60.112b(a)(1)(ii)(B)] Equip internal floating roof with two seals mounted secondary above the primary so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The primary seal may be vapor-mounted, but both must be continuous. Subpart Kb. [40 CFR 60.112b(a)(1)(ii)(B)]
- 55 [40 CFR 60.112b(a)(1)] 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. Equip 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 with a cover or lid and maintain in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Equip the cover or lid with a gasket. Bolt covers on each access hatch and automatic gauge float well except when they are in use. Equip automatic bleeder vents with a gasket and close 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. Equip rim space vents with a gasket and set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. 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. 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. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. Subpart Kb. [40 CFR 60.112b(a)(1)]
- 56 [40 CFR 60.113b(a)(1)] Tank roof and seals monitored by visual inspection/determination at the regulation's specified frequency. Inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with 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, repair the items before filling the storage vessel. Subpart Kb. [40 CFR 60.113b(a)(1)]
Which Months: All Year Statistical Basis: None specified
- 57 [40 CFR 60.113b(a)(3)(i)] Tank roof and seals monitored by visual inspection/determination once every five years as specified in 40 CFR 60.113b(a)(4). Subpart Kb. [40 CFR 60.113b(a)(3)(i)]
Which Months: All Year Statistical Basis: None specified
- 58 [40 CFR 60.113b(a)(3)(ii)] Tank roof and seals monitored by visual inspection/determination annually as specified in 40 CFR 60.113b(a)(2). Subpart Kb. [40 CFR 60.113b(a)(3)(ii)]
Which Months: All Year Statistical Basis: None specified
- 59 [40 CFR 60.113b(a)(4)] 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 10 percent open area, repair the items as necessary so that none of the conditions specified in this 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 10 years in the case of vessels conducting the annual visual inspection as specified in 40 CFR 60.113b(a)(2) and (a)(3)(ii) and at intervals no greater than 5 years in the case of vessels specified in paragraph 40 CFR 60.113b(a)(3)(i) of this section. Subpart Kb. [40 CFR 60.113b(a)(4)]
- 60 [40 CFR 60.113b(a)(4)] Tank roof and seals monitored by visual inspection/determination at the regulation's specified frequency. Inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If a failure is detected during inspections required in this paragraph initiate repair provisions. Subpart Kb. [40 CFR 60.113b(a)(4)]
Which Months: All Year Statistical Basis: None specified

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

CRG 0005 CRG-5 - Storage Tanks Subject to Ch. 21 and Kb

Group Members: EQT 0017 EQT 0018 EQT 0019 EQT 0024

- 61 [40 CFR 60.113b(a)(5)] Submit notification in writing: Due 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) to afford DEQ an opportunity to have an observer present. If the inspection required by paragraph 40 CFR 60.113b(a)(4) is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, notify DEQ at least 7 days prior to the refilling of the storage vessel. Notify by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, submit notification in writing including the written documentation and send by express mail so that it is received by DEQ at least 7 days prior to the refilling. Subpart Kb. [40 CFR 60.113b(a)(5)]
- 62 [40 CFR 60.115b(a)(1)] Submit a report: Due to DEQ as an attachment to the notification required by 40 CFR 60.7(a)(3). This report shall describe the control equipment and certify that the control equipment meets the specifications of 40 CFR 60.112b(a)(1) and 60.113b(a)(1). Keep copies of all reports for at least two years. Subpart Kb. [40 CFR 60.115b(a)(1)]
- 63 [40 CFR 60.115b(a)(2)] Inspection records recordkeeping by electronic or hard copy upon each occurrence of inspection, per 40 CFR 60.113b(a)(1) through (4). Each record shall identify the 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). Keep copies of all records for at least two years. Subpart Kb. [40 CFR 60.115b(a)(2)]
- 64 [40 CFR 60.115b(a)(4)] Submit a report: Due to DEQ within 30 days of 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). The report shall identify the storage vessel and the reason it did not meet the specifications of 40 CFR 60.112b(a)(1) or 40 CFR 60.113b(a)(3) and list each repair made. Keep copies of all reports for at least two years. Subpart Kb. [40 CFR 60.115b(a)(4)]
- 65 [40 CFR 60.116b(b)] Equipment/operational data recordkeeping by electronic or hard copy at the approved frequency. Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Keep copies of all records for the life of the source as specified by 40 CFR 60.116b(a). Subpart Kb. [40 CFR 60.116b(b)]
- 66 [40 CFR 60.116b(c)] VOL storage data recordkeeping by electronic or hard copy at the approved frequency. Records consist of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period. Keep copies of all records for at least two years. Subpart Kb. [40 CFR 60.116b(c)]
- 67 [LAC 33:III.2103.B]
68 [LAC 33:III.2103.C] Equip with a submerged fill pipe.
Equip with an internal floating roof consisting of a pontoon type roof, double deck roof, or internal floating cover which rests or floats on the surface of the liquid contents and is equipped with a closure seal to close the space between the roof edge and tank wall. Ensure that all tank gauging and sampling devices are gas-tight except when gauging or sampling is taking place.
- 69 [LAC 33:III.2103.I] Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Keep records of the information specified in LAC 33:III.2103.I.1 through I.7, as applicable. Maintain records for at least two years.

EQT 0001 22-01 - Biomass Boiler Stack

- 70 [40 CFR 60.43b(f)] Opacity \leq 20 percent, except for one 6-minute period per hour of not more than 27% opacity. The opacity standards apply at all times, except during periods of startup, shutdown, or malfunction. Subpart Db. [40 CFR 60.43b(f)]
Which Months: All Year Statistical Basis: Six-minute average

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

EQT 0001 22-01 - Biomass Boiler Stack

- 71 [40 CFR 60.43b(h)(4)] On and after the date on which the initial performance test is completed or is required to be completed under 40 CFR 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity greater than 73 MW (250 MMBtu/h) shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 37 ng/J (0.085 lb/MMBtu) heat input. [40 CFR 60.43b(h)(4)]
- 72 [40 CFR 60.44b(l)(1)] Nitrogen oxides (NO_x) ≤ 0.20 lb/MMBTU (86 ng/J) heat input (expressed as NO₂), except as provided in 40 CFR 60.44b(k). The nitrogen oxide standards apply at all times, including periods of startup, shutdown, or malfunction. Subpart Db. [40 CFR 60.44b(l)(1)]
Which Months: All Year Statistical Basis: Thirty-day rolling average
- 73 [40 CFR 60.46b(b)] Determine compliance with the PM and opacity standards in 40 CFR 60.43b through performance testing as described in 40 CFR 60.46b (d), except as provided in 40 CFR 60.46b(i). Subpart Db. [40 CFR 60.46b(b)]
- 74 [40 CFR 60.48b(a)] Install, calibrate, maintain, and operate a continuous opacity monitoring systems (COMS) for measuring the opacity of emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard under 40 CFR 60.43b and meeting the conditions under paragraphs (j)(1), (2), (3), (4), (5), or (6) of this section who elects not to use a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in 40 CFR 60.11 to demonstrate compliance with the applicable limit in 40 CFR 60.43b by April 29, 2011, within 45 days of stopping use of an existing COMS, or within 180 days after initial startup of the facility, whichever is later, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation. [40 CFR 60.48b(a)]
- 75 [40 CFR 60.49b(a)] Submit notification: Due as provided by 40 CFR 60.7. Submit a notification of the actual date of initial startup including design heat input capacity of the affected facility, identification of fuels to be combusted, copy of any federally enforceable requirement limiting annual capacity factor, and all other data as specified in 40 CFR 60.49b(a)(1) through (a)(4). Subpart Db. [40 CFR 60.49b(a)]
- 76 [40 CFR 60.49b(b)] Submit the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in 40 CFR 60 Appendix B to DEQ. Subpart Db. [40 CFR 60.49b(b)]
- 77 [40 CFR 60.49b(d)] Fuel rate recordkeeping by electronic or hard copy daily. Record the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. Determine the annual capacity factor on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. If the facility is not required to continuously monitor any emissions (excluding opacity) or parameters indicative of emissions, the facility may record the amount of each fuel combusted during each calendar month. Subpart Db. [40 CFR 60.49b(d)]
- 78 [40 CFR 60.49b(f)] Opacity recordkeeping by the regulation's specified method(s) at the regulation's specified frequency. Maintain records according to the requirements specified in 40 CFR 60.49b(f)(1) through (f)(3). Subpart Db. [40 CFR 60.49b(f)]
- 79 [40 CFR 60.49b(h)] Submit excess emissions report: Due by the 30th day following the end of each six-month period. Report any excess emissions which occurred during the reporting period. Subpart Db. [40 CFR 60.49b(h)]
- 80 [40 CFR 60.49b(o)] Maintain all records required under 40 CFR 60.49b for a period of 2 years following the date of such record. Subpart Db. [40 CFR 60.49b (o)]

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

EQT 0001 22-01 - Biomass Boiler Stack

- 81 [40 CFR 60.49b(r)(1)] The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil, natural gas, wood, a mixture of these fuels, or any of these fuels (or a mixture of these fuels) in combination with other fuels that are known to contain an insignificant amount of sulfur in § 60.42b(j) or § 60.42b(k) shall obtain and maintain at the affected facility fuel receipts (such as a current, valid purchase contract, tariff sheet, or transportation contract) from the fuel supplier that certify that the oil meets the definition of distillate oil and gaseous fuel meets the definition of natural gas as defined in § 60.41b and the applicable sulfur limit. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition, natural gas, wood, and/or other fuels that are known to contain insignificant amounts of sulfur were combusted in the affected facility during the reporting period. [40 CFR 60.49b(r)(1)]
- 82 [40 CFR 60.49b(w)] The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period. [40 CFR 60.49b(w)]
- 83 [40 CFR 63.11201(a)] Particulate matter (10 microns or less) (PM10) \leq 0.03 lb/MMBTU of heat input. Subpart JJJJJ. [40 CFR 63.11201(a)]
Which Months: All Year Statistical Basis: None specified
- 84 [40 CFR 63.11201(b)] Minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. Follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available, if manufacturer's recommended procedures are not available. Subpart JJJJJ. [40 CFR 63.11201(b), 40 CFR 63.11214(d), 40 CFR 63.11223(g)]
- 85 [40 CFR 63.11201(c)] Maintain opacity to less than or equal to 10 percent opacity (daily block average) as specified by Table 3 Item 5. [40 CFR 63.11201(c)]
- 86 [40 CFR 63.11201(c)] Maintain the operating load such that it does not exceed 110 percent of the average operating load recorded during the most recent performance stack test as specified by Table 3 Item 7. Subpart JJJJJ. [40 CFR 63.11201(c)]
- 87 [40 CFR 63.11201(d)] These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in 40 CFR 63.11237, during which time you must comply only with Table 2 to this subpart. [40 CFR 63.11201(d)]
- 88 [40 CFR 63.11205(a)] At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR 63.11205(a)]
- 89 [40 CFR 63.11205(b)] Demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or a continuous monitoring system (CMS), including a continuous emission monitoring system (CEMS), a continuous opacity monitoring system (COMS), or a continuous parameter monitoring system (CPMS), where applicable. Fuel analysis may be used to demonstrate compliance with an applicable mercury emission limit, if the emission rate calculated according to 40 CFR 63.11211(c) is less than the applicable emission limit. Subpart JJJJJ. [40 CFR 63.11205(b)]
- 90 [40 CFR 63.11210(a)] Demonstrate initial compliance with each applicable emission limit specified in 40 CFR 63 Subpart JJJJJ Table 1 by either conducting performance (stack) tests, as applicable, according to 40 CFR 63.11212 and 40 CFR 63 Subpart JJJJJ Table 4 or, for mercury, conducting fuel analyses, as applicable, according to 40 CFR 63.11213 and 40 CFR 63 Subpart JJJJJ Table 5. Subpart JJJJJ. [40 CFR 63.11210(a)]
- 91 [40 CFR 63.11210(d)] Demonstrate initial compliance with the applicable emission limits no later than 180 days after March 21, 2011 or within 180 calendar days after startup of the source, whichever is later, according to 40 CFR 63.7(a)(2)(ix). Subpart JJJJJ. [40 CFR 63.11210(d)]
- 92 [40 CFR 63.11210(g)] For new or reconstructed affected boilers that have applicable work practice standards or management practices, you are not required to complete an initial performance tune-up, but you are required to complete the applicable biennial or 5-year tune-up as specified in 40 CFR 63.11223 no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed affected source. [40 CFR 63.11210(g)]

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

EQT 0001 22-01 - Biomass Boiler Stack

- 93 [40 CFR 63.11211(a)] Demonstrate initial compliance with the emission limits of 40 CFR 63 Subpart JJJJJJ by conducting performance (stack) tests according to 40 CFR 63.11212 and 40 CFR 63 Subpart JJJJJJ Table 4, conducting a fuel analysis for each type of fuel burned in the boiler according to 40 CFR 63.11213 and 40 CFR 63 Subpart JJJJJJ Table 5, establishing operating limits according to 40 CFR 63.11222, 40 CFR 63 Subpart JJJJJJ Table 6, and 40 CFR 63.11211(b), as applicable, and conducting CMS performance evaluations according to 40 CFR 63.11224. Subpart JJJJJJ. [40 CFR 63.11211(a)]
- 94 [40 CFR 63.11212] Conduct all performance tests according to 40 CFR 63.7(c), (d), (f), and (h) and 40 CFR 63.11212(b) through (e). Develop a site-specific test plan according to the requirements in 40 CFR 63.7(c). Subpart JJJJJJ.
- 95 [40 CFR 63.11214(b)] Demonstrate initial compliance with the work practice standard, emission reduction measures, and management practices by conducting a performance tune-up according to 40 CFR 63.11210(c) or (g), as applicable, and 40 CFR 63.11223(b). Submit a signed statement in the Notification of Compliance Status report that indicates a tune-up of the boiler was conducted, if the boiler is an existing boiler. Subpart JJJJJJ. [40 CFR 63.11214(b)]
- 96 [40 CFR 63.11214(d)] Submit a signed statement in the Notification of Compliance Status report that indicates that startups and shutdowns are conducted according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available. Subpart JJJJJJ. [40 CFR 63.11214(d), 40 CFR 63.11223(g)]
- 97 [40 CFR 63.11220(a)] Conduct all applicable performance (stack) tests according to 40 CFR 63.11212 on a triennial basis, except as specified in 40 CFR 63.11220(b) through (e). Ensure that triennial performance tests are completed no more than 37 months after the previous performance test. Subpart JJJJJJ. [40 CFR 63.11220(a)]
- 98 [40 CFR 63.11220(c)] For new or reconstructed boilers that commenced construction or reconstruction after September 14, 2016, when demonstrating initial compliance with the PM emission limit, if your boiler's performance test results show that your PM emissions are equal to or less than half of the PM emission limit, you may choose to conduct performance tests for PM every fifth year, but must continue to comply with all applicable operating limits and monitoring requirements and must comply with the provisions as specified in paragraphs (c)(1) through (3) of this section. [40 CFR 63.11220(c)]
- 99 [40 CFR 63.11222(a)(2)] If you have an applicable mercury or PM emission limit, you must keep records of the type and amount of all fuels burned in each boiler during the reporting period. [40 CFR 63.11222(a)(2)]
- 100 [40 CFR 63.11222(a)] Boiler operating load: Demonstrate continuous compliance by a. Collecting operating load data (fuel feed rate or steam generation data) every 15 minutes; b. Reducing the data to 30-day rolling averages; and c. Maintaining the 30-day rolling average at or below the operating limit established during the performance test according to 40 CFR 63.11212(c) and Table 6 to this subpart. [40 CFR 63.11222(a)]
- 101 [40 CFR 63.11222(a)] Opacity: Demonstrate continuous compliance by a. Collecting the opacity monitoring system data according to 40 CFR 63.11224(e) and 40 CFR 63.11221; b. Reducing the opacity monitoring data to 6-minute averages; and c. Maintaining opacity to less than or equal to 10 percent (daily block average). [40 CFR 63.11222(a)]
- 102 [40 CFR 63.11222(b)] You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 and 3 to this subpart that apply to you. These instances are deviations from the emission limits in this subpart. These deviations must be reported according to the requirements in 40 CFR 63.11225. [40 CFR 63.11222(b)]
- 103 [40 CFR 63.11223(a)] Conduct performance tune-ups while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same-time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up. Subpart JJJJJJ. [40 CFR 63.11223(a)]
- 104 [40 CFR 63.11223(b)] Conduct a tune-up biennially to demonstrate continuous compliance as specified in 40 CFR 63.11223(b)(1) through (b)(7), except as specified in 40 CFR 63.11223(c). Conduct each tune-up no more than 25 months after the previous tune-up. Ensure that the first biennial tune-up of a new or reconstructed boiler is no later than 25 months after the initial startup. Subpart JJJJJJ. [40 CFR 63.11201(b), 40 CFR 63.11223(b)]

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

EQT 0001 22-01 - Biomass Boiler Stack

- 105 [40 CFR 63.11224(b)] If you are using a control device to comply with the emission limits specified in Table 1 to this subpart, you must maintain each operating limit in Table 3 to this subpart that applies to your boiler as specified in Table 7 to this subpart. [40 CFR 63.11224(b)]
- 106 [40 CFR 63.11224(e)] If you have an applicable opacity operating limit under this rule, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (e)(1) through (8) of this section by the compliance date specified in 40 CFR 63.11196. [40 CFR 63.11224(e)]
- 107 [40 CFR 63.11225(a)(1)] You must submit all of the notifications in 40 CFR 63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section. [40 CFR 63.11225(a)(1)]
- 108 [40 CFR 63.11225(a)(2)] Submit Initial Notification: Due to DEQ within 120 days after the source becomes subject to 40 CFR 63 Subpart JJJJJJ. Subpart JJJJJJ. [40 CFR 63.11225(a)(2)]
- 109 [40 CFR 63.11225(a)(3)] Submit Notification of Intent to conduct a performance stack test: Due to DEQ at least 60 days before a performance stack test is scheduled to begin. Subpart JJJJJJ. [40 CFR 63.11225(a)(3)]
- 110 [40 CFR 63.11225(a)(4)] Submit Notification of Compliance Status: Due to DEQ no later than 120 days after the applicable compliance date specified in 40 CFR 63.11196. Submit the notification in accordance with 40 CFR 63.11225(a)(4)(i) and (a)(4)(vi). Include the information and certification(s) of compliance in 40 CFR 63.11225(a)(4)(i) through (a)(4)(v), as applicable. Ensure that they are signed by a responsible official. Subpart JJJJJJ. [40 CFR 63.11225(a)(4)]
- 111 [40 CFR 63.11225(b)] Prepare an annual compliance certification report by March 1 of each year for the previous calendar year containing the information specified in 40 CFR 63.11225(b)(1) through (b)(4). Submit the report by March 15 if any instance described by 40 CFR 63.11225(b)(3) occurred during the previous calendar year or upon request of DEQ. Subpart JJJJJJ. [40 CFR 63.11225(b)]
- 112 [40 CFR 63.11225(c)] Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in 40 CFR 63.11225(c)(1) through (c)(7), as applicable. Subpart JJJJJJ. [40 CFR 63.11225(c)]
- 113 [40 CFR 63.11225(d)] Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years. [40 CFR 63.11225(d)]
- 114 [40 CFR 63.11225(e)(1)] Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.2) required by this subpart, you must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either paragraph (e)(1)(i) or (ii) of this section. [40 CFR 63.11225(e)(1)]
- 115 [LAC 33:III.1101.B] Opacity \leq 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes. Determine opacity by using Method 9 of 40 CFR Part 60, Appendix A or by using a continuous opacity monitoring system (COMS) meeting the requirements outlined in 40 CFR 60.13(c) and (d).
Which Months: All Year Statistical Basis: None specified
- 116 [LAC 33:III.1311.C] Opacity \leq 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes.
Which Months: All Year Statistical Basis: Six-minute average
- 117 [LAC 33:III.1513.C] The owner or operator of any emissions unit that is not subject to the emissions limitations of this Chapter shall record and retain at the site sufficient data to show annual potential sulfur dioxide emissions from the emissions unit.

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

EQT 0001 22-01 - Biomass Boiler Stack

- 118 [LAC 33:III.501.C.6] Conduct a performance/emissions test: Due under any of the following circumstances:
1. Within 180 days of initial start-up (or restart-up after modification); or within 60 days of achieving normal production or completing shakedown period, whichever is earlier; or
 2. Within 180 days of the issuance of this permit, for existing sources that have never conducted a performance/emissions test; or
 3. Within 5 years, plus or minus 6 months, from when the previous performance/emissions test was performed.
- If this source is not operational when a performance/emissions test is due, the test shall be due within 60 days of startup.
- 119 [LAC 33:III.501.C.6] Conduct performance/emissions tests according to the following test methods unless otherwise specified in an applicable state or federal regulation: New Source Performance Standards, 40 CFR 60, Appendix A, Method 10 - Determination of Carbon Monoxide Emissions from Stationary Sources; and Method 25A - Determination of Total Gaseous Organic Concentration using a Flame Ionization Analyzer. The test's purpose is to demonstrate compliance with the emission limits of this permit; therefore, conduct each test run within 80 percent of maximum permitted load, or within 10 percent of 100 percent maximum achievable load. Use alternate stack test methods only with the prior approval of the Office of Environmental Services. Provide necessary sampling ports in stacks or ducts and such other safe and proper sampling and testing facilities for proper determination of the emission limits, as required by LAC 33:III.913.
- 120 [LAC 33:III.501.C.6] NO_x emissions shall be controlled via selective non-catalytic reduction (SNCR) and selective catalytic reduction (SCR). CO emissions shall be controlled using an oxidation catalyst. SO₂ emissions shall be controlled using a circulating dry scrubber. To the extent practicable, maintenance of the control systems shall be scheduled for periods when the Biomass Boiler is not operational.
- 121 [LAC 33:III.501.C.6] Operating rate monitored by technically sound method daily. This condition shall not apply if the most recent LDEQ required performance/emissions test was conducted at greater than or equal to 80% of the maximum permitted load.
- Which Months: All Year Statistical Basis: None specified
- 122 [LAC 33:III.501.C.6] Operating rate recordkeeping by electronic or hard copy daily. This condition shall not apply if the most recent LDEQ required performance/emissions test was conducted at greater than or equal to 80% of the maximum permitted load.
- 123 [LAC 33:III.501.C.6] Submit Notification: Due within 14 days to the Office of Environmental Services if the source is operated at a load that is more than 10 percent higher than the rate at which the most recent LDEQ required performance/emissions test was conducted. Determine the operating load of the source based on a 30 day rolling average. Calculate the increase in operating load as a percentage of the rate at which the most recent performance/emissions test was conducted. Include information identifying the source, the data used to calculate the operating rate during the 30 day rolling average, and a description of the circumstances that caused the source to operate more than 10 percent higher than the rate at which the most recent performance/emissions test was conducted. This condition shall not apply if the most recent LDEQ required performance/emissions test was conducted at greater than or equal to 80% of the maximum permitted load.
- 124 [LAC 33:III.501.C.6] Submit notification: Due to the Office of Environmental Services at least 30 days prior to any LDEQ required performance/emissions test. Submit notification in order to provide the opportunity to conduct a pretest meeting and observe the emission testing. Submit notification at least 45 days prior to the deadline specified in this permit indicating the reason that the test will not be conducted by the specified deadline, if any LDEQ required performance/emissions test will not be conducted by the deadline specified in this permit. This notification will be evaluated by the department on a case-by-case basis to determine if an extension to the deadline for testing specified in this permit is warranted. The deadline for testing specified in this permit shall remain in effect until the department responds in writing with an extension to this deadline.
- 125 [LAC 33:III.501.C.6] Submit report: Due within 60 days after performance/emissions test. Submit performance/emissions test results to the Office of Environmental Services. Include any necessary conversion into the units of any applicable standard (lbs/MMBtu, gr/dscf, lbs SO₂ / ton 100% H₂SO₄, etc.). Include plant and in house laboratory data to support production values (example: how many tons of 100% equivalent H₂SO₄ was being produced).

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

EQT 0001 22-01 - Biomass Boiler Stack

- 126 [LAC 33:III.501.C.6] The permittee shall monitor and record NOx emissions using a Continuous Emissions Monitoring System (CEMS) calibrated, operated, and maintained according to the manufacturer's specifications. The CEMS shall comply with Performance Specification 2 of 40 CFR 60, Appendix B, and be evaluated in accordance with Procedure 1 of 40 CFR 60, Appendix F. Data availability shall be dictated by Louisiana General Condition V of LAC 33:III.535.A.

EQT 0002 22-02 - Biomass Handling Baghouse

- 127 [LAC 33:III.1311.C] Opacity \leq 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes.
Which Months: All Year Statistical Basis: Six-minute average
- 128 [LAC 33:III.501.C.6] Baghouses (including gaskets): Equipment/operational data monitored by technically sound method semiannually or whenever a visible emissions check indicates maintenance may be necessary. Change elements as necessary.
Which Months: All Year Statistical Basis: None specified
- 129 [LAC 33:III.501.C.6] Baghouses: Equipment/operational data recordkeeping by electronic or hard copy upon each occurrence of inspection. Keep records of inspections and maintenance activities on site for a period of at least five years and available for inspection by the Office of Environmental Compliance.
- 130 [LAC 33:III.501.C.6] Filter vents: Equipment/operational data recordkeeping by electronic or hard copy daily. Keep the purchase order or manufacturer certification showing that the installed filters meet the Manufacturer's specification for particulate matter removal efficiency or the filter MERV rating, as applicable; records of visible emissions checks or differential pressure gauge readings, as applicable; and records of maintenance activities. Keep records on site for a period of at least five years and available for review by the Office of Environmental Compliance.
- 131 [LAC 33:III.501.C.6] Filter vents: Visible emissions monitored by visual inspection/determination daily. If visible emissions are observed, return the filter to proper operation as expeditiously as practicable, but at a maximum within three working days, in accordance with good air pollution control practices for minimizing emissions.
Which Months: All Year Statistical Basis: None specified

EQT 0007 22-07 - Gasification Heater Common Stack

- 132 [LAC 33:III.501.C.6] NOx emissions shall be controlled via selective catalytic reduction (SCR). CO emissions shall be controlled using an oxidation catalyst. To the extent practicable, maintenance of the control systems shall be scheduled for periods when the Gasification Heater is not operational.

EQT 0009 22-09 - SO2 Scrubber

- 133 [LAC 33:III.501.C.6] Flow rate monitored by flow rate monitoring device once every four hours.
Which Months: All Year Statistical Basis: None specified
- 134 [LAC 33:III.501.C.6] Flow rate recordkeeping by electronic or hard copy once every four hours.
- 135 [LAC 33:III.501.C.6] Flow rate: Flow rate \geq TBD. The permittee shall incorporate the manufacturer's minimum recommended flow rate via an administrative amendment request once the design of the scrubber has been completed.
- 136 [LAC 33:III.501.C.6] Submit report: Due annually, by the 31st of March for the preceding calendar year. List the hours that the scrubber operated out of the ranges specified. Submit report to the Office of Environmental Compliance. This report can be combined with reports required under LAC 33:III.537 G.C. XI. Any written report submitted in advance of the time frame specified in this requirement, may serve to meet the reporting requirements of this Condition provided all information specified in Paragraph D of Louisiana General Condition XI is included.

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

EQT 0009 22-09 - SO2 Scrubber

- 137 [LAC 33:III.501.C.6] pH monitored by pH instrument once every four hours.
Which Months: All Year Statistical Basis: None specified
- 138 [LAC 33:III.501.C.6] pH recordkeeping by electronic or hard copy once every four hours.
- 139 [LAC 33:III.501.C.6] pH: pH \geq TBD. The permittee shall incorporate the manufacturer's minimum recommended pH via an administrative amendment request once the design of the scrubber has been completed.

EQT 0010 22-10 - Flare

- 140 [LAC 33:III.1105] Opacity \leq 20 percent, except for a combined total of six hours in any 10 consecutive day period, for burning in connection with pressure valve releases for control over process upsets. Determine opacity by using Method 9 of 40 CFR Part 60, Appendix A or by using a continuous opacity monitoring system (COMS) meeting the requirements outlined in 40 CFR 60.13(c) and (d).
Which Months: All Year Statistical Basis: None specified
- 141 [LAC 33:III.1105] Submit notification: Due to SPOC as soon as possible after the start of burning of pressure valve releases for control over process upsets. Notify in accordance with LAC 33:I.3923. Notification is required only if the upset cannot be controlled in six hours.
- 142 [LAC 33:III.1311.C] Opacity \leq 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes.
Which Months: All Year Statistical Basis: Six-minute average
- 143 [LAC 33:III.501.C.6] Develop a corrective action plan for re-lighting the flare. Keep plan readily available for immediate implementation in the event the flare needs to be re-lit.
- 144 [LAC 33:III.501.C.6] Flare gas: Heat content $>$ 300 BTU/scf, to ensure destruction of VOC emissions to the flare stack.
Which Months: All Year Statistical Basis: None specified
- 145 [LAC 33:III.501.C.6] Flare gas: Heat content monitored by gas analysis annually. Monitor and analyze, by technical means, the heat content of the flare gas and any associated flare fuel gas (including pilot fuel) as a mixture at the point of combustion, to insure the heat content is above 300 BTU/scf.
Which Months: All Year Statistical Basis: None specified
- 146 [LAC 33:III.501.C.6] Flare gas: Heat content recordkeeping by electronic or hard copy annually.
- 147 [LAC 33:III.501.C.6] Permittee shall ensure compliance with the opacity limits of this permit by visually inspecting the Flare for visible emissions on a daily basis. If visible emissions are detected, the permittee shall conduct a six-minute opacity reading in accordance with Method 9 of 40 CFR 60, Appendix A. Records of visible emissions checks shall include a record if visible emissions were detected and a record and the results of any Method 9 testing conducted. These records shall be kept on-site and available for inspection by the Office of Environmental Compliance.
- As an alternative to the requirement to conduct Method 9 testing, the permittee may assume that any visible emissions detected constitute opacity greater than 20 percent. In this case, no visible emissions detected shall be considered opacity less than or equal to 20 percent, even if a qualitative assessment suggests otherwise. The permittee may also determine opacity via any federally-approved alternative to Method 9 (e.g., Method ALT-082). In lieu of performing daily visual inspections, the permittee may immediately perform a six-minute opacity reading in accordance with Method 9.
- 148 [LAC 33:III.501.C.6] Presence of a flame monitored by visual inspection/determination daily.
Which Months: All Year Statistical Basis: None specified
- 149 [LAC 33:III.501.C.6] Presence of a flame recordkeeping by electronic or hard copy daily.

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

EQT 0031 22-09(a) - Thermal Oxidizer

- 150 [LAC 33:III.1101.B] Opacity <= 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes. Determine opacity by using Method 9 of 40 CFR Part 60, Appendix A or by using a continuous opacity monitoring system (COMS) meeting the requirements outlined in 40 CFR 60.13(c) and (d).
Which Months: All Year Statistical Basis: None specified
- 151 [LAC 33:III.1311.C] Opacity <= 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes.
Which Months: All Year Statistical Basis: Six-minute average

FUG 0002 FUG-02 - Fugitive Roadway Emissions

- 152 [LAC 33:III.1305.A] Prevent particulate matter from becoming airborne by taking all reasonable precautions including, but not limited to, those specified in LAC 33:III.1305.A.1 through A.7.

UNF 0001 Entire Facility - Louisiana Green Fuels

- 153 [40 CFR 60.] All affected facilities shall comply with all applicable provisions in 40 CFR 60 Subpart A.
- 154 [40 CFR 63.] All affected facilities shall comply with all applicable provisions in 40 CFR 63 Subpart A as delineated in Table 8 of 40 CFR 63 Subpart JJJJJ.
- 155 [40 CFR 68.] Comply with all applicable requirements of 40 CFR 68.
- 156 [40 CFR 82.Subpart F] Comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B.
- 157 [LAC 33:III.1103] Emissions of smoke which pass onto or across a public road and create a traffic hazard by impairment of visibility as defined in LAC 33:III.111 or intensifies an existing traffic hazard condition are prohibited.
- 158 [LAC 33:III.1109.B] Outdoor burning of waste material or other combustible material is prohibited.
- 159 [LAC 33:III.1303.B] Emissions of particulate matter which pass onto or across a public road and create a traffic hazard by impairment of visibility or intensify an existing traffic hazard condition are prohibited.
- 160 [LAC 33:III.1305.A] Prevent particulate matter from becoming airborne by taking all reasonable precautions including, but not limited to, those specified in LAC 33:III.1305.A.1 through A.7.
- 161 [LAC 33:III.2113.A] Maintain best practical housekeeping and maintenance practices at the highest possible standards to reduce the quantity of organic compounds emissions. Good housekeeping includes, but is not limited to, the practices listed in LAC 33:III.2113.A.1 through A.5.
- 162 [LAC 33:III.219] Failure to pay the prescribed application fee or annual fee as provided herein, within 90 days after the due date, will constitute a violation of these regulations and shall subject the person to applicable enforcement actions under the Louisiana Environmental Quality Act including, but not limited to, revocation or suspension of the applicable permit, license, registration, or variance.
- 163 [LAC 33:III.2901.D] Discharges of odorous substances at or beyond property lines which cause a perceived odor intensity of six or greater on the specified eight point butanol scale as determined by Method 41 of LAC 33:III.2901.G are prohibited.
- 164 [LAC 33:III.2901.F] If requested to monitor for odor intensity, take and transport samples in a manner which minimizes alteration of the samples either by contamination or loss of material. Evaluate all samples as soon after collection as possible in accordance with the procedures set forth in LAC 33:III.2901.G.
- 165 [LAC 33:III.537] Comply with the Louisiana General Conditions as set forth in LAC 33:III.537.
- 166 [LAC 33:III.5609.A.1.b] Activate the preplanned abatement strategy listed in LAC 33:III.5611.Table 5 when DEQ declares an Air Pollution Alert.
- 167 [LAC 33:III.5609.A.2.b] Activate the preplanned strategy listed in LAC 33:III.5611.Table 6 when DEQ declares an Air Pollution Warning.
- 168 [LAC 33:III.5609.A.3.b] Activate the preplanned abatement strategy listed in LAC 33:III.5611.Table 7 when DEQ declares an Air Pollution Emergency.

SPECIFIC REQUIREMENTS

AI ID: 234155 - Louisiana Green Fuels LLC - Louisiana Green Fuels

Activity Number: PER20220001

Permit Number: 0540-00040-00

Air - Minor (Synthetic) Initial

UNF 0001 Entire Facility - Louisiana Green Fuels

- 169 [LAC 33:III.5609.A] Prepare standby plans for the reduction of emissions during periods of Air Pollution Alert, Air Pollution Warning and Air Pollution Emergency. Design standby plans to reduce or eliminate emissions in accordance with the objectives as set forth in LAC 33:III.5611. Tables 5, 6, and 7.
- 170 [LAC 33:III.5901.A] Comply with the provisions of 40 CFR 68 as incorporated in LAC 33:III.Chapter 59. Modifications or exceptions provided in LAC 33:III.5901.C shall not relieve the permittee from the obligation to comply timely with any otherwise applicable condition of 40 CFR 68.
- 171 [LAC 33:III.5907] Identify hazards that may result from accidental releases of the substances listed in 40 CFR 68.130, Table 59.0 of LAC 33:III.5907, or Table 59.1 of LAC 33:III.5913 using appropriate hazard assessment techniques, design and maintain a safe facility, and minimize the off-site consequences of accidental releases of such substances that do occur.
- 172 [LAC 33:III.5911.C] Submit amended registration: Due to the Office of Environmental Compliance within 60 days after the information in the submitted registration is no longer accurate.
- 173 [LAC 33:III.905] Install air pollution control facilities whenever practically, economically, and technologically feasible, except as specified in LAC 33:III.905.B. When facilities have been installed on a property, use and diligently maintain in proper working order whenever any emissions are being made which can be controlled by the facilities, even though the ambient air quality standards in affected areas are not exceeded.
- 174 [LAC 33:III.927] Report the unauthorized discharge of any air pollutant into the atmosphere in accordance with LAC 33:I.Chapter 39, Notification Regulations and Procedures for Unauthorized Discharges. Submit written reports to DEQ pursuant to LAC 33:I.3925. Submit timely and appropriate follow-up reports detailing methods and procedures to be used to prevent similar atmospheric releases.
-



LOUISIANA GREEN FUELS LLC

LOUISIANA GREEN FUELS

AGENCY INTEREST NO. 234155

CALDWELL PARISH, LOUISIANA

MINOR SOURCE AIR PERMIT APPLICATION

June 2022

John Bel Edwards
Governor



Chuck Carr Brown, Ph.D.
Secretary

Louisiana Department of Environmental Quality
Office of Environmental Services

June 10, 2022
Emailed

Agency Interest No. 234155
Permit No.: 0540-00040-00
Activity No.: PER20220001

Dr. Paul Schubert
Louisiana Green Fuels LLC
303 Wall St, PO Box 1269
Columbia, LA 71418

RE: Louisiana Green Fuels LLC - Louisiana Green Fuels
Administrative Completeness Determination

Dear Dr. Schubert:

The Office of Environmental Services received your application for a minor source permit on June 9, 2022. As of the date of this letter, the application, along with any additional information submitted to date, has been determined to be administratively complete and has been assigned to the Oil & Gas Section. Please note that the Department may require additional information if technical deficiencies are found at a later date.

If you have any questions, please call me at (225) 219-3369. Thank you for your attention to this matter.

Sincerely,

A handwritten signature in black ink that reads "Jeffrey Budd".

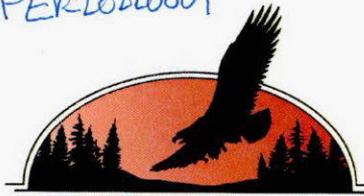
Jeffrey Budd
Environmental Project Specialist
Permit Application Administrative Review Group

c: IO-A

COPY

PER20220001

original to IOA
9B copy to O&B/Meyers



E·A·G·L·E

ENVIRONMENTAL SERVICES, INC.

18369 Petroleum Drive

Baton Rouge, Louisiana 70809

Phone: (225) 757-0870 • Fax: (225) 757-8855

LDEQ RECEIPT

PAAR

2022 JUN -9 PM 2:57

June 9, 2022

Ms. Bliss Higgins
Louisiana Department of Environmental Quality
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

Re: Louisiana Green Fuels LLC
Columbia, LA
Agency Interest # 234155
Minor Source Air Permit Application

Ms. Higgins:

On behalf of our client, Louisiana Green Fuels LLC (LGF), Eagle Environmental Services, Inc. (Eagle) is submitting a Minor Source Air Permit Application for a proposed renewable fuels bio-refinery in Caldwell Parish, LA. The proposed LGF facility will be powered by onsite-generated "green" power and will utilize Carbon Capture and Sequestration (CCS) technology to capture and sequester carbon dioxide (CO₂) from both the bio-refinery and the onsite power plant. With a Carbon Intensity (CI) score of approximately minus 294, the LGF facility will be the most deeply carbon-negative liquid renewable fuels production facility in the world.

A detailed description of the proposed facility is provided in Section 1.0 of this document. Please feel free to contact me or Barrett Kyle at (225) 757-0870 with any questions concerning this request.

Sincerely,

Charles Brumfield
Senior Environmental Engineer
Eagle Environmental Services, Inc.



COPY

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original to IOA
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LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

Office of Environmental Services • Public Participation & Permit Support Division
Post Office Box 4313 • Baton Rouge, LA 70821-4313

Customer Service: 225-219-LDEQ (5337) or Toll Free 1-866-896-LDEQ (5337)

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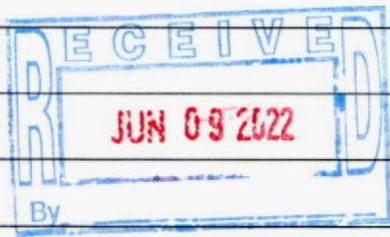
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REQUEST FOR EXPEDITED PERMIT PROCESSING

This form is to be submitted when an applicant requests consideration for expedited processing of permits, modifications, licenses, registrations or variances in accordance with LAC 33:I.Chapter 18. Submission of this form shall in no way constitute approval of the expedited permit request. The LDEQ will notify the applicant in writing of the decision to expedite processing of the requested permit application. **ALL INFORMATION MUST BE PROVIDED. Please submit one form for each activity for which expedited processing is requested.**

SECTION I - FACILITY INFORMATION

| | | | | | |
|---|---|------------------------------------|--|--|-----------|
| Agency Interest (AI) # | 234155 | Permit # (if permitted) | New Facility | | |
| Facility Name | Louisiana Green Fuels | | | | |
| Date Associated Permit Application Submitted | 6/9/22 | | | | |
| Media | <input checked="" type="checkbox"/> Air | Type of Permit Action | <input checked="" type="checkbox"/> New Facility | <input type="checkbox"/> Modified Facility | |
| | <input type="checkbox"/> Water | | <input type="checkbox"/> General Permit | <input type="checkbox"/> Registration | |
| | <input type="checkbox"/> Solid Waste | | <input type="checkbox"/> License | <input type="checkbox"/> Renewal w/ Modification | |
| | <input type="checkbox"/> Haz. Waste | | <input type="checkbox"/> Variance | | |
| Owner / Operator Name | Louisiana Green Fuels LLC | | | | |
| Parish Where Facility is Located | Caldwell Parish | | | | |
| Mailing Address | Street | P.O. Box 1269, 303 Wall Street | | | |
| | City | Columbia | State | LA | Zip 71418 |
| | Name | Dr. Paul Schubert | | | |
| Technical Contact Available After Normal Work Hours | Phone | (318) 502-4053 | | | |
| | Cell Phone | () | | | |
| | Fax | () | | | |
| | E-mail | paulschubert@strategicbiofuels.net | | | |



SECTION II - EXPEDITED PERMIT INFORMATION

| | | | |
|---|---|--|---|
| 1. How many new permanent jobs will result from this permit action? | 151 | | |
| 2. Date requested for final permit decision | | or | <input checked="" type="checkbox"/> As soon as possible |
| 3. Is construction activity proposed in permit application? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 4. Does the applicant owe any outstanding fees to the LDEQ? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | |
| If you answered "Yes" to No. 4, above, attach explanation to this form. | | | |
| 5. Is there a limit to the amount you are willing to pay to expedite the permit processing? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |

If you answered "Yes" to No. 5, above, please read and complete the following:

I understand that if such a maximum amount is requested, the number of overtime hours an LDEQ employee or contractor works processing the permit, modification, license, registration, or variance shall be limited accordingly. If further processing of the document is required, the LDEQ's continued review will not be in accordance with the provisions of this Chapter, and the request will no longer be handled on an expedited basis. I understand that the LDEQ will charge a fee for the expedited processing which was performed. (LAC 33:I.1805).

I wish to limit the expedited permit fee to: \$ 10,000

Provide the basis or need for this expedited permit processing request. Timely approval of the facility's air permit application is crucial to the economic success of the Louisiana Green Fuels Project.

SECTION III - PUBLIC NOTICE

Public notice of all expedited permit processing will be provided in accordance with LAC 33:I.1809.A.

SECTION IV - CERTIFICATIONS

Check the appropriate box regarding pending enforcement actions and lawsuits.

I certify that as owner/operator I am not subject to any pending state or federal enforcement actions, including citizen suits brought under state or federal law for the subject facility or any other facility I own or operate.

or

I am currently subject to pending state or federal enforcement actions, including citizen suits brought under state or federal law for the subject facility or any other facility I own or operate.

Please read and complete the following:

I, as the duly authorized responsible official for the subject facility, certify in accordance with LAC 33:I.1803.C, that should additional information be required to complete the permit process, all requested information will be provided within the timeframes specified by the LDEQ.

I understand that:

- If the requested information is not provided within the timeframes specified, or if the limit I have indicated as a maximum amount to be paid for expedited processing is reached, the LDEQ reserves the right to cease processing the permit, modification, license, registration, or variance as an expedited permit.*
- If the LDEQ ceases expedited permit processing, I will be billed for the expedited processing that occurred in accordance with LAC 33: I.1805.B.*
- Failure to pay the expedited permit processing fee by the due date specified on the invoice will constitute a violation of these regulations and shall subject the applicant to relevant enforcement action under the Louisiana Environmental Quality Act including, but not limited to, revocation or suspension of the permit, modification, license, registration, or variance.*
- There is no guarantee that a final permit decision will be issued by the date I have requested.*
- The submittal of this request does not release me from liability for any violations related to this activity or the Environmental Quality Act.*
- A permit may be required prior to any construction at the site, operation of the proposed activity or commencement of discharges from this proposed activity, and I should refer to media-specific regulations for this information.*

Signature of Responsible Official  **Title** Chief Executive Officer

Printed Name Dr. Paul Schubert **Date** 5/31/22



LOUISIANA GREEN FUELS LLC

LOUISIANA GREEN FUELS

AGENCY INTEREST NO. 234155

CALDWELL PARISH, LOUISIANA

MINOR SOURCE AIR PERMIT APPLICATION

June 2022

LOUISIANA GREEN FUELS LLC

LOUISIANA GREEN FUELS

AGENCY INTEREST NO. 234155

CALDWELL PARISH, LOUISIANA

MINOR SOURCE AIR PERMIT APPLICATION

June 2022

PREPARED BY:

**EAGLE ENVIRONMENTAL SERVICES, INC.
18369 PETROLEUM DRIVE
BATON ROUGE, LOUISIANA 70809
(225) 757-0870**

EAGLE PROJECT NO. 398-21-0004

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Section 1.0
Introduction

1.0 INTRODUCTION

1.1 Background

With this Minor Source Air Permit Application, Louisiana Green Fuels LLC (LGF), a subsidiary of Strategic Biofuels LLC (SBF), seeks approval for the construction and operation of a renewable fuels bio-refinery in northeast Louisiana. Amid global commitments for the decarbonization of the energy sector, the Louisiana Green Fuels Project has been developed as an integral component of SBF's ambitious endeavor to set the standard in the conversion of renewable feedstock from the agroforestry sector to renewable fuels. The proposed LGF facility will be powered by onsite-generated "green" power and will utilize Carbon Capture and Sequestration (CCS) technology to capture and sequester carbon dioxide (CO₂) from both the bio-refinery and the onsite power plant. With a Carbon Intensity (CI) score of approximately minus 294, the LGF facility will be the most deeply carbon-negative liquid renewable fuels production facility in the world.

The LGF facility's bio-refinery feedstock will consist of abundant forestry-derived biomass in the form of wood chips. The bio-refinery feedstock will be composed primarily of whole chipped trees from the forest thinning activities of commercially managed and sustainable pine plantations. The bio-refinery will manufacture approximately 2,300 barrels per stream day of renewable diesel and renewable naphtha.

The LGF facility will employ an onsite 85.5-MW biomass-fired boiler to provide sufficient "green" electric power to operate the bio-refinery. The fuel for the power plant will be composed of forest-derived biomass materials (forest slash and sawmill materials) previously considered to have little economic value.

LGF has retained Crossbridge Energy Partners to operate and maintain the facility. Crossbridge is an experienced owner and operator of several legacy oil refineries around the world and provides tailored, full-service asset and commercial management services to next generation renewable energy assets.

An essential feature of the LGF facility that governs the facility's overall carbon negativity and drives its robust economics is the on-site CCS system that will capture over 90% of the CO₂ produced from both the bio-refinery and the electric power plant. The CO₂ will be compressed into a "supercritical" or near-liquid state and, through several onsite EPA-regulated "Class VI" wells, injected and stored permanently underground in a mile-deep sequestration reservoir.

The proposed LGF facility will be located at the Port of Columbia in Caldwell Parish, approximately 5 miles north of Columbia, Louisiana and 25 miles south of Monroe, Louisiana. The site consists of roughly 300 acres of mostly agricultural land and is bounded by a four-lane highway (US Highway 165) and the Ouachita River. Figure 1 (Site Location Map) illustrates the location of the proposed facility.

Section 2.0 of this document contains a completed Application for Approval of Emissions of Air Pollutants from Minor Sources for the proposed facility. A Certificate of Good Standing report is provided in Appendix D.

1.2 Facility Description

The bio-refinery is designed to process cellulosic biomass with a combined hydrogen and carbon content of 57% (on a dry basis) which is gasified to produce a raw synthetic gas (syngas) and ash. The syngas is cooled and cleaned of particulates within the primary gas clean-up process. Syngas is then compressed and sent to the secondary syngas clean-up process for trace contaminant treatment. A water gas shift (WGS) unit is included to adjust the hydrogen to carbon monoxide ($H_2:CO$) ratio of the syngas. Downstream of the WGS unit, acid gas species need to be removed to reduce carbon dioxide (CO_2) build-up and the sulfur load, with the objective of meeting an optimum composition prior to being routed to the Fischer-Tropsch (FT) synthesis unit. The CO_2 and hydrogen sulfide (H_2S) removal is accomplished through the inclusion of a Rectisol® unit, in which over 99.0% of the CO_2 within the process stream is removed, and H_2S levels are reduced to the ppbv level.

The purified syngas, with optimized $H_2:CO$ ratio, is sent to the FT synthesis where wax and light hydrocarbons are produced. The wax and light hydrocarbon products from the FT synthesis loop are directed to the upgrading unit, wherein the raw synthetic hydrocarbon products are hydrocracked and fractionated into saleable fuels such as naphtha and diesel.

The prefeasibility level design of the project concluded that the production facility is bounded by the delivery of nominally 3,000 US short tons per day of woody biomass feedstock, resulting in a nominal combined diesel and naphtha production rate of 2,354 bpsd.

The LGF facility's 85.5-MW biomass-fired boiler is a significant contributor to the overall air emissions of the facility. Substantial efforts have been made to control emissions of the boiler. NO_x emissions are controlled by an SNCR and SCR system. Carbon monoxide (CO) emissions are controlled by CO catalyst. Sulfur dioxide (SO_2) and condensable particulate matter (PM) are controlled by a circulating dry scrubber. Filterable PM Emissions are controlled by a mechanical collector. Approximately 90% of CO_2 emissions are recovered and injected via the facility's onsite CO_2 sequestration well.

Miscellaneous equipment used for emergency power generation, fire mitigation and fugitive dust control are also addressed in this application. Enclosed conveyors are utilized to move materials between various plant operations, storage, and loading operations. A baghouse will also control particulate emissions at various key locations throughout the woody biomass handling and transfer area.

A Block Flow Diagram for the proposed facility is provided as Figure 3.

1.3 Regulatory Applicability

Federal Regulatory Analysis

NNSR/PSD

The NNSR/PSD regulations apply to new major stationary sources and to modifications at existing major stationary sources. The LGF facility will have total emissions below the 100 tpy threshold for NNSR/PSD applicability. Therefore, these regulations do not apply.

40 CFR 70 – Operating Permit Program

The proposed LGF facility emissions are not estimated to exceed the 100 tpy threshold for individual criteria pollutants or the 10 tpy individual/25 tpy total HAP emission thresholds that would trigger a Part 70 permit. Therefore, the LGF facility is considered a Minor Source under the Part 70 Permit Program.

40 CFR 60 – New Source Performance Standards (NSPS)

40 CFR 60 Subpart A – General Provisions

Any stationary source that is subject to any NSPS regulation is subject to the general notification, recordkeeping, and monitoring requirement of 40 CFR 60 General Provisions, unless an applicable part 60 Subpart regulation specifically exempts the source from the provisions of Subpart A. The NSPS regulations listed below are applicable for certain sources at the LGF facility. Therefore, these items are also subject to applicable requirements of the general provisions.

40 CFR 60 Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

The provisions of this subpart apply to each steam generating unit constructed, reconstructed, or modified after June 9, 1984 that has a maximum design heat input capacity greater than 100 MMBtu/hr. The project will install a steam generating biomass-fired boiler, Source 22-01. Therefore, the boiler will be subject to this Subpart and the general provisions of Subpart A. A detailed regulatory analysis is found in Appendix A.

40 CFR 60 Subpart Kb — Standards of Performance for Volatile Organic Liquid Storage Vessel (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984

This regulation applies to any storage vessel with a capacity greater than or equal to 75 m³ (19,813 gal) that stores a volatile organic liquid (VOL) and that was constructed, reconstructed, or modified after July 23, 1984. Subpart Kb does not apply to a storage vessel with a capacity greater than or equal to 39,900 gallons storing a VOL with a maximum true vapor pressure less than 0.5 psia, nor does it apply to a storage vessel with a capacity greater than or equal to 19,813 gallons but less than 39,900 gallons storing a VOL with a maximum true vapor pressure less than 2.18 psia.

A storage vessel with a design capacity greater than or equal to 39,900 gallons and storing a VOL with a maximum true vapor pressure greater than or equal to 0.75 psia and less than 11.1 psia, or a storage vessel with a design capacity greater than 19,813 gallons and less than 39,900 gallons and storing a VOL with a maximum true vapor pressure greater than or equal to 4.0 psia and less than 11.1 psia is required to be equipped with controls.

LGF facility has a group of Intermediate and Slop tanks that will be controlled by the Thermal Oxidizer, 22-09(a) and a group of naphtha product storage tanks that will be controlled by fixed-roof with internal floating roof tanks. Diesel tanks, inorganic chemical tanks, and smaller vessels will be exempt from Kb.

40 CFR 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The provisions of this subpart apply to owners and operators of each stationary compression ignition internal combustion engines that commence construction after July 1, 2005. The two fire water pumps and the two emergency diesel generators are subject to NSPS Subpart IIII, which sets specific emission limitations based on engine's type, fuel, and manufacture date. LGF facility will comply with all applicable requirements of this subpart.

The following NSPS regulations are not applicable, or the sources are exempt per the listed reasons.

40 CFR 60 Subpart Dc — Standards of Performance for Small Industrial — Commercial — Institutional Steam Generating Units

The provisions of this subpart apply to each steam generating unit constructed, reconstructed, or modified after June 9, 1989 that has a maximum design heat input capacity of 100 MMBtu/hr and a minimum design heat input capacity of 10 MMBtu/hr. Most of the LGF Heaters meet the heat capacity rule criteria of Subpart Dc (less than 100 MMBtu/hr but greater than 10 MMBtu/hr), but none of the LGF facility heaters produce steam, heat water or heat any heat transfer medium. Therefore, the LGF facility heaters do not meet the definition of a steam generating unit and will not be subject to any provisions of the rule.

40 CFR 60 Subpart Ja — Standards of Performance for Petroleum Refineries

The provisions of Subpart Ja apply to fluid catalytic cracking units, fluid coking units, delayed coking units, process heaters, and other fuel gas combustion devices, flares and sulfur recovery plants in petroleum refineries. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery. Except for flares and delayed coking units, the provisions of this subpart apply to affected facilities which either commence construction, modification or reconstruction after May 14, 2007. The provisions of this subpart apply to flares which commence construction, modification or reconstruction after June 24, 2008. The definition of "petroleum refinery" per NSPS Subpart Ja is "any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives". The proposed LGF facility will not meet this definition of petroleum refinery. Therefore, none of the sources proposed to be installed as part of the proposed project will be subject to Subpart Ja.

40 CFR 60 Subpart VVa - Standards of Performance for VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced after November 7, 2006

This rule defines SOCOMI as "the industry that produces, as intermediates or final products, one or more of the chemicals listed in 40 CFR 60.489." The LGF facility produces renewable diesel and naphtha. None of these products are listed SOCOMI chemicals under 40 CFR 60.489. Therefore, Subpart VVa does not apply to the proposed project.

Subpart CCCC - Standards of Performance for Commercial and Industrial Solid Waste Incineration Units

This subpart establishes new source performance standards for commercial and industrial solid waste incineration units (CISWIs) and air curtain incinerators (ACIs). The Biomass Boiler will be fueled by clean cellulosic biomass that does not meet the 40 CFR part 241 definition of solid waste. Therefore, this subpart does not apply.

40 CFR 60 Subpart NNN — Standard of Performance for VOC Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations

This subpart applies to each affected facility that is part of a process unit that produces any of the chemicals listed in §60.667 as a product, co-product, by-product, or intermediate. Per the rule, "product means any compound or chemical listed in §60.667 that is produced for sale as a final product as that chemical, or for use in the production of other chemicals or compounds. By-products, co-products, and intermediates are considered to be products."

The facility produces renewable diesel and naphtha which are not listed SOCOMI chemicals. With regard to making determinations of whether a facility is a SOCOMI facility, EPA has published guidance which states that "if a listed chemical is only part of

a mixed stream exiting a process unit and cannot be sold or used in another process as the listed chemical, then that chemical is not considered to be produced as a product." (55 FR 26936). The individual components in renewable diesel and naphtha are part of a mixed stream that cannot be sold or used in another process as a listed chemical. Therefore, based on the cited EPA guidance, the plant does not produce any of the SOCOMI chemicals listed in the rule, and therefore, is not subject to any requirements of Subpart NNN.

40 CFR 60 Subpart QQQ — Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems

NSPS Subpart QQQ applies to affected facilities, including individual drain systems, oil water separators, and aggregate facilities, built after May 4, 1987 and located in a petroleum refinery. The Process Wastewater treatment system (WW-1) will be located in the LGF facility, which does not meet the definition of a petroleum refinery per Subpart QQQ. Therefore, Subpart QQQ does not apply to the facility.

40 CFR 60 Subpart RRR — Standards of Performance for VOC Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes

This subpart applies to each affected facility that is part of a process unit that produces any of the chemicals listed in §60.667 as a product, co-product, by-product, or intermediate. Per the rule, "product means any compound or chemical listed in §60.667 that is produced for sale as a final product as that chemical, or for use in the production of other chemicals or compounds. By-products, co-products, and intermediates are considered to be products."

As discussed above for Subpart NNN, the facility produces renewable diesel and naphtha. In accordance with the EPA published guidance discussed above, none of the products are considered a SOCOMI chemicals and therefore, the facility is not subject to any requirements of Subpart RRR.

40 CFR 60 Subpart GGGa - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced after November 7, 2006

The renewable fuels plant will not use crude oil or any petroleum derived feedstock and will not manufacture or produce any petroleum-based products. Therefore, the facility is not a petroleum refinery as defined in this rule, and Subpart GGGa does not apply to the proposed project.

40 CFR 61 – National Emissions Standards for Hazardous Air Pollutants (NESHAPs)

The proposed facility is not subject to any NESHAP Part 61 standards.

40 CFR 61 Subpart J — National Emissions Standards for Equipment Leaks of Benzene

This regulation applies to fugitive emission sources that operate in benzene service. In this regulation, benzene service is defined to be equipment contacting or containing > 10% benzene. None of the piping proposed to be installed as part of the LGF facility will operate in benzene service. Therefore, the control requirements of this regulation do not apply. The LGF facility will keep a record to demonstrate that no equipment is in volatile hazardous air pollutant (VHAP) service.

40 CFR 61 Subpart M and LAC 33.111.5151 — Asbestos

These regulations apply to sources that perform facility demolition and/or renovation of regulated asbestos containing material. The proposed project will be located at a greenfield site and does not contain asbestos or asbestos containing materials. Therefore, these regulations do not apply.

40 CFR 61 Subpart V — National Emission Standards for Equipment Leaks

This regulation applies to fugitive emission sources that operate in volatile hazardous air pollutant (VHAP) service after the date of promulgation of a specific subpart in part 61. In this regulation, VHAP service is defined to be equipment contacting or containing > 10% benzene or vinyl chloride. None of the piping proposed to be installed as part of the facility will operate in VHAP service. Therefore, this regulation does not apply.

40 CFR 61 Subpart FF — Benzene Waste Operations (BWON)

BWON applies to owners and operators of chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries. A chemical manufacturing plant is defined as "any facility engaged in the production of chemicals by chemical, thermal, physical, or biological processes for use as a product, co-product, by-product, or intermediate including but not limited to industrial organic chemicals, organic pesticide products, pharmaceutical preparations, paint and allied products, fertilizers, and agricultural chemicals."

The wastewater streams associated with the proposed project will not contain benzene. As required by 40 CFR 61.357(a), each owner or operator of a facility subject to this subpart that has no benzene onsite in waste, products, by-products, or intermediates shall submit such a report to LDEQ and EPA by the initial startup. Accordingly, the only provision of this regulation that applies is the initial notification that the wastewater from the proposed project does not contain benzene.

40 CFR 63 – National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories

The proposed facility is not a major source of hazardous air pollutants (HAPs) since the facility will have the potential to emit less than 10 tpy of any single HAP and less than 25 tpy of any combination of HAPs. Most NESHAPs are applicable only to Major Sources. However, certain NESHAPs are applicable to Area Sources as outlined below.

40 CFR 63 Subpart A — General Provisions

This subpart contains general performance test, monitoring, notification, record keeping, reporting, and control device requirements that apply to any source subject to any Part 63 NESHAP regulation, unless the applicable Part 63 Subpart specifically exempts the source from provisions of Subpart A.

40 CFR 63 Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

40 CFR 63 Subpart JJJJJ (6J) provides HAP emission limits and management practices for facilities that own or operate an industrial, commercial, or institutional boiler located at, or is part of, an area source of HAP. The Biomass Boiler, 22-01, meets the applicability criteria for the 6J regulation and will follow all applicable requirements. All other process heaters at the facility do not meet the definition of a boiler as per the Subpart.

40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations. The LGF facility diesel firewater pumps and generators are subject to the requirements of this Subpart. The only applicable requirement per 40 CFR 63.6590(c) is to meet the requirements of 40 CFR 60 Subpart IIII. The facility will meet these requirements.

40 CFR 63 Subpart VVVVVV - National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources

40 CFR 63 Subpart VVVVVV provides HAP emission limits and management practices for facilities that own or operate a chemical manufacturing process unit (CMPU) as defined under 40 CFR 63.11502(b)(8). The rule applies to a CMPU that is located at an area source of emissions and uses feedstocks, generates as by-products, or produces as products any of the HAPs listed in Table 1 of Subpart VVVVVV. The LGF facility does not have any of the listed Table 1 HAPs. Therefore, this rule does not apply to this facility.

Other Federal Regulations

40 CFR 64 — Compliance Assurance Monitoring (CAM)

The CAM rule requires facility operators of major sources with a Part 70 or Part 71 permit to monitor the operation and maintenance of certain control equipment so that the control device performance can be evaluated, and the facility operator can report whether their facility meets established emission standards. Since the proposed LGF facility will be a minor source with regard to all regulated pollutants, the CAM regulation will not apply to any sources proposed with this application.

40 CFR Part 68 — Chemical Accident Prevention Regulation

The accidental release prevention program is mandated by section 112(r) of the Clean Air Act (amended) and is codified in 40 CFR 68. The program was initially finalized on June 20, 1996. Owners and operators of a facility that manufactures, uses, stores, or otherwise handles more than a threshold quantity of a listed regulated substance in a process, must implement a risk management program and submit a single risk management plan (RMP) for all covered processes at the facility. LGF will comply with the applicable provisions of 40 CFR 68 as applicable, which requires the facility to have a chemical accident prevention and minimization program. LGF will submit an RMP as required for the proposed plant.

40 CFR Part 82 — Stratospheric Ozone Protection

Title VI of the Clean Air Act Amendments requires phase out of ozone-depleting chemicals. The stratospheric ozone protection provisions have been codified in 40 CFR 82. LGF shall comply with the applicable requirements of 40 CFR 82.

State of Louisiana Regulatory Analysis

LAC 33:III.Chapter 5 - Permit Procedures

LGF will comply with the applicable Louisiana Air Emission Permit requirements codified under LAC 33:111.501, 503, 504, 517 as well as General Conditions codified under LAC 33:111.537.

LAC 33:III.Chapter 9 - General Regulations

This section contains general requirements applicable to the facility. LAC 33:111.905 requires air pollution control facilities be installed whenever practically, economically, and technologically feasible. When control facilities have been installed, they must be maintained in proper working order. LGF will keep all control facilities in proper working order to ensure proper emissions control. The facility will submit an air emissions inventory as required by LAC 33:111.918 and 919. Unauthorized discharges will be reported in accordance with LAC 33:111.927.

LAC 33:III.1101, 1103 & 1107 - Control of Emissions of Smoke

This regulation prohibits open burning and the impairment of visibility on public roads as well as opacity limits for the combustion source stacks. LGF will abide by all requirements for the appropriate sources.

LAC 33:III.1105 - Smoke from Flaring Shall Not Exceed 20 Percent Opacity

The emission of smoke from a flare or other similar device used for burning in connection with pressure valve releases for control over process upsets shall be controlled so that the shade or appearance of the emission does not exceed 20 percent opacity for a combined total of six hours in any 10 consecutive days. If it appears the emergency cannot be controlled in six hours, the Office of Environmental Compliance, Emergency and Radiological Services Division, Single Point of Contact (SPOC), shall be

notified as soon as possible after the start of the upset period. This regulation will apply to the Flare 22-10.

LAC 33:III.1305 - Control of Fugitive Emissions

This rule requires that all reasonable precautions be taken to prevent particulate matter from becoming airborne, including but not limited to:

1. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts;
 2. Installation and use of dust collectors to enclose and vent the handling of dusty materials;
 3. Open-bodied trucks transporting materials likely to give rise to airborne dust shall be covered at all times when in motion; and
 4. Paving roadways and maintaining the roadways in a clean condition.
- LGF will take all appropriate precautions to prevent particulate matter fugitive emissions.

LAC 33:III.1311 - Emission Limits (Particulate Matter)

In accordance with LAC 33:III.1311.B, no person shall cause, suffer, allow or permit the emission of particulate matter to the atmosphere from any process or process equipment in excess of the amount shown in LAC 33:III.1321, Table 3 for the process weight rate allocated to such source. All applicable LGF process sources are controlled such that these requirements are met. Per LAC 33:III.1311.C, particulate matter emissions shall be controlled so that the shade or appearance of the emission is not darker than 20% average opacity, except the emissions may have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes. All applicable LGF sources will meet this requirement. This section will not apply to emissions from the Cooling Tower, 22-15, where the presence of uncombined water is the only reason for not meeting the 20% opacity requirement.

LAC 33:III.1313 - Particulate Emissions from Fuel Burning Equipment

This regulation prohibits fuel-burning equipment from emitting particulate matter to the atmosphere in excess of 0.6 pounds per MMBTU of heat release. LGF will comply with all applicable provisions of this regulation for the boiler, diesel engines, and the heaters.

LAC 33:III.1503 - Emission Standards for Sulfur Dioxide - Combustion Devices

This regulation is applicable to single point sources that have the potential to emit five tons per year or more of SO₂. LAC 33:III.1503 defines the emission limit for SO₂ sources (limit = 2000 ppmv based on a 3-hr average) located at facilities other than sulfuric acid plants and sulfur recovery units. Per LAC 33:III.1502.A.3, sources that emit or have the potential to emit less than 5 tpy of SO₂ are not subject to any requirements of Chapter 15. All the SO₂-emitting sources except for the Biomass Boiler, 22-01, will emit less than 5 tpy SO₂ and are not subject to any requirements of this rule. The Biomass Boiler, 22-01, has the potential to emit greater than 5 tpy SO₂ but will qualify for an exemption from emission limits because potential SO₂ emissions are less than 250 tpy.

LAC 33:III.2103 - Storage of Volatile Organic Compounds

This regulation prohibits the placement, storing, or holding of any volatile organic compound having a true maximum true vapor pressure (TVP) of 1.5 psia or greater in any stationary tank, reservoir, or other container of more than 250 gallons nominal capacity, unless the tank, reservoir, or other container is designed and equipped with controls. Tanks with a capacity between 250 and 40,000 gallons must be equipped with a submerged fill pipe, a vapor loss control system, or be a pressure tank. Tanks greater than 40,000 gallons must be a pressure tank or be equipped with a submerged fill pipe and floating roof or vapor loss control system.

See the NSPS Subpart Kb discussion for sources applicable to this regulation.

LAC 33:III.2107 - Volatile Organic Compounds — Loading

The control requirements of this regulation apply to loading facilities for VOCs having a true vapor pressure at loading conditions of 1.5 psia (10.3 kPa) or greater. For loading facilities constructed after May 20, 1979, if the loading throughput per day equals to or greater than 20,000 gallons (75,700 liters), the loading facility must comply with the requirements of Subsections B-F of this Section when servicing tanks, trucks or trailers which have individual capacities in excess of 200 gallons (760 liters).

The naphtha rail loading will not exceed 20,000 gallons per day and therefore is not subject to this regulation. All loading operations will be subject to the recordkeeping requirements under LAC 33:III.2107.D.

LAC 33:III.2115 - Waste Gas Disposal

This regulation applies to waste gas streams that contain VOC located at facilities that have the potential to emit 25 tons per year or more of VOC in the parishes of Ascension, East Baton Rouge, Iberville, Livingston, and West Baton Rouge and that have the potential to emit 100 tons per year or greater of VOC in parishes other than Ascension, East Baton Rouge, Iberville, Livingston, and West Baton Rouge. This facility is located in Caldwell Parish and not applicable.

LAC 33:III.2121 - Fugitive Emission Control

This Section is applicable to each process unit at petroleum refineries, natural gas processing plants, synthetic organic chemical manufacturing industry (SOCMI) facilities, methyl tertiary butyl ether (MTBE) manufacturing facilities, and polymer manufacturing facilities. The proposed plant is not one of the listed affected facilities under this rule. Therefore, this regulation will not apply to any of the sources proposed in this application.

LAC 33:III.2122 - Fugitive Emissions Control for Ozone Nonattainment Areas and Specified Parishes

This regulation applies to equipment in petroleum refineries, natural gas processing plants, SOCOMI facilities, MTBE manufacturing facilities, and polymer manufacturing facilities in Ascension, East Baton Rouge, Iberville, Livingston, Pointe Coupee, and West Baton Rouge Parishes. This facility is located in Caldwell Parish and therefore, this regulation will not apply to any of the sources proposed in this application.

LAC 33:III.2153 - Limiting VOC Emissions from Industrial Wastewater

As a facility classified under SIC code 2869, the proposed Plant is potentially subject to this regulation. However, because it is located in the parish of Caldwell it is not applicable.

LAC 33:III.Chapter 22 - Control of Emissions of Nitrogen Oxides (NOx)

This regulation applies to any affected facility in the Baton Rouge area with one or more affected point sources that collectively emit or have the potential to emit 25 tons or more per year of NOx. This facility is located in Caldwell Parish and therefore, this regulation will not apply to any of the sources proposed in this application.

LAC 33:III.Chapter 29 - Odor Regulations

LGF will operate the facility so that off-site odors do not cause a nuisance.

LAC 33:III.Chaper 51 — Toxic Air Pollutants

Chapter 51 regulates Toxic Air Pollutants (TAPs). Under this state-only program, a major source is defined as any stationary source of air pollutants that emits, or has the potential to emit, in the aggregate, 10 tpy or more of any TAP listed in LAC 33:III.5112, Table 51.1 or 25 tpy of all TAPs listed in LAC 33:III.5112, Table 51.1. All federal HAPs are TAPs but not all TAPs are on the federal HAP list. For the LGF facility, Ammonia emissions are estimated to exceed the 10 tpy threshold. Ammonia is a Class III TAP and therefore no additional MACT is required. Ammonia will exceed the Minimum Emission Rate of 1200 lb/yr but is not anticipated to impact the 8 hour ambient air standard.

LAC 33:III.Chaper 56 — Prevention of Air Pollution Emergency Episodes

Chapter 56 regulates preventative efforts that facilities would implement to mitigate excess concentration of air pollutants during periods of high pollution potential. LGF will develop a standby plan for the reduction of emissions during an air pollution alert, air pollution warning, or air pollution emergency. LGF will submit this standby plan to the Administrative Authority when requested in accordance with LAC 33:III.5611.

LAC 33:III.Chapter 59 — Chemical Accident Prevention Program

Chapter 59 incorporates by reference 40 CFR Part 68 provisions. LGF will comply with the applicable provisions of 40 CFR 68, except as specified in LAC 33:111.5901. The facility will produce, process, handle, and store chemicals in quantities greater than threshold amounts, therefore this regulation applies. LGF will prepare an RMP and comply with all requirements of LAC 33:III.Chapter 59 as well as 40 CFR Part 68. Furthermore, as required by LAC 33:III.5911.A.2, LGF will register any regulated substance that may become present in amount greater than the threshold planning quantity for such substance within 60 days of first storing on site.

1.4 Emission Calculations

Appendix C of this submittal contains emissions calculations and supporting information for emission point sources at the proposed facility.

When available, vendor data and emission factors were used to calculate source air emissions. Otherwise, AP-42 emissions factors for the appropriate source were used. Conservative estimates were used to allow for operational flexibility of each source.

1.5 Listing of Contiguous Sites

In accordance with current LDEQ policy, no contiguous facilities in Louisiana Green Fuels LLC's control were identified within ¼ mile of the Louisiana Green Fuels facility. Figure 1 (Site Location Map) illustrates the location of the proposed facility.

Section 2.0

**APPLICATION FOR APPROVAL OF EMISSIONS OF
AIR POLLUTANTS FROM MINOR SOURCES**

| | | |
|--|--|---|
| Department of Environmental Quality Office of Environmental Services Air Permits Division P.O. Box 4313 Baton Rouge, LA 70821-4313 (225) 219-3417 | <h1>LOUISIANA</h1> <h2>Application for Approval of Emissions of Air Pollutants from Minor Sources</h2> |  |
|--|--|---|

PLEASE TYPE OR PRINT

1. Facility Information [LAC 33:III.517.D.1]

| | |
|---|--|
| Facility Name (if any) Louisiana Green Fuels | |
| Agency Interest Number (A.I. Number) 234155 | Currently Effective Permit Number(s) NA |
| Company - Name of Owner Louisiana Green Fuels LLC | |
| Company - Name of Operator (if different from Owner) | |
| Parent Company (if Company – Name of Owner given above is a division) Strategic Biofuels LLC | |
| Federal Tax-ID 85-4388191 | |

Ownership:

Check the appropriate box.

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> corporation, partnership, or sole proprietorship | <input type="checkbox"/> regulated utility | <input type="checkbox"/> municipal government |
| <input type="checkbox"/> state government | <input type="checkbox"/> federal government | <input type="checkbox"/> other, specify |

2. Physical Location and Process Description [LAC 33:III.517.D.18, unless otherwise stated]

What does this facility produce? Add more rows as necessary.

The Louisiana Green Fuels plant will produce biofuels from wood chips and wood residue products.

What modifications/changes are proposed in this application? Add more rows as necessary.

This is a new facility.

Nearest town (in the same parish as the facility):

Columbia, Louisiana

Parish(es) where facility is located:

Caldwell

| | | | | |
|--|------------------|--------------------|-----------------------|----------------------|
| Distance To (mi): | <u>105</u> Texas | <u>57</u> Arkansas | <u>55</u> Mississippi | <u>215</u> Alabama |
| Latitude of Facility Front Gate: | <u>32</u> Deg | <u>11</u> Min | <u>14</u> Sec | <u>54</u> Hundredths |
| Longitude of Facility Front Gate: | <u>-92</u> Deg | <u>06</u> Min | <u>06</u> Sec | <u>04</u> Hundredths |

Add physical address and description of location of the facility below. If the facility has no address, provide driving directions. Add more rows as necessary.

The site is located on Riverton Camp Road approximately 5 miles north of Columbia, LA off of Highway 165.

- Map attached (required per LAC 33:III.517.D.1)
- Description of processes and products attached (required per LAC 33:III.517.D.2)
- Introduction/Description of the proposed project attached (required per LAC 33:III.517.D.5)
- Evidence of compliance with local zoning ordinance for proposed location (required per LAC 33:III.513.C.1.a; for Portable Facilities only)

3. Confidentiality [LAC 33.I.Chapter 5]

Are you requesting confidentiality for any information except air pollutant emission rates? Yes No

If "yes," list the sections for which confidentiality is requested below. Add rows as necessary. Confidentiality requests require a submittal that is separate from this application. Information for which confidentiality is requested should not be submitted with this application. Consult instructions.

4. Type of Application [LAC 33:III.517.D]

Check all that apply.

| | | | |
|--|---|---------------------------------------|--|
| <input checked="" type="checkbox"/> Minor Source | <input type="checkbox"/> Synthetic Minor Source | <input type="checkbox"/> Small Source | <input type="checkbox"/> Portable Facility |
| <input type="checkbox"/> Minor Source Oil & Gas General Permit (MSOG)* | | | |
| <input type="checkbox"/> Minor Source Surface Coating and Fabrication General Permit (SCF)* | | | |
| <input type="checkbox"/> Renewal | | | |
| Select one, if applicable: | | | |
| <input checked="" type="checkbox"/> Entirely new facility | | | |
| <input type="checkbox"/> Modification or expansion of existing facility (may also include reconciliations) | | | |
| <input type="checkbox"/> Reconciliation only | | | |

*Additional separate submittal required. See instructions for more details.

If "Portable Facility" was selected above, please enter the Make, Model, and Serial Number of each portable combustion emissions source to be permitted. Otherwise, leave blank. Do NOT list any motor vehicles. Add rows as necessary.

Make **Model** **Serial Number**

Does this submittal update or replace an application currently under review? Yes No

If yes, provide date that the prior application was submitted: _____

Select one if this application is for an existing facility that does not have an air quality permit:

- Previously Grandfathered (LAC 33:III.501.B.6)
- Previously Exempted (e.g., Small Source Exemption; LAC 33:III.501.B.2.d)
- Previously Unpermitted

5. Fee Information [LAC 33:III.517.D.17]

Fee Parameter: If the fee code is based on an operational parameter (such as number of employees or capital cost), enter that parameter here. _____

Industrial Category: Enter the Standard Industrial Classification (SIC) Codes that apply to the facility.

Primary SIC: 2869 **Primary NAICS Code:** 325199

Secondary SIC(s): _____

Project Fee Calculation: Enter fee code, permit type, production capacity/throughput, and fee amount pursuant to LAC 33:III.Chapter 2. Include with the application the amount in the Grand Total blank as the permit application fee.

| FEE CODE | TYPE | EXISTING CAPACITY | INCREMENTAL CAPACITY INCREASE | SURCHARGES | | | TOTAL AMOUNT |
|--------------------|------|-------------------|-------------------------------|------------|-------------------------------------|-------------------------------------|--------------|
| | | | | MULTIPLIER | NSPS | AIR TOXICS | |
| 1710 | New | | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | \$1960 |
| | | | | | <input type="checkbox"/> | <input type="checkbox"/> | \$ |
| | | | | | <input type="checkbox"/> | <input type="checkbox"/> | \$ |
| GRAND TOTAL | | | | | | | \$1960 |

****Optional** Fee Explanation:** Use the space provided to give an explanation of the fee determination displayed above.

Facility type is not listed for SIC 2869. Negotiated Minor Source New Application fee of \$1452 plus \$363 NSPS and \$145 Toxics = \$1960.

Electronic Fund Transfer (EFT): If paying the permit application fee using an Electronic Fund Transfer (EFT), please include the EFT Transaction Number, the Date that the EFT was made, and the total dollar amount submitted in the EFT. If not paying the permit application fee using EFT, leave blank.

EFT Transaction Number
OPXJM7PS6F

Date of Submittal
June 2, 2022

Total Dollar Amount
\$1,480.31

6. Key Dates

Estimated date construction will commence:

September
2023

Estimated date operation will commence:

August
2026

7. LAC 33:I.1701 Requirements – Answer all below for new sources and permit renewals - Yes No

Does the company or owner have federal or state environmental permits identical to, or of a similar nature to, the permit for which you are applying in Louisiana or other states? (This requirement applies to all individuals, partnerships, corporations, or other entities who own a controlling interest of 50% or more in your company, or who participate in the environmental management of the facility for an entity applying for the permit or an ownership interest in the permit.) Yes No

If yes, list States: _____

Do you owe any outstanding fees or final penalties to the Department? Yes No

If yes, explain below. Add rows if necessary.

Is your company a corporation or limited liability company? Yes No

If yes, attach a copy of your company's Certificate of Registration and/or Certificate of Good Standing from the Secretary of State. The appropriate certificate(s) should be attached to the end of this application as an appendix.

8. Certification of Compliance With Applicable Requirements

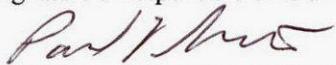
Statement for Applicable Requirements for Which the Company and Facility Referenced In This Application Is In Compliance

Based on information and belief, formed after reasonable inquiry, the company and facility referenced in this application is in compliance with and will continue to comply with all applicable requirements pertaining to the sources covered by the permit application, as outlined in Tables 1 and 2 in the permit application. For requirements promulgated as of the date of this certification with compliance dates effective during the permit term, I further certify that the company and facility referenced in this application will comply with such requirements on a timely basis and will continue to comply with such requirements.

For corporations only: By signing this form, I certify that, in accordance with the definition of Responsible Official found in LAC 33:III.502, **(1)** I am a president, secretary, treasurer, or vice-president in charge of a principal business function, or other person who performs similar policy or decision-making functions; or **(2)** I am a duly authorized representative of such person; am responsible for the overall operation of one or more manufacturing, production, or operating facilities addressed in this permit application; and either the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or the delegation of authority has been approved by LDEQ prior to this certification.*

CERTIFICATION: I certify, under provisions in Louisiana and United States law which provide criminal penalties for false statements, that based on information and belief formed after reasonable inquiry, the statements and information contained in this Application for Approval of Emissions of Air Pollutants from Minor Sources, including all attachments thereto and the compliance statement above, are true, accurate, and complete.

| | | |
|--|-------------|--------------|
| a. Responsible Official | | |
| Name Dr. Paul Schubert | | |
| Title Chief Executive Officer | | |
| Company Louisiana Green Fuels LLC | | |
| Suite, mail drop, or division | | |
| Street or P.O. Box P.O. Box 1269, 303 Wall Street | | |
| City Columbia | State LA | Zip 71418 |
| Business phone 318-502-4053 | | |
| Email Address paulschubert@strategicbiofuels.net | | |

| |
|--|
| Signature of responsible official (See LAC 33:III.502):  |
| Date: 5/31/22 |

*Approval of a delegation of authority can be requested by completing a Duly Authorized Representative Designation Form (Form 7218) available on LDEQ's website at <http://deq.louisiana.gov/page/air-permit-applications>

9. Personnel [LAC 33:III.517.D.1]

| | | |
|---|---|---------------------|
| a. Manager of Facility who is located at plant site | | |
| Name Bob Meredith | <input checked="" type="checkbox"/> Primary contact | |
| Title Chief Operating Officer | | |
| Company Louisiana Green Fuels LLC | | |
| Suite, mail drop, or division | | |
| Street or P.O. Box P.O. Box 1269, 303 Wall Street | | |
| City Columbia | State LA | Zip 71418 |
| Business phone 318-502-4053 | Mobile Phone | |
| Email address bobmeredith@strategicbiofuels.net | | |

| | | |
|---|--|---------------------|
| b. On-site contact regarding air pollution control | | |
| Name Bob Meredith | <input type="checkbox"/> Primary contact | |
| Title Chief Operating Officer | | |
| Company Louisiana Green Fuels LLC | | |
| Suite, mail drop, or division | | |
| Street or P.O. Box P.O. Box 1269, 303 Wall Street | | |
| City Columbia | State LA | Zip 71418 |
| Business phone 318-502-4053 | Mobile Phone | |
| Email address bobmeredith@strategicbiofuels.net | | |

| | | |
|---|--|---------------------|
| c. Person to contact with written correspondence | | |
| Name Bob Meredith | <input type="checkbox"/> Primary contact | |
| Title Chief Operating Officer | | |
| Company Louisiana Green Fuels LLC | | |
| Suite, mail drop, or division | | |
| Street or P.O. Box P.O. Box 1269, 303 Wall Street | | |
| City Columbia | State LA | Zip 71418 |
| Business phone 318-502-4053 | Mobile Phone | |
| Email address bobmeredith@strategicbiofuels.net | | |

| | | |
|--|--|---------------------|
| d. Person who prepared this report | | |
| Name Charles Brumfield | <input type="checkbox"/> Primary contact | |
| Title Senior Environmental Engineer | | |
| Company Eagle Environmental Services, Inc. | | |
| Suite, mail drop, or division | | |
| Street or P.O. Box 18379 Petroleum Drive | | |
| City Baton Rouge | State LA | Zip 70809 |
| Business phone 225-757-0870 | Mobile Phone | |
| Email address Charles.Brumfield@eaglered.com | | |

| | | | | | |
|---|--|--|---|--------------|------------|
| e. Person to contact about Annual Maintenance Fees | | | <input checked="" type="checkbox"/> a <input type="checkbox"/> b <input type="checkbox"/> c <input type="checkbox"/> d <input type="checkbox"/> other (specify below) | | |
| Name | <input type="checkbox"/> Primary contact | | Suite, mail drop, or division | | |
| Title | | | Street or P.O. Box | | |
| Company | | | City | State | Zip |
| Business Phone | | | Email Address | | |

12.a. Enforcement Actions [LAC 33:III.517.D.18]- Yes No

If yes, list all federal and state air quality enforcement actions, settlement agreements, and consent decrees received for this facility since the issuance of the currently effective Title V Operating Permit or State Operating Permit. For each action, list the type of action (or its tracking number), the regulatory authority or authorities that issued the action, and the date that the action was issued. Summarize the conditions imposed by the enforcement action, settlement agreement, and consent decree in Section 19, Table 2. It is not necessary to submit a copy of the referenced action. Add rows to table as necessary.

| Type of Action or Tracking Number | Issuing Authority | Date Action Issued | Summary of Conditions Included? |
|-----------------------------------|-------------------|--------------------|--|
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |

12.b. Schedule for Compliance [LAC 33:III.517.D.16] Yes No

If the facility for which application is being made is not in full compliance with all applicable regulations, give a description of how compliance will be achieved, including a schedule for compliance below. Add rows as necessary. See instructions.

13. Letters of Approval for Alternate Methods of Compliance- Yes No

If yes, list all correspondence with LDEQ, EPA, or other regulatory bodies that provides for or supports a request for alternate methods of compliance with any applicable regulations for this facility. List the date of issuance of the letter and the regulation referenced by the letter. **Attach as an appendix a copy of all documents referenced in this table.** Letters that are not included may not be incorporated into a final permit. Add rows to table as necessary.

| Date Letter Issued | Issuing Authority | Referenced Regulation(s) | Copy of Letter Attached? |
|--------------------|-------------------|--------------------------|--|
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |

14. Initial Notifications and Performance Tests [LAC 33:III.517.D.18] - Yes No

If yes, list any initial notifications that have been submitted or one-time performance tests that have been performed for this facility since the issuance of the currently effective Title V Operating Permit or State Operating Permit in order to satisfy regulatory requirements. Any initial notification or one-time performance test requirements that have not been satisfied should be listed in Section 19, Table 2 of this application. Any notifications or performance tests that recur periodically should also be properly noted in Section 19, Table 2 of this application. Add rows to table as necessary.

| Initial Notification or One-time Performance Test? | Regulatory Citation Satisfied | Date Completed/Approved |
|--|-------------------------------|-------------------------|
| | | |
| | | |
| | | |

15. Air Quality Dispersion Modeling [LAC 33:III.517.D.15]

Was Air Quality Dispersion Modeling as required by LAC 33:III performed in support of this permit application? (Air Quality Dispersion Modeling is required when requested by LDEQ.)

Yes No

Has Air Quality Dispersion Modeling completed in accordance with LAC 33:III ever been performed for this facility in support of an air permit application previously submitted for this facility or as required by other regulations AND approved by LDEQ?

Yes No

If yes, enter the date the most recent Air Quality Dispersion Modeling results as required by LAC 33:III were submitted:

If the answer to either question above is "yes," enter a summary of the most recent results in the following table. If the answer to both questions is "no," enter "none" in the table. Add rows to table as necessary.

| Pollutant | Time Period | Calculated Maximum Ground Level Concentration | Louisiana Toxic Air Pollutant Ambient Air Standard or (National Ambient Air Quality Standard {NAAQS}) |
|-----------|-------------|---|---|
| none | | | |
| | | | |
| | | | |
| | | | |
| | | | |

16. General Condition XVII Activities [LAC 33:III.537]- Yes No

Enter all activities that qualify as Louisiana Air Emissions Permit General Condition XVII Activities.

- Expand this table as necessary to include all such activities.
- See instructions to determine what qualifies as a General Condition XVII Activity.
- Do not include emissions from General Condition XVII Activities in the proposed emissions totals for the permit application.
- The "Schedule" blank for each proposed General Condition XVII Activity is a **required** entry.

| Work Activity | Schedule | Emission Rates – TPY | | | | | |
|---------------|----------|----------------------|-----------------|-----------------|----|-----|-------|
| | | PM ₁₀ | SO ₂ | NO _x | CO | VOC | Other |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

18. Regulatory Applicability for Commonly Applicable Regulations – Answer all below [LAC 33:III.517.D.10]

Does this facility contain asbestos or asbestos containing materials? Yes No

If “yes,” the facility or any portion thereof may be subject to 40 CFR 61, Subpart M, LAC 33:III.Chapter 27, and/or LAC 33:III.5151, and this application must address compliance as stated in Section 19 of this application.

Is the facility represented in this permit subject to 40 CFR 68? Yes No

If “yes,” the entire facility is subject to 40 CFR 68 and LAC 33:III.Chapter 59, and this application must address compliance as stated in Section 19 of this application.

Is the facility listed in LAC 33:III.5611?

Table 5 Yes No

Table 6 Yes No

Table 7 Yes No

Does the applicant own or operate commercial refrigeration equipment normally containing more than 50 pounds of refrigerant at this facility? Yes No

If “yes,” the entire facility is subject to 40 CFR 82, Subpart F, and this application must address compliance as stated in Section 19 of this application.

19. Applicable Regulations, Air Pollution Control Measures, Monitoring, and Recordkeeping

Important points for Table 1 [LAC 33:III.517.D.10]:

- List in Table 1, by Emission Point ID Number and Descriptive Name of the Equipment, state and federal pollution abatement programs and note the applicability or non-applicability of the regulations to each source.
- Adjust the headings for the columns in Table 1 as necessary to reflect all applicable regulations, in addition to any regulations that do not apply but require an explanation to substantiate this fact.
- For each piece of equipment, enter “1” for each regulation that applies. Enter “2” for each regulation that applies to this type of source, but from which this source of emissions is exempt. Enter “3” for equipment that is subject to a regulation, but does not have any applicable requirements. Also, enter “3” for each regulation that has applicable requirements that apply to the particular emission source, but the regulations currently do not apply due to meeting a specific criterion, such as it has not been constructed, modified, or reconstructed since the regulations have been in place.
- Leave the spaces blank when the regulations clearly would not apply under any circumstances to the source. For example, LAC 33:III.2103 – Storage of Volatile Organic Compounds would never apply to a steam generating boiler, no matter the circumstances.
- Consult instructions.

Important points for Table 2 [LAC 33:III.517.D.10]:

- For each piece of equipment listed in Table 2, include all applicable limitations, recordkeeping, reporting, monitoring, and testing requirements. Also, include any one-time notification or one-time performance test requirements that have not been fulfilled.
- Each of these regulatory aspects (limitations, recordkeeping, reporting, etc.) should be addressed for each regulation that is applicable to each emissions source or emissions point.
- For each regulation that provides a choice regarding the method of compliance, indicate the method of compliance that will be employed. It is not sufficient to state that all compliance options will be employed, though multiple compliance options may be approved as alternative operating scenarios.
- Consult instructions.

Important points for Table 3 [LAC 33:III.517.D.16]:

- Each time a 2 or a 3 is used to describe applicability of a source in Table 1, an entry should be made in Table 3 that explains the exemption or non-applicability status of the regulation to that source.
- Fill in all requested information in the table.
- The exact regulatory citation that provides for the specific exemption or non-applicability determination should be entered into the “Citation Providing for Exemption or Non-applicability” column.
- Consult Instructions.

Important points for Table 4 [LAC 33:III.517.D.18]:

- List any single emission source that routes its emissions to another point where these emissions are commingled with the emissions of other sources before being released to the atmosphere. Do not list any single emission source in this table that does not route its emissions in this manner.
- List any and all emission sources that are routed as described above. This includes emission sources that do not otherwise appear in this permit application.
- Consult instructions.

Regulatory Applicability Tables 1-4 are included as Appendix A.

20. Emissions Inventory Questionnaire (EIQ) Forms [LAC 33:III.517.D.3]

Complete one (1) EIQ for:

- Each emission source. If two emission sources have a common stack, the applicant may submit one EIQ sheet for the common emissions point. Note any emissions sources that route to this common point in Table 4 of the application.
- Each emissions CAP that is proposed, including each source that is part of the CAP.
- Each alternate operating scenario that a source may operate under. Some common scenarios are:
 1. Sources that combust multiple fuels
 2. Sources that have startup/shutdown max lb/hr emission rates higher than the max lb/hr for normal operating conditions would need a separate EIQ addressing the startup/shutdown emission rates
- Fugitive emissions releases. One (1) EIQ should be completed for each of the following types of fugitive emissions sources or emissions points:
 1. Equipment leaks.
 2. Non-equipment leaks (i.e., road dust, settling ponds, etc).

For each EIQ:

- Fill in all requested information.
- Speciate all Toxic Air Pollutants and Hazardous Air Pollutants emitted by the source.
- Use appropriate significant figures.
- Consult instructions.

The EIQ is in Microsoft Word Excel. Visit the following website to get to the EIQ form.
<http://deq.louisiana.gov/page/air-permit-applications>

Emissions Inventory Questionnaire (EIQ) Forms are included as Appendix B.

21. Contiguous/Adjacent Facilities [LAC 33:III.502]

List each facility that is contiguous/adjacent to and under common control with the facility represented in this permit application.

If any contiguous facilities exist, complete all fields for each contiguous/adjacent facility. Emission rates should be represented in tons per year. Add rows as necessary. As the last entry, show the total emission rates of each listed pollutant for all listed contiguous/adjacent facilities. If no contiguous facilities exist, enter "N/A."

Guidance regarding contiguous/adjacent determinations is available at <http://deq.louisiana.gov/page/-contiguous-or-adjacent-properties-in-the-oil-and-natural-gas-sector>.

| Emission rates in tons per year | | | | | | | |
|---------------------------------|------------------------|------------------|-----------------|-----------------|----|-----|-----------------------|
| Facility Name | Agency Interest Number | PM ₁₀ | SO ₂ | NO _x | CO | VOC | Total HAPs/Total TAPs |
| N/A | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Total | | | | | | | |

STATE OPERATING PERMIT APPLICATION COMPLETENESS CHECKLIST

Instructions: Complete this checklist and submit with the completed air permit application.

| LAC 33:III. | Completeness Questions Relative to the State Operating Permit Application | Yes | No | NA | Location Within the Permit Application |
|--|---|-----|----|----|--|
| 517.B.1.2 Certification | Does the Application include a Certification by a Responsible Official or Duly Authorized Representative? | X | | | Section 2 |
| 517.D.1 Identifying Information | Does the Application Include: | | | | |
| | 1. Company Name, Physical and Mailing Address of Facility? | X | | | Section 2 |
| | 2. Map showing Location of the Facility? | X | | | Figure 1 |
| | 3. Owner and Operator Names and Agent? | X | | | Section 2 |
| 517.D.2 SIC Codes, Source Categories | Does the Application Include a Description of the Source's Processes and Products? | X | | | Section 1 |
| | Does the Application Include the Source's SIC Code? | X | | | Section 2 |
| | Does the Application Include EPA Source Category of HAPs if applicable? | | | X | |
| 517.D.3.6 EIQ Sheets | Has an EIQ Sheet been Completed for each Emission Point whether an Area or Point Source? | X | | | Appendix B |
| 517.D.4 Monitoring Devices | Does the Application Include Identification and Description of Compliance Monitoring Devices or Activities? | | | X | |
| 517.D.5 Revisions and Modifications Only | For Revisions or Modifications, Does the Application include a Description of the Proposed Change and any Resulting Change in Emissions? | | | X | |
| 517.D.7 General Information | Does the Application Include Information Regarding Fuels, Fuel Use, Raw Materials, Production Rates, and Operating Schedules as necessary to substantiate emission rates? | X | | | Appendix C |
| 517 D.8 Operating Limitations | Has Information Regarding any Limitations on Source Operation or any Applicable Work Practice Standards been Identified? | | | X | |
| 517.D.9 Calculations | Are Emission Calculations Provided? | X | | | Appendix C |
| 517.D.10 Regulatory Review | Does the Application Include a Citation and Description of Applicable Louisiana and Federal Air Quality Requirements and Standards? | X | | | Appendix A |
| 517.D.11 Test Methods | Has a Description of or a Reference to Applicable Test Methods Used to Determine Compliance with Standards been Provided? | | | X | |

| LAC 33:III. | Completeness Questions Relative to the State Operating Permit Application | Yes | No | NA | Location Within the Permit Application |
|-----------------------------------|--|-----|----|----|--|
| 517.D.12 Major Sources of TAPs | Does the Application include Information Regarding the Compliance History of Sources Owned or Operated by the Applicant (per LAC 33.III.5111)? | X | | | Section 2 |
| 517.D.13 Major Sources of TAPs | Does the Application include a Demonstration to show that the Source Meets all Applicable MACT and Ambient Air Standard Requirements? | X | | | Appendix B |
| 517.D.16, 18 | Has any Additional Information been Provided? | | X | | |
| 517.D.17 Fees | Has the Fee Code been Identified? | X | | | Section 2 |
| | Is the Applicable Fee Included with the Application? | | X | | Online Payment |
| 517.F Confidentiality | Does the Application Include a Request for Non-Disclosure (Confidentiality)? | | X | | |
| 525.B. Minor Permit Modifications | Does the Application Include a Listing of New Requirements Resulting for the Change? | | | X | |
| | Does the Application Include Certification by the Responsible Official that the Proposed Action Fits the Definition of a Minor Modification as per LAC 33:III.525.A. | | | X | |
| | Does the Certification also Request that Minor Modification Procedures be Used? | | | X | |

Figure 1
Site Location Map

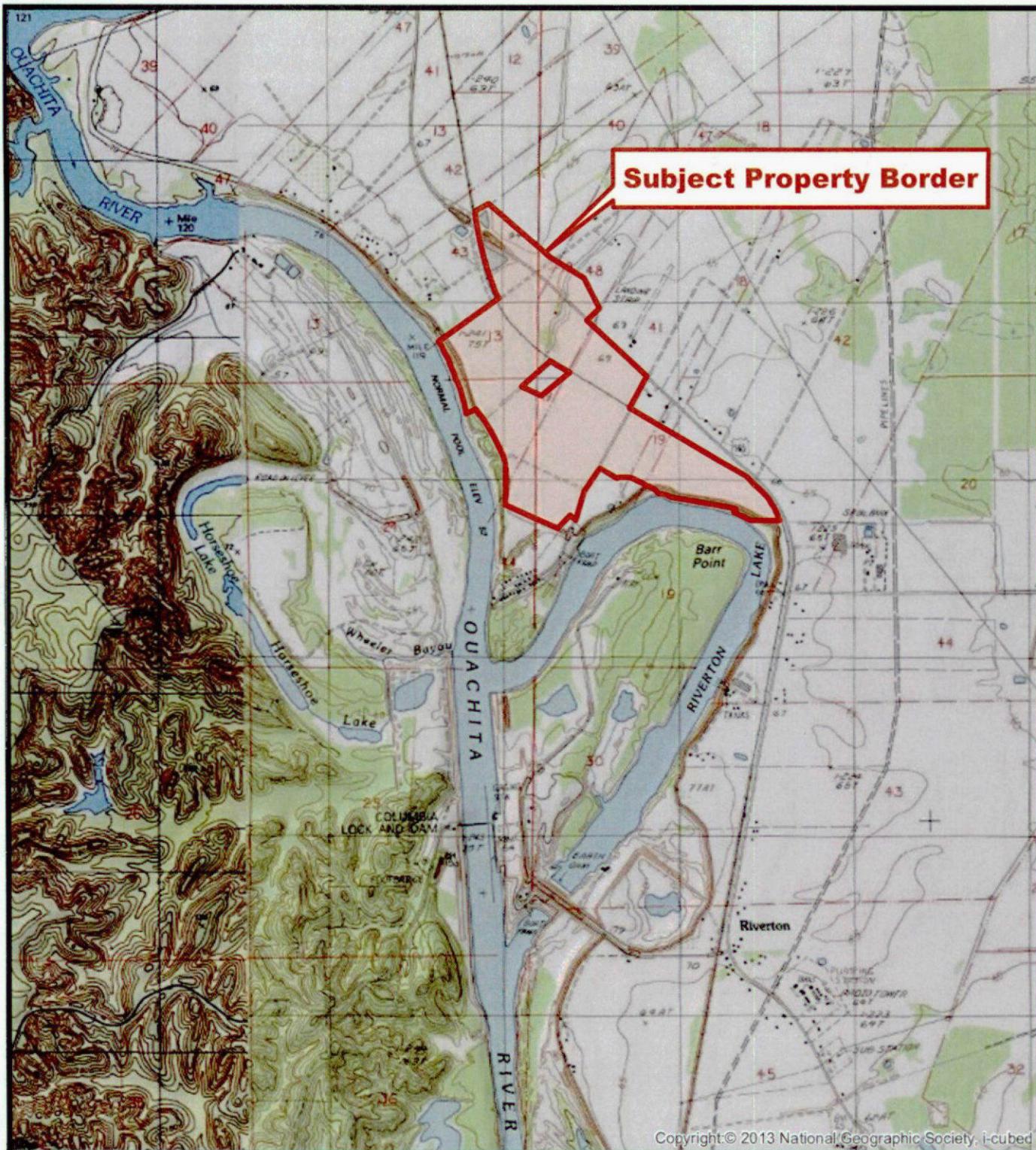


Figure 2
Aerial Photograph



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

 Subject Property Border



Strategic Biofuels LLC
Columbia, LA

Louisiana Green Fuels Project

Aerial Photograph

Caldwell Parish



| | |
|-----------|------------------|
| Drawn: | JP |
| Checked: | JM |
| Approved: | JM |
| Date: | 5/6/22 |
| Dwg. No.: | 398-21-0004-A002 |

Figure 2

Figure 3
Block Flow Diagram

Block flow diagram

The block flow diagram of the production process of renewable diesel and naphtha, identifying the emission sources is presented below.

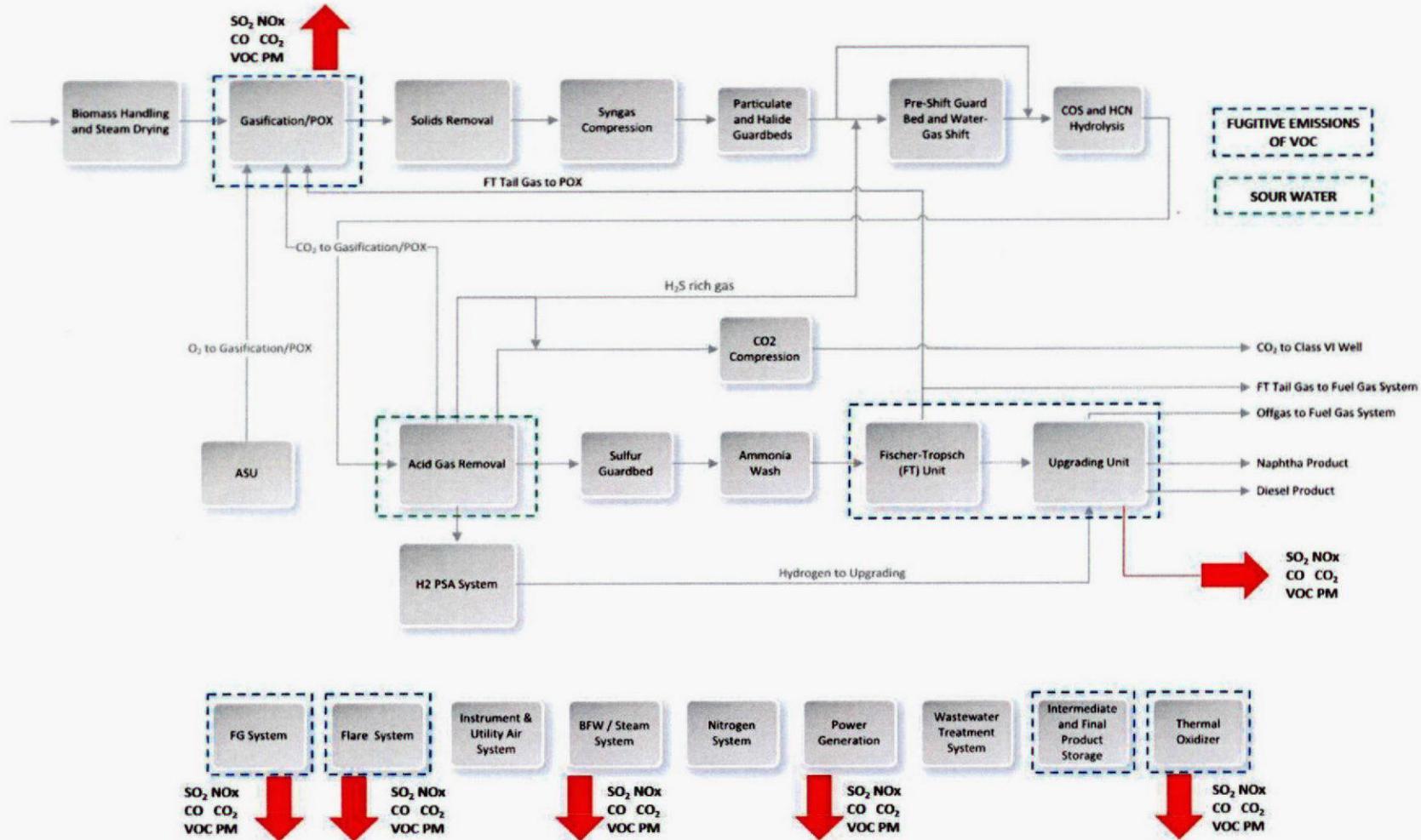


Figure 3: Overall Facility Block Flow Diagram

Appendix A
Regulatory Applicability Tables 1-4

TABLE 1: APPLICABLE LOUISIANA AND FEDERAL AIR QUALITY REQUIREMENTS

Note: This table lists regulations that are commonly applicable to many sources, but is not intended to be an all inclusive list. Alter the headings of this table as necessary in order to address ALL potentially applicable requirements.

| Source ID No.: | Descriptive Name of the Source | LAC 33:III | | | | | | | | LAC 33:III:Chapter | | | | | | | | |
|----------------|---|------------|------|------|------|------|------|------|------|--------------------|---|----|----|----|----|----|----|----|
| | | 2103 | 2107 | 2111 | 2113 | 2115 | 2121 | 2122 | 2153 | 5 | 9 | 11 | 13 | 15 | 29 | 51 | 56 | 59 |
| --- | Facility Wide | | | 3 | 1 | 3 | 3 | 3 | | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 |
| --- | 22-01, Biomass Boiler Stack | | | | | | | | | | | | 3 | | | | | |
| --- | 22-02, Biomass Handling Baghouse | | | | | | | | | | | 1 | | | | | | |
| --- | 22-02(a), Collector #1, Truck Receiving Area | | | | | | | | | | | 1 | | | | | | |
| --- | 22-02(b), Collector #2, Dryer Island Area | | | | | | | | | | | 1 | | | | | | |
| --- | 22-02(c), Collector #3, Cried Chip Conveying and Storage Area | | | | | | | | | | | 1 | | | | | | |
| --- | 22-02(d), Collector #4, Gasifier Feed/Distribution Systems w/ TRI Feeders | | | | | | | | | | | 1 | | | | | | |
| --- | 22-03, Biomass Dryer #1 | | | | | | | | | | 3 | 3 | 3 | | | | | |
| --- | 22-04, Biomass Dryer #2 | | | | | | | | | | 3 | 3 | 3 | | | | | |
| --- | 22-05, Biomass Dryer #3 | | | | | | | | | | 3 | 3 | 3 | | | | | |
| --- | 22-06, Biomass Dryer #4 | | | | | | | | | | 3 | 3 | 3 | | | | | |
| --- | 22-07, Gasification Heater Common Stack | | | | | | | 3 | | | 3 | 1 | 3 | | | | | |
| --- | 22-08, Reactor Charge Heater | | | | | | | 3 | | | 3 | 1 | 3 | | | | | |
| --- | 22-09, SO2 Scrubber | | | | | | | | | | 3 | 3 | 3 | | | | | |
| --- | 22-09(a), Thermal Oxidizer | | | | | | | | | | 1 | 1 | 3 | | | | | |
| --- | 22-09(a)(1), LHC Intermediate and Off spec Tank TNK-0101 | 1 | | | | | | | | | | | | | | | | |
| --- | 22-09(a)(2), Wax Intermediate and Off spec Tank TNK-0102 | 1 | | | | | | | | | | | | | | | | |
| --- | 22-09(a)(3), Slops Tank #1 TNK-0103 | 1 | | | | | | | | | | | | | | | | |
| --- | 22-09(a)(4), Slops Tank #2 TNK-0104 | 1 | | | | | | | | | | | | | | | | |
| --- | 22-09(a)(5), Railcar Loading | | | | | | | | | | | | | | | | | |
| --- | 22-10, Flare | | | | | | | | | | 1 | 1 | 3 | | | | | |
| --- | 22-11, Emergency Generator Diesel Engine #1 | | | | | | | | | | 1 | 1 | 3 | | | | | |
| --- | 22-12, Emergency Generator Diesel Engine #2 | | | | | | | | | | 1 | 1 | 3 | | | | | |
| --- | 22-13, Diesel Firewater Pump #1 | | | | | | | | | | 1 | 1 | 3 | | | | | |
| --- | 22-14, Diesel Firewater Pump #2 | | | | | | | | | | 1 | 1 | 3 | | | | | |
| --- | 22-15, Cooling Tower | | | | | | | | | | | | | | | | | |
| --- | 22-16, Fractionator Feed Heater | | | | | | | 3 | | | 3 | 1 | | | | | | |
| --- | 22-17, Naphtha Storage Tank (TNK-0201) | 1 | | | | | | | | | | | | | | | | |
| --- | 22-18, Naphtha Storage Tank (TNK-0202) | 1 | | | | | | | | | | | | | | | | |
| --- | 22-19, Naphtha Sales Tank (TNK-0203) | 1 | | | | | | | | | | | | | | | | |
| --- | 22-20, Diesel Storage Tank (TNK-0204) | 3 | | | | | | | | | | | | | | | | |
| --- | 22-21, Diesel Storage Tank (TNK-0205) | 3 | | | | | | | | | | | | | | | | |
| --- | 22-22, Diesel Sales Tank | 3 | | | | | | | | | | | | | | | | |
| --- | FUG-01, Fugitive Leak Emissions | | | | | | 3 | 3 | | | | | 1 | | | | | |
| --- | FUG-02, Fugitive Roadway Emissions | | | | | | | | | | | | | | | | | |

TABLE 1: APPLICABLE LOUISIANA AND FEDERAL AIR QUALITY REQUIREMENTS

Note: This table lists regulations that are commonly applicable to many sources, but is not intended to be an all inclusive list. Alter the headings of this table as necessary in order to address ALL potentially applicable requirements.

| Source ID No.: | Descriptive Name of the Source | LAC 33:III | | | | | | | | LAC 33:III.Chapter | | | | | | | | |
|----------------|---|------------|------|------|------|------|------|------|------|--------------------|---|----|----|----|----|----|----|----|
| | | 2103 | 2107 | 2111 | 2113 | 2115 | 2121 | 2122 | 2153 | 5 | 9 | 11 | 13 | 15 | 29 | 51 | 56 | 59 |
| --- | 22-23, Sulfuric Acid Storage Tank (TNK-301) | 3 | | | | | | | | | | | | | | | | |
| --- | 22-24, Methanol Storage Tank (TNK-0101) | 1 | | | | | | | | | | | | | | | | |
| --- | 22-25, Diesel Blending Tank | 3 | | | | | | | | | | | | | | | | |
| --- | WW-1, Wastewater Treatment System | | 3 | | | | | | 3 | | | | | | | | | |

KEY TO MATRIX

- 1 (Applicable) The regulations have applicable requirements that apply to this particular emissions source. This includes any monitoring, recordkeeping, or reporting requirements.
 - 2 (Exempt) The regulations apply to this general type of emission source (i.e. vents, furnaces, towers, and fugitives) but do not apply to this particular emission source.
 - 3 (Does Not Apply) The regulations do not apply to this emissions source. The regulations may have applicable requirements that could apply to this emissions source but the requirements do not currently apply to the source due to meeting a specific criterion, such as it has not been constructed, modified or reconstructed since the regulations have been in place.
- Blank The regulations clearly do not apply to this type of emission source.

TABLE 1: APPLICABLE LOUISIANA AND FEDERAL AIR QUALITY REQUIREMENTS

Note: This table lists regulations that are commonly applicable to many sources, but is not intended to be an all inclusive list. Alter the headings of this table as necessary in order to address ALL potentially applicable requirements.

| Source ID No.: | Descriptive Name of the Source | 40 CFR 60 NSPS | | | | | | | | | | | | | | | 40 CFR 61 | | | | | 40 CFR 63 NESHAP | | | | | 40 CFR | | | | | |
|----------------|---|----------------|---|----|----|---|----|----|----|----|------|------|-----|-----|-----|-----|-----------|---|---|---|---|------------------|---|---|----|----|--------|-----|----|----|----|--|
| | | A | K | Ka | Kb | D | Da | Db | Dc | Ja | CCCC | GGGa | NNN | RRR | VVa | QQQ | HHH | A | J | M | V | FF | A | Q | 5D | 6J | 6V | ZZZ | 64 | 68 | 82 | |
| --- | 22-23, Sulfuric Acid Storage Tank (TNK-301) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| --- | 22-24, Methanol Storage Tank (TNK-0101) | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| --- | 22-25, Diesel Blending Tank | | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| --- | WW-1, Wastewater Treatment System | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

KEY TO MATRIX

- 1 (Applicable) The regulations have applicable requirements that apply to this particular emissions source. This includes any monitoring, recordkeeping, or reporting requirements.
 - 2 (Exempt) The regulations apply to this general type of emission source (i.e. vents, furnaces, towers, and fugitives) but do not apply to this particular emission source.
 - 3 (Does Not Apply) The regulations do not apply to this emissions source. The regulations may have applicable requirements that could apply to this emissions source but the requirements do not currently apply to the source due to meeting a specific criterion, such as it has not been constructed, modified or reconstructed since the regulations have been in place.
- Blank The regulations clearly do not apply to this type of emission source.

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

For each Emission Point ID Number:

- List each regulation that applies.
- Arrange the requirements imposed by each regulation according to the headings provided below.
- Repeat this process for each regulation that applies to each source.
- State-only Requirements should be noted as such in the appropriate column.

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|--|---|---------------------|----------------------------|------------------------|
| Facility Wide | NSPS - General Provisions (40 CFR 60, Subpart A) | Requirements that limit emissions or operations - | | | |
| | | All affected facilities shall comply with all applicable provisions in 40 CFR 60 Subpart A. | 40 CFR 60 | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|--|--|---------------------|----------------------------|------------------------|
| Facility Wide | NESHAP - General Provisions (40 CFR 63, Subpart A) | Requirements that limit emissions or operations - | | | |
| | | All affected facilities shall comply with all applicable provisions in 40 CFR 63 Subpart A as delineated in Table 3 of 40 CFR 63 Subpart F | 40 CFR 63 | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|--|--|---|---------------------|----------------------------|------------------------|
| Facility Wide | Protection of Stratospheric Ozone (40 CFR Part 82) | Requirements that limit emissions or operations - | | | |
| | | Owners or operators of comfort cooling appliances normally containing more than 50 pounds of refrigerant must have leaks repaired in accordance with 40 CFR 82.156(i)(9) if the appliance is leaking at a rate such that the loss of refrigerant will exceed 15 percent of the total charge during a 12-month period. | 40 CFR 82.156(i)(1) | | No |
| | | Repair leaks within 30 days after discovery, or within 30 days after when the leaks should have been discovered if the owners intentionally shielded themselves from information which would have revealed a leak, unless granted additional time pursuant to §82.156(i) | 40 CFR 82.156(i)(9) | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep servicing records documenting the date and type of service, as well as the quantity of refrigerant added. The owner/operator must keep records of refrigerant purchased and added to such appliances in cases where owners add their own refrigerant. Such records should indicate the date(s) when refrigerant is added. | 40 CFR 82.166(k) | | No |
| Requirements that specify reports to be submitted - | | | | | |
| Requirements that specify performance testing - | | | | | |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|--|---|---------------------|----------------------------|------------------------|
| Facility Wide | Chemical Accident Provisions (40 CFR 68) | Requirements that limit emissions or operations - | | | |
| | | Comply with all applicable provisions in 40 CFR 68. | 40 CFR 68.10 | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|--|--|----------------------|----------------------------|------------------------|
| Facility Wide | Protection of Stratospheric Ozone - Recycling and Emissions Reduction (40 CFR 82, Subpart F) | Requirements that limit emissions or operations - | | | |
| | | Comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B. | 40 CFR 82, Subpart F | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|---|--|---------------------|----------------------------|------------------------|
| Facility Wide | Permit Procedures (LAC 33-III, Chapter 5) | Requirements that limit emissions or operations - | | | |
| | | Submit permit renewal application at least six months prior to the date of permit expiration, or at such earlier time as may be required by the existing permit or approved by the permitting authority. In no event shall the application for permit renewal be submitted more than 18 months before the date of permit expiration. | LAC 33-III.507.E.4 | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|--|--|--|---------------------|----------------------------|------------------------|
| Facility Wide | Emission Inventory (LAC 33-III, Chapter 9) | Requirements that limit emissions or operations - | | | |
| | | Install air pollution control facilities whenever practically, economically, and technologically feasible. When facilities have been installed on a property, use them and diligently maintain them in proper working order whenever any emissions are being made which can be controlled by the facilities, even though the ambient air quality standards in affected areas are not exceeded. | LAC 33-III.905 | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Submit Emissions Inventory by April 30th for the period January 1st to December 31st of previous year. | LAC 33-III.919.D | Annually | No |
| | | Report the unauthorized discharge of any air pollutant into the atmosphere in accordance with LAC 33-I Chapter 39, Notification Regulations and Procedures for Unauthorized Discharges. Submit written reports to the department pursuant to LAC 33-I.3925. Submit timely and appropriate follow-up reports detailing methods and procedures to be used to prevent similar atmospheric releases. | LAC 33-III.927 | Per Event | No |
| Requirements that specify performance testing - | | | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|--|---|---------------------|----------------------------|------------------------|
| Facility Wide | Control of Emissions of Smoke (LAC 33-III, Chapter 11) | Requirements that limit emissions or operations - | | | |
| | | Emissions of smoke which pass onto or across a public road and create a traffic hazard by impairment of visibility as defined in LAC 33-III.111 or intensifies an existing traffic hazard condition are prohibited. | LAC 33-III.1103 | | No |
| | | Outdoor burning of waste material or other combustible material is prohibited. | LAC 33-III.1109.B | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|---|---|---------------------|----------------------------|------------------------|
| Facility Wide | Emissions Standards for Particulate Matter (LAC 33-III, Chapter 13) | Requirements that limit emissions or operations - | | | |
| | | Emissions of particulate matter which pass onto or across a public road and create a traffic hazard by impairment of visibility or intensify an existing traffic hazard condition are prohibited. | LAC 33-III.1303.B | | No |
| | | All reasonable precautions shall be taken to prevent particulate matter from becoming airborne. | LAC 33-III.1305 | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|---|---|---------------------|----------------------------|------------------------|
| Facility Wide | Control of Emission of Organic Compounds (LAC 33:III, Chapter 21) | Requirements that limit emissions or operations - | | | |
| | | Maintain best practical housekeeping and maintenance practices at the highest possible standards to reduce the quantity of organic compounds emissions. Good housekeeping includes, but is not limited to, the practices listed in LAC 33:III 2113.A.1 through A.5. | LAC 33:III 2113.A | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Develop a written plan for housekeeping and maintenance that emphasizes the prevention or reduction of VOC emissions from the facility. A copy shall be kept at the facility, or at an alternate site approved by the department. | LAC 33:III 2113.A.4 | | No |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|--|--|---------------------|----------------------------|------------------------|
| Facility Wide | Odor Regulations (LAC 33:III Chapter 29) | Requirements that limit emissions or operations - | | | |
| | | Facility shall not discharge an odorous substance with an intensity of 6 or greater as determined by Method 41. | LAC 33:III 2901.D | | No |
| | | Samples shall be taken and transported in a manner which minimizes contamination or loss of material. All samples shall be evaluated as soon after collection as possible. | LAC 33:III 2901.F | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|--|--|--|---------------------|----------------------------|------------------------|
| Facility Wide | Comprehensive Toxic Air Pollutant Emission Control Program (LAC 33:III Chapter 51) | Requirements that limit emissions or operations - | | | |
| | | Determine the status of compliance, beyond the property line, with applicable ambient air standards listed in LAC 33:III 5112, Table 51.2. | LAC 33:III 5109.B | | Yes |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Submit Emissions Report, by the 30th of April unless otherwise directed by DEQ, to the Office of Environmental Services in a format specified by DEQ. Identify the quantity of emissions in the previous calendar year for any toxic air pollutant listed in Table 51.1 or Table 51.3. | LAC 33:III 5107.A | Annually | Yes |
| Include a certification statement with the annual emission report and revisions to any emission report that attests that the information contained in the emission report is true, accurate, and complete, and that is signed by a responsible official, as defined in LAC 33:III 502. Include the full name of the responsible official, title, signature, date of signature, and phone number of the responsible official. | LAC 33:III 5107.A.2 | | Yes | | |
| | | Requirements that specify performance testing - | | | |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement | | |
|---|--|---|---|---|------------------------|--|----|
| Facility Wide | Prevention of Air Pollution Emergency Episodes (LAC 33:III, Chapter 56) | Requirements that limit emissions or operations - | | | | | |
| | | Prepare standby plans for the reduction of emissions during periods of Air Pollution Alert, Warning, and Emergency. Design standby plans to reduce or eliminate emissions in accordance with the objectives as set forth in LAC 33:III 5611. Tables 5, 6, and 7. | LAC 33:III 5609 A | | No | | |
| | | Activate the preplanned abatement strategy listed in LAC 33:III 5611. Table 5 when DEQ declares an Air Pollution Alert. | LAC 33:III 5609 A.1.b | | No | | |
| | | Activate the preplanned strategy listed in LAC 33:III 5611. Table 6 when DEQ declares an Air Pollution Warning. | LAC 33:III 5609 A.2.b | | No | | |
| | | Activate the preplanned abatement strategy listed in LAC 33:III 5611 Table 7 when DEQ declares an Air Pollution Emergency. | LAC 33:III 5609 A.3.b | | No | | |
| | | Requirements that specify monitoring - | | | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | | | |
| | | Make available the standby plan on site to the Administrative Authority upon request. | LAC 33:III 5611 B.1 | | No | | |
| | | Requirements that specify reports to be submitted - | | | | | |
| | | Submit the standby plan to the Administrative Authority within 30 days upon request. | LAC 33:III 5611 A&B | | No | | |
| Requirements that specify performance testing - | | | | | | | |
| Facility Wide | Chemical Accident Prevention and Minimization of Consequences (LAC 33:III, Chapter 59) | Requirements that limit emissions or operations - | | | | | |
| | | Comply with the provisions in 40 CFR 68, except as specified in LAC 33:III 5901. | LAC 33:III 5901 A | | Yes | | |
| | | Identify hazards that may result from accidental releases of the substances listed in 40 CFR 68.130, Table 59.0 of LAC 33:III 5907, or Table 59.1 of LAC 33:III 5913 using appropriate hazard assessment techniques, design and maintain a safe facility, and minimize the off-site consequences of accidental releases of such substances that do occur. | LAC 33:III 5907 | | Yes | | |
| | | Requirements that specify monitoring - | | | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | | | |
| | | Requirements that specify reports to be submitted - | | | | | |
| | | Submit amended registration to the Office of Environmental Compliance after the information in the submitted registration is no longer accurate. | LAC 33:III 5911 C | Within 60 days | Yes | | |
| | | Requirements that specify performance testing - | | | | | |
| | | EQT-7 EQT-8 EQT-16 | Emission Standards for Particulate Matter (LAC 33:III Chapter 13) | Requirements that limit emissions or operations - | | | |
| | | | | Emissions of particulate matter from any fuel burning equipment shall not be > 0.6 lbs/MMBtu of heat input. | LAC 33:III 1313 C | | No |
| Requirements that specify monitoring - | | | | | | | |
| Requirements that specify records to be kept and requirements that specify record retention time - | | | | | | | |
| Requirements that specify reports to be submitted - | | | | | | | |
| Requirements that specify performance testing - | | | | | | | |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------------------|---|---|---------------------|----------------------------|------------------------|
| FUG-02, Fugitive Roadway Emissions | Emission Standards for Particulate Matter (LAC 33:III.Chapter 13) | <p>Requirements that specify records to be kept and requirements that specify record retention time -</p> <p>A. All reasonable precautions shall be taken to prevent particulate matter from becoming airborne. These precautions shall include but shall not be limited to the following:</p> <ol style="list-style-type: none"> 1. use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land; 2. application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts; 4. open-bodied trucks transporting materials likely to give rise to airborne dust shall be covered at all times when in motion; 6. paving roadways and maintaining the roadways in a clean condition; 7. the prompt removal of earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or other means. <p>Requirements that specify reports to be submitted -</p> <p>Requirements that specify performance testing -</p> | LAC 33:III.1305 | | No |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|--|---|--|---------------------|----------------------------|------------------------|
| EPT-2 EPT-27 -28 -29 -30 ✓ CR6-2 | Emissions Standards for Particulate Matter (LAC 33:III, Chapter 13) | Requirements that limit emissions or operations - A. All reasonable precautions shall be taken to prevent particulate matter from becoming airborne. These precautions shall include but shall not be limited to the following: 3. installation and use of dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations; 4. open-bodied trucks transporting materials likely to give rise to airborne dust shall be covered at all times when in motion | LAC 33:III.1305 | | No |
| | | Impairment of Visibility. The emissions which pass onto or across a public road and create a traffic hazard by impairment of visibility or intensify an existing traffic hazard condition are prohibited. | LAC 33:III.1303.B | | No |
| | | Opacity <= 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes. | LAC 33:III.1311.C | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|---------------------------------|---|---|---------------------|----------------------------|------------------------|
| ✓ 22-09(a), Thermal Oxidizer | Control of Emissions of Smoke (LAC 33:III.1101 B) | Requirements that specify records to be kept and requirements that specify record retention time - Emissions of smoke from any combustion unit (other than a flare) shall be controlled so that the shade or appearance of the emission is not darker than 20% average opacity except during the cleaning of a fire box or building of a new fire, soot blowing or lancing, charging of an incinerator, equipment changes, ash removal and rapping of precipitators which may have an opacity in excess of 20% for not more than one six-minute period in any 60 consecutive minutes. | LAC 33:III.1101.B | | No |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|---------------------------------|---|--|---------------------|----------------------------|------------------------|
| ✓ 22-09(a), Thermal Oxidizer | Emissions Standards for Particulate Matter (LAC 33:III, Chapter 13) | Requirements that limit emissions or operations - Opacity <= 20 percent, except emissions may have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes. | LAC 33:III.1311.C | six-minute average | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|--|--|--|---|----------------------------|------------------------|
| EQ 32 -35 | Storage of Volatile Compounds (LAC 33-III Chapter 21) CRG-3 | Requirements that limit emissions or operations - | | | |
| | | For a tank with a capacity > 40,000 gals (tank capacity is 67,000 gals), equip with a submerged-fill pipe and vent emissions to a vapor loss collection system capable of collecting the VOC vapors and a vapor disposal system capable of processing such organic vapors. The vapor loss control system shall reduce inlet total VOC emissions by ≥ 95%. The limitation does not apply during periods of planned routine maintenance which may not exceed 240 hrs/yr. | LAC 33-III 2103.B & LAC 33-III 2103.E.1 & 3 | six-minute average | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Keep records of the information specified in LAC 33-III 2103.I.1 - 7, as applicable. | LAC 33-III 2103.I | | No |
| Requirements that specify reports to be submitted - | | | | | |
| Requirements that specify performance testing - | | | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|--|---|---|----------------------------|------------------------|
| 32 -35 | Storage of Volatile Organic Liquids (NSPS Subpart Kb) CRG-3 | Requirements that limit emissions or operations - | | | |
| | | For a storage tank with a capacity greater than 40,000 gals storing a VOL with a max true vapor pressure ≥ 0.75 psia but < 11.1 psia, vent emissions through a closed vent system to a control device that reduces VOC emissions by ≥ 95%. The owner or operator of each source that is equipped with a closed vent system and control device as required in § 60.112b (a)(3) or (b)(2) (other than a flare) is exempt from § 60.8 of the General Provisions and shall meet the following requirements. (1) Submit for approval by the Administrator as an attachment to the notification required by § 60.7(a)(1) or, if the facility is exempt from § 60.7(a)(1), as an attachment to the notification required by § 60.7(a)(2), an operating plan containing the information listed below. (i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph. (ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters). (2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies. | 40 CFR 60.112b(a)(3) 40 CFR 60.113b(c) | | No No |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|--|--|--|---------------------|----------------------------|------------------------|
| 22-09(a)(1)-(4), Thermal Oxidizer Tanks Group 3235 CRG-3 | Storage of Volatile Organic Liquids (NSPS Subpart Kb) | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | After installing control equipment in accordance with § 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records. | 40 CFR 60.115b© | | No |
| | | (1) A copy of the operating plan. | | | |
| | | (2) A record of the measured values of the parameters monitored in accordance with § 60.113b(c)(2). | | | |
| | | Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel for the life of the source | 40 CFR 60.116b(b) | | No |
| | Requirements that specify reports to be submitted - | | | | |
| | Requirements that specify performance testing - | | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|--|--|---------------------|----------------------------|------------------------|
| 22-10 Flare | Control of Emissions of Smoke (LAC 33 III, Chapter 11) | Requirements that limit emissions or operations - | | | |
| | | Opacity <= 20 percent, except for a combined total of six hours in any 10 consecutive day period, for burning in connection with pressure valve releases for control over process upsets. | LAC 33 III.1105 | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Submit notification: Due to SPOC as soon as possible after the start of burning of pressure valve releases for control over process upsets. Notify in accordance with LAC 33 I.3923. Notification is required only if the upset cannot be controlled in six hours. | LAC 33 III.1105 | | No |
| | Requirements that specify performance testing - | | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|---|--|---------------------|----------------------------|------------------------|
| 22-10 Flare | Emissions Standards for Particulate Matter (LAC 33 III, Chapter 13) | Requirements that limit emissions or operations - | | | |
| | | Opacity <= 20 percent, except emissions may have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes. | LAC 33 III.1311.C | six-minute average | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|----------------------------|--|--|-------------------------|----------------------------|------------------------|
| EOT-11 +12 CR6-4 | Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII) | Requirements that limit emissions or operations - | | | |
| | | Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section. | 40 CFR 60.4202(a)(2) | | No |
| | | (2) For engines with a rated power greater than or equal to 37 KW (50 HP), the Tier 2 or Tier 3 emission standards for new nonroad CI engines for the same rated power as described in 40 CFR part 1039, appendix I, for all pollutants and the smoke standards as specified in 40 CFR 1039.105 beginning in model year 2007. | 40 CFR 60.4205(b) | | No |
| | | Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in § 60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. | 40 CFR 60.4206 | | No |
| | | Operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4204 and 40 CFR 60.4205 over the entire life of the engine. | 40 CFR 60.4207(b) | | No |
| | | Use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. | 40 CFR 60.4209(a) | | No |
| | | Operating time monitored by hour/time monitor continuously during operation. If the emergency engine meets the standards applicable to emergency engines, install a non-resettable hour meter prior to startup of the engine. | 40 CFR 60.4211(a)(1) | | No |
| | | Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions, except as permitted in 40 CFR 60.4211(g). | 40 CFR 60.4211(a)(2) | | No |
| | | Change only those emission-related settings that are permitted by the manufacturer, except as permitted in 40 CFR 60.4211(g). | | | No |
| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
| 11 +12 CR6-4 | Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII) | Meet the requirements of 40 CFR 89, 94 and/or 1068, as applicable, except as permitted in 40 CFR 60.4211(g). | 40 CFR 60.4211(a)(3) | | No |
| | | Ensure engine is certified to the emission standards in 40 CFR 60.4204(b), or 40 CFR 60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. Install and configure according to the manufacturer's emissions-related specifications, except as permitted in 40 CFR 60.4211(g). | 40 CFR 60.4211(c) | | No |
| | | There is no time limit on the use of emergency stationary ICE in emergency situations. | 40 CFR 60.4211(f)(1) | | No |
| | | Operate for maintenance checks and readiness testing for a maximum of 100 hours per calendar year, provided that the tests are recommended by the federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator; or the insurance company associated with the engine. LDEQ may be petitioned for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if records are maintained indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. | 40 CFR 60.4211(f)(2)(i) | | No |
| | | Operate for up to 50 hours per calendar year in non-emergency situations. Count the 50 hours of operation in non-emergency situations as part of the 100 hours per calendar year for maintenance and testing provided in 40 CFR 60.4211(f)(2)(i). Do not use the 50 hours per calendar year for non-emergency situations for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity, except as provided in 40 CFR 60.4211(f)(3)(i). | 40 CFR 60.4211(f)(3) | | No |
| | | Operate according to the requirements in 40 CFR 60.4211(f)(1), (f)(2)(i), and (f)(3). In order for the engine to be considered an emergency stationary ICE under 40 CFR 60 Subpart IIII, any operation other than as described in 40 CFR 60.4211(f)(1), (f)(2)(i), and (f)(3) is prohibited. If the engine is not operated according to these requirements, the engine will not be considered an emergency engine under 40 CFR 60 Subpart IIII and must meet all requirements for non-emergency engines. | 40 CFR 60.4211(f) | | No |
| | | Maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. | 40 CFR 60.4211(g) | | No |

TABLE 2: STATE AND FEDERAL QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|---|--|----------------------|----------------------------|------------------------|
| 11-2 CRG-4 | Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart III) | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Keep a maintenance plan and records of conducted maintenance. | 40 CFR 60.4211(g) | | No |
| | | Operating time recordkeeping by electronic or hard copy upon occurrence of event. If the emergency engine meets the standards applicable to emergency engines in the applicable model year, keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. Record the time of operation of the engine and the reason the engine was in operation during that time. | 40 CFR 60.4214(b) | | No |
| | | Requirements that specify performance testing - | | | |
| | | Conduct a performance test to demonstrate initial compliance with emission standards according to the requirements specified in 40 CFR 60.4212 or 40 CFR 60.4213, as appropriate, within 60 days after commencing operation after a modification or reconstruction. | 40 CFR 60.4211(e)(2) | | No |
| | | Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year after the engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions (can include within 1 year of startup), or within 1 year after the emission-related settings are changed in a way that is not permitted by the manufacturer. Conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance, if the engine is greater than 500 HP. | 40 CFR 60.4211(g) | | No |
| | | Conduct performance tests according to 40 CFR 60.4212(a) through (e). | 40 CFR 60.4212 | | No |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|------------------------|--|---|---------------------|----------------------------|------------------------|
| 11 CRG-4 | National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ) | Requirements that limit emissions or operations - | | | |
| | | Meet the requirements of 40 CFR 60 Subpart IIII for compression ignition engines. | 40 CFR 63.6590(c) | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|--|--|--|---------------------|----------------------------|------------------------|
| 22-11, Emergency Generator Diesel Engine #1; 22-12, Emergency Generator Diesel Engine #2 22-13, Diesel Firewater Pump #1; 22-14, Diesel Firewater Pump #2 CRG-4X5 | Control of Emissions of Smoke (LAC 33:III, Chapter 11) | Requirements that limit emissions or operations - | | | |
| | | Opacity <= 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 | LAC 33:III.1101.B | six-minute average | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|---|---|---|---------------------|----------------------------|------------------------|
| 22-11, Emergency Generator Diesel Engine #1; 22-12, Emergency Generator Diesel Engine #2 22-13, Diesel Firewater Pump #1; 22-14, Diesel Firewater Pump #2 | Emissions Standards for Particulate Matter (LAC 33:III, Chapter 13) | Requirements that limit emissions or operations - | | | |
| | | Opacity <= 20 percent, except for emissions that have an average opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes. | LAC 33:III.1311.C | six-minute average | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

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| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|---|--|--|----------------------|----------------------------|------------------------|
| 22-13, Diesel Firewater Pump #1; 22-14, Diesel Firewater Pump #2 | Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII) | Requirements that limit emissions or operations - | | | |
| | | Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power. | 40 CFR 60.4202(d) | | No |
| | | Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants. | 40 CFR 60.4205(c) | | No |
| | | Operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4204 and 40 CFR 60.4205 over the entire life of the engine. | 40 CFR 60.4206 | | No |
| | | Use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. | 40 CFR 60.4207(b) | | No |
| | | Operating time monitored by hour/time monitor continuously during operation. If the emergency engine meets the standards applicable to emergency engines, install a non-resettable hour meter prior to startup of the engine. | 40 CFR 60.4209(a) | | No |
| | | Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions, except as permitted in 40 CFR 60.4211(g). | 40 CFR 60.4211(a)(1) | | No |
| Change only those emission-related settings that are permitted by the manufacturer, except as permitted in 40 CFR 60.4211(g). | 40 CFR 60.4211(a)(2) | | No | | |

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TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|---|--|--|-------------------------|----------------------------|------------------------|
| 22-13, Diesel Firewater Pump #1; 22-14, Diesel Firewater Pump #2 | Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII) | Meet the requirements of 40 CFR 89, 94 and/or 1068, as applicable, except as permitted in 40 CFR 60.4211(g). | 40 CFR 60.4211(a)(3) | | No |
| | | Ensure engine is certified to the emission standards in 40 CFR 60.4204(b), or 40 CFR 60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. Install and configure according to the manufacturer's emissions-related specifications, except as permitted in 40 CFR 60.4211(g). | 40 CFR 60.4211(c) | | No |
| | | There is no time limit on the use of emergency stationary ICE in emergency situations. | 40 CFR 60.4211(f)(1) | | No |
| | | Operate for maintenance checks and readiness testing for a maximum of 100 hours per calendar year, provided that the tests are recommended by the federal, state or local government; the manufacturer; the vendor; the regional transmission organization or equivalent balancing authority and transmission operator; or the insurance company associated with the engine. LDEQ may be petitioned for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if records are maintained indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. | 40 CFR 60.4211(f)(2)(i) | | No |
| | | Operate for up to 50 hours per calendar year in non-emergency situations. Count the 50 hours of operation in non-emergency situations as part of the 100 hours per calendar year for maintenance and testing provided in 40 CFR 60.4211(f)(2)(i). Do not use the 50 hours per calendar year for non-emergency situations for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity, except as provided in 40 CFR 60.4211(f)(3)(i). | 40 CFR 60.4211(f)(3) | | No |
| | | Operate according to the requirements in 40 CFR 60.4211(f)(1), (f)(2)(i), and (f)(3). In order for the engine to be considered an emergency stationary ICE under 40 CFR 60 Subpart IIII, any operation other than as described in 40 CFR 60.4211(f)(1), (f)(2)(i), and (f)(3) is prohibited. If the engine is not operated according to these requirements, the engine will not be considered an emergency engine under 40 CFR 60 Subpart IIII and must meet all requirements for non-emergency engines. | 40 CFR 60.4211(f) | | No |
| | | Maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. | 40 CFR 60.4211(g) | | No |
| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
| 22-13, Diesel Firewater Pump #1; 22-14, Diesel Firewater Pump #2 | Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII) | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Keep a maintenance plan and records of conducted maintenance. | 40 CFR 60.4211(g) | | No |
| | | Operating time recordkeeping by electronic or hard copy upon occurrence of event. If the emergency engine meets the standards applicable to emergency engines in the applicable model year, keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. Record the time of operation of the engine and the reason the engine was in operation during that time. | 40 CFR 60.4214(b) | | No |
| | | Requirements that specify performance testing - | | | |
| | | Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year after the engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions (can include within 1 year of startup), or within 1 year after the emission-related settings are changed in a way that is not permitted by the manufacturer. Conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance, if the engine is greater than 500 HP. | 40 CFR 60.4211(g) | | No |
| | | Conduct performance tests according to 40 CFR 60.4212(a) through (e). | 40 CFR 60.4212 | | No |
| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
| 22-11, Emergency Generator Diesel Engine #1; 22-12, Emergency Generator Diesel Engine #2 22-13, Diesel Firewater Pump #1; 22-14, Diesel Firewater Pump #2 | National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ) | Requirements that limit emissions or operations - | | | |
| | | Meet the requirements of 40 CFR 60 Subpart IIII for compression ignition engines. | 40 CFR 63.6590(c) | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Requirements that specify reports to be submitted - | | | |
| | | Requirements that specify performance testing - | | | |

TABLE 2: STATE AND FEDERAL QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|-----------------------------|--|--|---------------------|----------------------------|------------------------|
| 22-01, Biomass Boiler Stack | Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (NSPS Subpart Db) | Requirements that limit emissions or operations - | | | |
| | | Opacity <= 20 percent, except for one 6-minute period per hour of not more than 27% opacity. The opacity standards apply at all times, except during periods of startup, shutdown, or malfunction. | 40 CFR 60.43b(f) | | No |
| | | Units firing only very low sulfur oil, gaseous fuel, a mixture of these fuels, or a mixture of these fuels with any other fuels with a potential SO2 emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO2 emissions limit in paragraph (k)(1) of this section. The boiler will only fire pipeline quality natural gas at start-up and clean biomass fuel for normal operations. | 40 CFR 60.42b(k)(2) | | No |
| | | Except as provided in paragraphs (h)(2), (h)(3), (h)(4), (h)(5), and (h)(6) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input. | 40 CFR 60.43b(h)(1) | | No |
| | | On and after the date on which the initial performance test is completed or is required to be completed under 60.8, whichever date is first, no owner or operator of an affected facility that commenced construction after July 9, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain NOx (expressed as NO2) in excess of the following limits: | 40 CFR 60.44b(l)(1) | | No |
| | | (1) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts coal, oil, or natural gas (or any combination of the three), alone or with any other fuels. | | | |
| | | Requirements that specify monitoring - | | | |
| | The owner or operator of an affected facility seeking to demonstrate compliance in §§ 60.42b(d)(4), 60.42b(j), 60.42b(k)(2), and 60.42b(k)(3) (when not burning coal) shall follow the applicable procedures in § 60.49b(r). | 40 CFR 60.45b(k) | | No | |
| | The owner or operator of an affected facility that combusts very low sulfur oil or is demonstrating compliance under § 60.45b(k) is not subject to the emission monitoring requirements under paragraph (a) of this section if the owner or operator maintains fuel records as described in § 60.49b(r). | 40 CFR 60.47b(f) | | No | |
| 22-01, Biomass Boiler Stack | Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (NSPS Subpart Db) | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil, natural gas, wood, a mixture of these fuels, or any of these fuels (or a mixture of these fuels) in combination with other fuels that are known to contain an insignificant amount of sulfur in § 60.42b(j) or § 60.42b(k) shall obtain and maintain at the affected facility fuel receipts (such as a current, valid purchase contract, tariff sheet, or transportation contract) from the fuel supplier that certify that the oil meets the definition of distillate oil and gaseous fuel meets the definition of natural gas as defined in § 60.41b and the applicable sulfur limit. For the purposes of this section, the distillate oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition, natural gas, wood, and/or other fuels that are known to contain insignificant amounts of sulfur were combusted in the affected facility during the reporting period. | 40 CFR 60.49b(r)(1) | | No |
| | | The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. 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 calendar month. | 40 CFR 60.49b(d) | | No |
| | | Requirements that specify reports to be submitted - | | | |
| | The owner or operator of each affected facility shall submit notification of the date of initial startup, as provided by § 60.7. This notification shall include: | 40 CFR 60.49b(a)(1) and (3) | | No | |
| | (1) The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility; | | | | |
| | (3) 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. | | | | |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|-----------------------------|---|--|---------------------|----------------------------|------------------------|
| 22-01, Biomass Boiler Stack | Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (NSPS Subpart Db) | <p>Requirements that specify performance testing -</p> <p>To determine compliance with the PM emission limits and opacity limits under § 60.43b, the owner or operator of an affected facility shall conduct an initial performance test as required under § 60.8, and shall conduct subsequent performance tests as requested by the Administrator, using the following procedures and reference methods:</p> <p>(1) Method 3A or 3B of appendix A-2 of this part is used for gas analysis when applying Method 5 of appendix A-3 of this part or Method 17 of appendix A-6 of this part.</p> <p>(2) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:</p> <p>(i) Method 5 of appendix A of this part shall be used at affected facilities without wet flue gas desulfurization (FGD) systems; and</p> <p>(ii) Method 17 of appendix A-6 of this part may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A-3 of this part may be used in Method 17 of appendix A-6 of this part only if it is used after a wet FGD system. Do not use Method 17 of appendix A-6 of this part after wet FGD systems if the effluent is saturated or laden with water droplets.</p> <p>(iii) Method 5B of appendix A of this part is to be used only after wet FGD systems.</p> <p>(3) Method 1 of appendix A of this part is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.</p> <p>(4) For Method 5 of appendix A of this part, the temperature of the sample gas in the probe and filter holder is monitored and is maintained at 160±14 °C (320±25 °F).</p> <p>(5) For determination of PM emissions, the oxygen (O2) or CO2 sample is obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.</p> <p>(6) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rate expressed in ng/J heat input is determined using:</p> <p>(i) The O2 or CO2 measurements and PM measurements obtained under this section;</p> <p>(ii) The dry basis F factor; and</p> <p>(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.</p> <p>(7) Method 9 of appendix A of this part is used for determining the opacity of stack emissions.</p> | 40 CFR 60.46b(b) | Initial/As Required | No |

TABLE 2: STATE AND FEDERAL QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|-----------------------------|---|---|-------------------------|----------------------------|------------------------|
| 22-01, Biomass Boiler Stack | Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (NSPS Subpart Db) | <p>To determine compliance with the PM emission limits and opacity limits under § 60.43b, the owner or operator of an affected facility shall conduct an initial performance test as required under § 60.8, and shall conduct subsequent performance tests as requested by the Administrator, using the following procedures and reference methods:</p> <p>(1) Method 3A or 3B of appendix A-2 of this part is used for gas analysis when applying Method 5 of appendix A-3 of this part or Method 17 of appendix A-6 of this part.</p> <p>(2) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:</p> <p>(i) Method 5 of appendix A of this part shall be used at affected facilities without wet flue gas desulfurization (FGD) systems; and</p> <p>(ii) Method 17 of appendix A-6 of this part may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A-3 of this part may be used in Method 17 of appendix A-6 of this part only if it is used after a wet FGD system. Do not use Method 17 of appendix A-6 of this part after wet FGD systems if the effluent is saturated or laden with water droplets.</p> <p>(iii) Method 5B of appendix A of this part is to be used only after wet FGD systems.</p> <p>(3) Method 1 of appendix A of this part is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.</p> <p>(4) For Method 5 of appendix A of this part, the temperature of the sample gas in the probe and filter holder is monitored and is maintained at 160±14 °C (320±25 °F).</p> <p>(5) For determination of PM emissions, the oxygen (O2) or CO2 sample is obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.</p> <p>(6) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rate expressed in ng/J heat input is determined using: (i) The O2 or CO2 measurements and PM measurements obtained under this section; (ii) The dry basis F factor; and (iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.</p> <p>(7) Method 9 of appendix A of this part is used for determining the opacity of stack emissions.</p> | 40 CFR 60.46b(d)(1)-(7) | | |
| 22-01, Biomass Boiler Stack | Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (NSPS Subpart Db) | <p>To determine compliance with the emission limits for NOX required under § 60.44b, the owner or operator of an affected facility shall conduct the performance test as required under § 60.8 using the continuous system for monitoring NOX under § 60.48(b).</p> <p>(1) For the initial compliance test, NOX from the steam generating unit are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the NOX emission standards under § 60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.</p> <p>(3) Following the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity greater than 73 MW (250 MMBtu/hr) and that combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the NOX standards under § 60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOX emission data for the preceding 30 steam generating unit operating days.</p> | 40 CFR 60.46b(e) | | No |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|-----------------------------|---|--|------------------------|----------------------------|------------------------|
| 22-01, Biomass Boiler Stack | National Emissions Standards for Hazardous Air Pollutants for Industrial Commercial-Institutional Steam Generating Units (NESHAP Subpart JJJJJ) | Requirements that limit emissions or operations - | | | |
| | | If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source. | 40 CFR 63.11196(c) | | No |
| | | (a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler. (b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement. (c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler. (d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in § 63.11237, during which time you must comply only with Table 2 to this subpart. | 40 CFR 63.11201(a)-(d) | | No |
| | | (a) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. (b) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or a continuous monitoring system (CMS), including a continuous emission monitoring system (CEMS), a continuous opacity monitoring system (COMS), or a continuous parameter monitoring system (CPMS), where applicable. You may demonstrate compliance with the applicable mercury emission limit using fuel analysis if the emission rate calculated according to § 63.11211(c) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using stack testing. (c) If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of CPMS), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (3) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f). (1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (vi) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of § 63.11224. (i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device). (ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and (iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations). (iv) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1)(ii), (c)(3), and (c)(4)(ii). (v) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d); and (vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c) (as applicable in Table 8 to this subpart), (e)(1), and (e)(2)(i). (2) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan. (3) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan. | 40 CFR 63.11201(a)-(d) | | No |
| | | You must demonstrate initial compliance with each emission limit specified in Table 1 to this subpart that applies to you by either conducting performance (stack) tests, as applicable, according to § 63.11212 and Table 4 to this subpart or, for mercury, conducting fuel analyses, as applicable, according to § 63.11213 and Table 5 to this subpart. | 40 CFR 63.11210(a) | | No |
| | | For new or reconstructed affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after March 21, 2011 or within 180 days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix). | 40 CFR 63.11210(d) | | No |
| | | For new or reconstructed affected boilers that have applicable work practice standards or management practices, you are not required to complete an initial performance tune-up, but you are required to complete the applicable biennial or 5-year tune-up as specified in § 63.11223 no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed affected source. | 40 CFR 63.11210(g) | | No |
| | | For affected boilers that demonstrate compliance with any of the emission limits of this subpart through performance (stack) testing, your initial compliance requirements include conducting performance tests according to § 63.11212 and Table 4 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler according to § 63.11213 and Table 5 to this subpart, establishing operating limits according to § 63.11222, Table 6 to this subpart and paragraph (b) of this section, as applicable, and conducting CMS performance evaluations according to § 63.11224. For affected boilers that burn a single type of fuel, you are exempted from the compliance requirements of conducting a fuel analysis for each type of fuel burned in your boiler. For purposes of this subpart, boilers that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as affected boilers that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under § 63.11213 and Table 5 to this subpart. | 40 CFR 63.11211(a) | | No |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|-----------------------------|---|--|-----------------------|----------------------------|------------------------|
| 22-01, Biomass Boiler Stack | National Emissions Standards for Hazardous Air Pollutants for Industrial Commercial-Institutional Steam Generating Units (NESHAP Subpart JJJJJ) | The operating limit for boilers with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in § 63.11224, and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period. | 40 CFR 63.11211(b)(4) | | No |
| | | If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available. | 40 CFR 63.11214(d) | | No |
| | | (a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in § 63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up. (b) Except as specified in paragraphs (c) through (f) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler. (1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. (2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. (3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection. (4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject. (5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. (6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of this section. (i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler. (ii) A description of any corrective actions taken as a part of the tune-up of the boiler. (iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit. (7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup. (c) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up must conduct a tune-up of the boiler every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up. (d) Seasonal boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed seasonal boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Seasonal boilers are not subject to the emission limits in Table 1 to this subpart or the operating limits in Table 3 to this subpart. (e) Oil-fired boilers with a heat input capacity of equal to or less than 5 million Btu per hour must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed oil-fired boiler with a heat input capacity of equal to or less than 5 million Btu per hour, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. | 40 CFR 63.11223 | | No |

TABLE 2: STATE AND FEDERAL QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|-----------------------------|---|---|---------------------|----------------------------|------------------------|
| 22-01, Biomass Boiler Stack | National Emissions Standards for Hazardous Air Pollutants for Industrial Commercial-Institutional Steam Generating Units (NESHAP Subpart JJJJJ) | <p>Requirements that specify monitoring -</p> <p>(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by § 63.11205(c).</p> <p>(b) You must operate the monitoring system and collect data at all required intervals at all times the affected source is operating and compliance is required, except for periods of monitoring system malfunctions or out-of-control periods (see § 63.8(c)(7) of this part), repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.</p> <p>(c) You may not use data collected during periods of startup and shutdown, monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or quality control activities in calculations used to report emissions or operating levels. Any such periods must be reported according to the requirements in § 63.11225. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.</p> <p>(d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan), failure to collect required data is a deviation of the monitoring requirements.</p> | 40 CFR 63.11221 | When Operating | No |
| | | <p>(b) If you are using a control device to comply with the emission limits specified in Table 1 to this subpart, you must maintain each operating limit in Table 3 to this subpart that applies to your boiler as specified in Table 7 to this subpart. If you use a control device not covered in Table 3 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under § 63.8(f).</p> <p>(c) If you demonstrate compliance with any applicable emission limit through stack testing and subsequent compliance with operating limits, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f).</p> <p>(1) For each CMS required in this section, you must develop, and submit to the EPA Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan (if requested) at least 60 days before your initial performance evaluation of your CMS.</p> <p>(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device).</p> <p>(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems</p> <p>(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).</p> <p>(2) In your site-specific monitoring plan, you must also address paragraphs (c)(2)(i) through (iii) of this section.</p> <p>(i) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1), (3), and (4)(ii).</p> <p>(ii) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d).</p> <p>(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c), (e)(1), and (e)(2)(i).</p> <p>(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.</p> <p>(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.</p> <p>(d) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each CPMS according to the procedures in paragraphs (d)(1) through (4) of this section.</p> <p>(1) The CPMS must complete a minimum of one cycle of operation every 15 minutes. You must have data values from a minimum of four successive cycles of operation representing each of the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed, to have a valid hour of data.</p> <p>(2) You must calculate hourly arithmetic averages from each hour of CPMS data in units of the operating limit and determine the 30-day rolling average of all recorded readings, except as provided in § 63.11221(c). Calculate a 30-day rolling average from all of the hourly averages collected for the 30-day operating period using Equation 3 of this section.</p> | 40 CFR 63.11224 | | No |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|-----------------------------|---|---|---------------------|----------------------------|------------------------|
| 22-01, Biomass Boiler Stack | National Emissions Standards for Hazardous Air Pollutants for Industrial Commercial-Institutional Steam Generating Units (NESHAP Subpart JJJJJ) | <p>(e) If you have an applicable opacity operating limit under this rule, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (e)(1) through (8) of this section by the compliance date specified in § 63.11196.</p> <p>(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 of 40 CFR part 60, appendix B.</p> <p>(2) You must conduct a performance evaluation of each COMS according to the requirements in § 63.8 and according to Performance Specification 1 of 40 CFR part 60, appendix B. (3) As specified in § 63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. (4) The COMS data must be reduced as specified in § 63.8(g)(2). (5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in § 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS. (6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of § 63.8(e). You must identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit. (7) You must calculate and record 6-minute averages from the opacity monitoring data and determine and record the daily block average of recorded readings, except as provided in § 63.11221(c). (8) For purposes of collecting opacity data, you must operate the COMS as specified in § 63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in § 63.11221(c). Periods when COMS data are unavailable may constitute monitoring deviations as specified in § 63.11221(d).</p> <p>(f) If you use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate the bag leak detection system as specified in paragraphs (f)(1) through (8) of this section.</p> <p>(1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.</p> <p>(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with EPA-454/R-98-015 (incorporated by reference, see § 63.14).</p> <p>(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less. (4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings. (5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.</p> <p>(6) The bag leak detection system must be equipped with an audible or visual alarm system that will activate automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard or seen by plant operating personnel. (7) For positive pressure fabric filter systems that do not duct all compartments or cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell. (8) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.</p> | 40 CFR 63.11224 | | No |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No. | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|-----------------------------|---|--|---------------------|----------------------------|------------------------|
| 22-01, Biomass Boiler Stack | National Emissions Standards for Hazardous Air Pollutants for Industrial Commercial-Institutional Steam Generating Units (NESHAP Subpart JJJJJ) | <p>Requirements that specify records to be kept and requirements that specify record retention time -</p> <p>You must maintain the records specified in paragraphs (c)(1) through (7) of this section. (6) You must keep the records of all inspection and monitoring data required by §§ 63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring.</p> <p>(i) The date, place, and time of the monitoring event. (ii) Person conducting the monitoring. (iii) Technique or method used. (iv) Operating conditions during the activity. (v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation. (vi) Maintenance or corrective action taken (if applicable).</p> <p>(7) If you use a bag leak detection system, you must keep the records specified in paragraphs (c)(7)(i) through (iii) of this section.</p> <p>(i) Records of the bag leak detection system output. (ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.</p> <p>(1) As required in § 63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.</p> <p>(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by § 63.11214 and § 63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.</p> <p>(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned. (ii) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to § 241.3(b)(1) of this chapter, you must keep a record which documents how the secondary material meets each of the legitimacy criteria under § 241.3(d)(1). If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to § 241.3(b)(4) of this chapter, you must keep records as to how the operations that produced the fuel satisfies the definition of processing in § 241.2 and each of the legitimacy criteria in § 241.3(d)(1) of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under § 241.3(c) of this chapter, you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per § 241.4, you must keep records documenting that the material is a listed non-waste under § 241.4(a). (iii) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report. (iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used. For each new oil-fired boiler that meets the requirements of § 63.11210(e) or (f), you must keep records, on a monthly basis, of the type of fuel combusted. (v) For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year. (vi) For each boiler that meets the definition of limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating. (3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.</p> <p>(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment. (5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in § 63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation. (6) You must keep the records of all inspection and monitoring data required by §§ 63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring.</p> <p>(i) The date, place, and time of the monitoring event. (ii) Person conducting the monitoring. (iii) Technique or method used. (iv) Operating conditions during the activity. (v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation. (vi) Maintenance or corrective action taken (if applicable).</p> <p>(7) If you use a bag leak detection system, you must keep the records specified in paragraphs (c)(7)(i) through (iii) of this section.</p> <p>(i) Records of the bag leak detection system output. (ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings. (iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed. (iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.</p> | 40 CFR 63.11225(c) | | No |
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TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|-----------------------------|---|---|---------------------|----------------------------|------------------------|
| 22-01, Biomass Boiler Stack | National Emissions Standards for Hazardous Air Pollutants for Industrial Commercial-Institutional Steam Generating Units (NESHAP Subpart JJJJJ) | Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years. Requirements that specify reports to be submitted - (a) You must submit the notifications specified in paragraphs (a)(1) through (5) of this section to the administrator. (1) You must submit all of the notifications in §§ 63.7(b), 63.8(e) and (f), and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section. (2) An Initial Notification must be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard. (3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin. (4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in § 63.11196 unless you own or operate a new boiler subject only to a requirement to conduct a biennial or 5-year tune-up or you must conduct a performance stack test. If you own or operate a new boiler subject to a requirement to conduct a tune-up, you are not required to prepare and submit a Notification of Compliance Status for the tune-up. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of this section. The Notification of Compliance Status must include the information and certification(s) of compliance in paragraphs (a)(4)(i) through (v) of this section, as applicable, and signed by a responsible official. (i) You must submit the information required in § 63.9(h)(2), except the information listed in § 63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in § 63.13. (ii) "This facility complies with the requirements in § 63.11214 to conduct an initial tune-up of the boiler." (iii) "This facility has had an energy assessment performed according to § 63.11214(c)." (iv) For units that install bag leak detection systems: "This facility complies with the requirements in § 63.11224(f)." (v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit." (vi) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in § 63.13. (5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart. | 40 CFR 63.11225(d) | | No |
| | | (b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to the energy assessment requirement and/or a requirement to conduct a biennial or 5-year tune-up according to § 63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in paragraphs (b)(1) and (2) of this section. (1) Company name and address. (2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official: (i) "This facility complies with the requirements in § 63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler." (ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit." (iii) "This facility complies with the requirement in §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available." (3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken. (4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under § 241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of § 241.3, and the total fuel usage amount with units of measure. | 40 CFR 63.11225(a) | | No |
| | | | 40 CFR 63.11225(b) | | No |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|-----------------------------|---|--|----------------------|----------------------------|------------------------|
| 22-01, Biomass Boiler Stack | National Emissions Standards for Hazardous Air Pollutants for Industrial Commercial-Institutional Steam Generating Units (NESHAP Subpart JJJJJ) | (g) If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within this subpart, in the boiler becoming subject to this subpart, or in the boiler switching out of this subpart due to a fuel change that results in the boiler meeting the definition of gas-fired boiler, as defined in § 63.11237, or you have taken a permit limit that resulted in you becoming subject to this subpart or no longer being subject to this subpart, you must provide notice of the date upon which you switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification must identify: (1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice. (2) The date upon which the fuel switch, physical change, or permit limit occurred. | 40 CFR 63.11225(g) | | No |
| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
| 22-01, Biomass Boiler Stack | National Emissions Standards for Hazardous Air Pollutants for Industrial Commercial-Institutional Steam Generating Units (NESHAP Subpart JJJJJ) | Requirements that specify performance testing - If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of CPMS), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (3) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f). (1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (vi) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of § 63.11224. (i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device); (ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems, and (iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations). (iv) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1)(ii), (c)(3), and (c)(4)(ii); (v) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d), and (vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c) (as applicable in Table 8 to this subpart), (e)(1), and (e)(2)(i). (2) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan. (3) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan. You must conduct all performance tests according to § 63.7(c), (d), (f), and (h). You must also develop a site-specific test plan according to the requirements in § 63.7(c). (b) You must conduct each stack test according to the requirements in Table 4 to this subpart. Boilers that use a CEMS for carbon monoxide (CO) are exempt from the initial CO performance testing in Table 4 to this subpart and the oxygen concentration operating limit requirement specified in Table 3 to this subpart. (c) You must conduct performance stack tests at the representative operating load conditions while burning the type of fuel or mixture of fuels that have the highest emissions potential for each regulated pollutant, and you must demonstrate initial compliance and establish your operating limits based on these performance stack tests. For subcategories with more than one emission limit, these requirements could result in the need to conduct more than one performance stack test. Following each performance stack test and until the next performance stack test, you must comply with the operating limit for operating load conditions specified in Table 3 to this subpart. (d) You must conduct a minimum of three separate test runs for each performance stack test required in this section, as specified in § 63.7(e)(3) and in accordance with the provisions in Table 4 to this subpart. (e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A-7 to part 60 of this chapter to convert the measured PM concentrations and the measured mercury concentrations that result from the performance test to pounds per million Btu heat input emission rates. For new or reconstructed boilers that commenced construction or reconstruction after September 14, 2016, when demonstrating initial compliance with the PM emission limit, if your boiler's performance test results show that your PM emissions are equal to or less than half of the PM emission limit, you may choose to conduct performance tests for PM every fifth year, but must continue to comply with all applicable operating limits and monitoring requirements and must comply with the provisions as specified in paragraphs (c)(1) through (3) of this section. (1) Each such performance test must be conducted no more than 61 months after the previous performance test. (2) If you intend to burn a new type of fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in § 63.11237, you must conduct a performance test within 60 days of burning the new fuel type. (3) If your performance test results show that your PM emissions are greater than half of the PM emission limit, you must conduct subsequent performance tests on a triennial basis as specified in paragraph (a) of this section. | 40 CFR 63.11205(e) | | No |
| | | | 40 CFR 63.11212(a)-f | | No |
| | | | 40 CFR 63.11220(c) | | No |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

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| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|---|--|--|-----------------------|----------------------------|------------------------|
| 22-17, Naphtha Storage Tank (TNK-0201); 22-18, Naphtha Storage Tank (TNK-0202); 22-19, Naphtha Sales Tank (TNK-0203); 22-24, Methanol Storage Tank (TNK-0101) | Storage of Volatile Compounds (LAC 33:III Chapter 21) CRG-6 | Requirements that limit emissions or operations - | | | |
| | | Equip with an internal floating roof consisting of a pontoon type roof, double deck roof, or internal floating cover which rests or floats on the surface of the liquid contents and is equipped with a closure seal to close the space between the roof edge and tank wall. Ensure that all tank gauging and sampling devices are gas-tight except when gauging or sampling is taking place. (C)(1)(c)Equip internal floating roof with two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but ensure that both are continuous. | LAC 33:III.2103.C.1.c | | No |
| | | Requirements that specify monitoring - | | | |
| | | Requirements that specify records to be kept and requirements that specify record retention time - | | | |
| | | Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Keep records of the information specified in LAC 33:III.2103.I.1 - 7, as applicable. | LAC 33:III.2103.I | | No |
| | | Requirements that specify reports to be submitted - | | | |
| Requirements that specify performance testing - | | | | | |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|---|---|---|------------------------------------|----------------------------|------------------------|
| 22-17, Naphtha Storage Tank (TNK-0201); 22-18, Naphtha Storage Tank (TNK-0202); 22-19, Naphtha Sales Tank (TNK-0203); 22-24, Methanol Storage Tank (TNK-0101) | Storage of Volatile Organic Liquids (NSPS Subpart Kb) | <p>Requirements that limit emissions or operations -</p> <p>The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:</p> <p>(1) A fixed roof in combination with an internal floating roof meeting the following specifications:</p> <p>(i) 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 emptied 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.</p> <p>Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:</p> <p>(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.</p> <p>(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.</p> <p>(iii) 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 (iv) 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. (v) 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. (vi) 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. (vii) 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. (viii) 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. (ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.</p> <p>Requirements that specify monitoring -</p> <p>The owner or operator of each storage vessel as specified in § 60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of § 60.112b. (a) After installing the control equipment required to meet § 60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:</p> <p>(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with 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. (3) For vessels equipped with a double-seal system as specified in § 60.112b(a)(1)(ii)(B): (i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or (ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section. (4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes 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 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this 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 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.</p> <p>(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa 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.</p> <p>Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below. (1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.</p> <p>Requirements that specify records to be kept and requirements that specify record retention time -</p> <p>(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source. (b) The owner or operator of each storage vessel as specified in § 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.</p> | 40 CFR 60.112b(a)(1)(i),(iii)-(ix) | | No |
| | | | 40 CFR 60.113b(a)(1),(3),(4) | | No |
| | | | 40 CFR 60.115b(c) | | No |
| | | | 40 CFR 60.116b(e) | | No |
| | | | 40 CFR 60.113b(a)-(b) | | No |

TABLE 2: STATE AND FEDE QUALITY REQUIREMENTS

| Emission Point ID No.: | Applicable Requirement | Compliance Method/Provision | Compliance Citation | Averaging Period/Frequency | State Only Requirement |
|---|---|--|----------------------|----------------------------|------------------------|
| 22-17, Naphtha Storage Tank (TNK-0201); 22-18, Naphtha Storage Tank (TNK-0202); 22-19, Naphtha Sales Tank (TNK-0203); 22-24, Methanol Storage Tank (TNK-0101) | Storage of Volatile Organic Liquids (NSPS Subpart Kb) | Requirements that specify reports to be submitted - | | | |
| | | (5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 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 Administrator at least 7 days prior to the refilling. | 40 CFR 60.113b(a)(5) | | No |
| | | The owner or operator of each storage vessel as specified in § 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of § 60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment. (a) After installing control equipment in accordance with § 60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements. (1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(1) and § 60.113b(a)(1). This report shall be an attachment to the notification required by § 60.7(a)(3). | 40 CFR 60.115b(a)(1) | | No |
| | | (4) After each inspection required by § 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 § 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of § 60.112b(a)(1) or § 60.113b(a)(3) and list each repair made. | 40 CFR 60.115b(a)(4) | | No |
| | | Requirements that specify performance testing - | | | |

TABLE 3: EXPLANATION FOR EXEMPTION STATUS OR NON-APPLICABILITY OF A SOURCE

| Emission Point ID No: | Requirement | Exempt or Does Not Apply | Explanation | Citation Providing for Exemption or Non-applicability |
|-----------------------|--|--------------------------|---|---|
| Facility Wide | 40 CFR 64 – Compliance Assurance Monitoring (CAM) | Does Not Apply | Emissions sources do not meet the applicability criteria of 40 CFR 64.2(a)(1). | 40 CFR 64.2(b)(1)(i) |
| | Emission Standards for Sulfur Dioxide-Emission Limitations (LAC 33:III.1503) | Exempt | Source emits < 250 TPY of sulfur compounds. | LAC 33:III.1503 |
| | Emission Standards for Sulfur Dioxide-Continuous Emission Monitoring (LAC 33:III.1511) | Does Not Apply | Source emits <100 TPY of SO ₂ . | LAC 33:III.1511 |
| | Emissions Standard for Asbestos (LAC 33:III Chapter 51) | Does Not Apply | The LGF Plant does not contain asbestos. | LAC 33:III.5151 |
| | 40 CFR 61 Subpart M- National Emissions Standards for Asbestos | Does Not Apply | The LGF Plant does not contain asbestos. | 40 CFR 61 |
| | NSPS Subpart Ja- Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007 | Does Not Apply | Facility is not a Petroleum Refinery. Petroleum refinery means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives. (b) Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal. | 40 CFR 60.101a |
| | NSPS Subpart VVa- Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 | Does Not Apply | Synthetic Organic Chemicals Manufacturing Industry means the industry that produces, as intermediates or final products, one or more of the chemicals listed in § 60.489. The Columbia Plant does not produce any of the chemicals listed. | 40 CFR 60.481a |
| | NSPS Subpart GGa - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 | Does Not Apply | Facility is not a Petroleum Refinery. Petroleum refinery means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives. (b) Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal. | 40 CFR 60.591a |

TABLE 3: EXPLANATION FOR EXEMPTION STATUS OR NON-APPLICABILITY OF A SOURCE

| Emission Point ID No: | Requirement | Exempt or Does Not Apply | Explanation | Citation Providing for Exemption or Non-applicability |
|--|--|--------------------------|---|---|
| Facility Wide (Cont.) | NSPS Subpart CCCC- Standards of Performance for Commercial and Industrial Solid Waste Incineration Units | Does Not Apply | Commercial and industrial solid waste incineration unit (CISWI) means any distinct operating unit of any commercial or industrial facility that combusts, or has combusted in the preceding 6 months, any solid waste as that term is defined in 40 CFR part 241. The Columbia Plant does not burn Solid Waste as defined in 40 CFR Part 241. | 40 CFR 60.2265 |
| | NESHAP Subpart FF- NESHAP for Benzene Waste Operations | Does Not Apply | The facility does not produce Benzene as a waste. | 40 CFR 61.341 |
| | NESHAP Subpart DDDDD- NESHAPs for Institutional, Commercial, and Industrial Boilers and Process Heaters | Does Not Apply | The facility is not a major source of HAPs. | 40 CFR 63.7480 |
| | NESHAP Subpart VVVVVV- NESHAPs for Chemical Manufacturing Area Source | Does Not Apply | The facility does not operate a chemical manufacturing process unit (CMPU) that meets the conditions specified in paragraphs (a)(1) and (2) of this section. | 40 CFR 63.11494(a)(2) |
| 22-03 to 22-06, Biomass Dryers #1 to #4 | Waste Gas Disposal (LAC 33:III Chapter 2115) | Does Not Apply | The facility does not emit greater than 100 tpy VOCs. | LAC 33:III.2115.A |
| 22-09(a)(5), Railcar Loading | VOC Loading (LAC 33:III.2107) | Does Not Apply | The facility does not load materials with a vapor pressure of greater than 1.5 psia in quantities greater than 20,000 gallons per day. | LAC 33:III.2107.A |
| 22-07, Gasification Heater Common Stack; 22-08, Reactor Charge Heater; 22-16, Fractionator Feed Heater | Emission Standards for Control of Emissions of Smoke (LAC 33:III Chapter 11) | Does Not Apply | These sources burn natural gas equivalent fuel. | LAC 33:III.1107 |

TABLE 3: EXPLANATION FOR EXEMPTION STATUS OR NON-APPLICABILITY OF A SOURCE

| Emission Point ID No: | Requirement | Exempt or Does Not Apply | Explanation | Citation Providing for Exemption or Non-applicability |
|--|---|--------------------------|--|---|
| 22-07, Gasification Heater Common Stack; 22-08, Reactor Charge | Emission Standards for Sulfur Dioxide (LAC 33:III Chapter 15) | Does Not Apply | This chapter does not apply to single point sources that emit less than 5 tons per year of sulfur dioxide to the atmosphere. | LAC 33:III.1502.A.3 |
| | Control of Emissions of Nitrogen Oxides (NO _x) (LAC 33:III Chapter 22) | Does Not Apply | This facility is in Caldwell Parish, which is not in the Baton Rouge Nonattainment Area or the Region of Influence. | LAC 33:III.2201.A.1 |
| | NSPS Subpart A- General Provisions | Does Not Apply | No other NSPS Subparts apply to preheaters. | 40 CFR 60.1-19 |
| | NSPS Subpart D- Fossil-Fuel-Fired Steam Generators | Does Not Apply | Each source is not an affected facility per 40 CFR 60.40.a.1 | 40 CFR 60.40.a.1 |
| | NSPS Subpart Dc- Small Industrial-Commercial-Institutional Steam Generating Units | Does Not Apply | Each source is not an affected source per 40 CFR 60.41c (definition of steam generating unit). | 40 CFR 60.41c |
| | NESHAP Subpart JJJJJ- Industrial, Commercial, and Institutional Boilers Area Source | Does Not Apply | Each source is not an affected source per 40 CFR 63.11237 (definition of boiler). | 40 CFR 63.11193 |
| 22-10, Flare | Emission Standards for Sulfur Dioxide (LAC 33:III Chapter 15) | Does Not Apply | This Chapter does not apply to single point sources that emit less than 5 tons per year of sulfur dioxide to the atmosphere. | LAC 33:III.1502.A.3 |
| 22-15, Cooling Tower | NESHAP Subpart Q -Industrial Process Cooling Towers | Does Not Apply | No chromium-based water treatment chemicals are used and the facility is not a Major Source for HAPs. | 40 CFR 63.1420 |

TABLE 3: EXPLANATION FOR EXEMPTION STATUS OR NON-APPLICABILITY OF A SOURCE

| Emission Point ID No: | Requirement | Exempt or Does Not Apply | Explanation | Citation Providing for Exemption or Non-applicability |
|---|--|--------------------------|---|---|
| 22-09, SO2 Scrubber | Emission Standards for Particulate Matter, Emissions from Fuel Burning Equipment (LAC 33:III.1313) | Does Not Apply | Source does not meet the definition of "fuel burning equipment". | LAC 33:III.1313.B |
| | Emission Standards for Sulfur Dioxide-Emission Limitations (LAC 33:III.1503) | Exempt | Source emits < 250 TPY of sulfur compounds. | LAC 33:III.1503 |
| | Emission Standards for Sulfur Dioxide-Continuous Emission Monitoring (LAC 33:III.1511) | Does Not Apply | Source emits <100 TPY of SO ₂ . | LAC 33:III.1511 |
| | Control of Emissions of Carbon Monoxide (New Sources) (LAC 33:III.Chapter 17) | Does Not Apply | Not a listed facility or operation in Chapter 17 of the Louisiana Administrative Code. | LAC 33:III.Chapter 17 |
| | Control of Emissions of Nitrogen Oxides (NOx) (LAC 33:III.Chapter 22) | Does Not Apply | This facility is in Caldwell Parish, which is not in the Baton Rouge Nonattainment Area or the Region of Influence. | LAC 33:III.2201.A |
| 22-20, Diesel Storage Tank (TNK-0204); 22-21, Diesel Storage Tank (TNK-0205); 22-22, Diesel Sales Tank; 22-25, Diesel Blending Tank | Storage of Volatile Organic Compounds (LAC 33:III Chapter 2103) | Does Not Apply | Vapor pressure of the stored liquids is <1.5 psia. | LAC 33:III.2103 |

TABLE 3: EXPLANATION FOR EXEMPTION STATUS OR NON-APPLICABILITY OF A SOURCE

| Emission Point ID No: | Requirement | Exempt or Does Not Apply | Explanation | Citation Providing for Exemption or Non-applicability |
|--|--|--------------------------|---|---|
| 22-20, Diesel Storage Tank (TNK-0204); 22-21, Diesel Storage Tank (TNK-0205); 22-22, Diesel Sales Tank; 22-25, Diesel Blending Tank | 40 CFR 60 Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978 and Prior to July 23, 1984 | Does Not Apply | Constructed after the applicable date. | 40 CFR 60.110a(a) |
| | 40 CFR 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984 | Does Not Apply | Vapor pressure of the stored liquids is <0.5 psia. | 40 CFR 60.110b(a) |
| FUG-01, Fugitive Leak Emissions | Fugitive Emission Control (LAC 33:III Chapter 2121) | Does Not Apply | The facility is not one of the listed types of facilities. It is not a Petroleum Refinery or a SOCOMI facility by definition. | LAC 33:III.2121.A |
| | Fugitive Emission Control for Ozone Nonattainment Areas and Specified Parishes (LAC 33:III Chapter 2122) | Does Not Apply | This facility is in Caldwell Parish, which is not in the Baton Rouge Nonattainment Area or the Region of Influence. | LAC 33:III.2122.A.6 |
| | Louisiana MACT Determination for Non-HON Sources (LAC 33:III Chapter 5109) | Does Not Apply | The Columbia Plant does not have any equipment in VOTAP service (5% Class I & II TAPs). | LAC 33:III.5109 |
| WW-1, Wastewater Treatment System | LAC 33:III Chapter 2153 - Limiting Volatile Organic Compound (VOC) Emissions from Industrial Wastewater | Does Not Apply | This facility is in Caldwell Parish, which is not one of the affected Parishes listed. | LAC 33:III.2153.A |
| The above table provides explanation for either the exemption status or non-applicability of a source cited by 2 or 3 in the matrix presented in Table 1 of this application. | | | | |

TABLE 4: EQUIPMENT LIST

Enter each single emission point that routes its emissions to another source (i.e., a control device) or a common stack, or is part of an Emissions Cap. List the emissions source to which each single emission point is routed or the Cap of which the source is a member, if applicable. Consult instructions.

| Emission Point ID No: | Description | Construction Date | Routes to: | Operating Rate/Volume | Applicable Requirement(s)? | |
|-----------------------|---|-------------------|---|-----------------------|----------------------------|--------|
| 28 22-02(a) | 22-02(a), Collector #1, Truck Receiving Area | N/A | 22-02, Biomass Handling Baghouse | | x | Yes No |
| 29 22-02(b) | 22-02(b), Collector #2, Dryer Island Area | N/A | 22-02, Biomass Handling Baghouse | | x | Yes No |
| 30 22-02(c) | 22-02(c), Collector #3, Cried Chip Conveying and Storage Area | N/A | 22-02, Biomass Handling Baghouse | | x | Yes No |
| 31 22-02(d) | 22-02(d), Collector #4, Gasifier Feed/Distribution Systems w/ TRI Feeders | N/A | 22-02, Biomass Handling Baghouse | | x | Yes No |
| 32 22-07(a-x) | 22-07 (a-x) Gasification Heaters | N/A | 22-07, Gasification Heater Common Stack | | x | Yes No |
| 33 22-09(a) | 22-09(a), Thermal Oxidizer | N/A | 22-09, SO2 Scrubber | | x | Yes No |
| 34 22-09(a)(1) | 22-09(a)(1), LHC Intermediate and Off spec Tank TNK-0101 | N/A | 22-09, SO2 Scrubber | 170,518 | x | Yes No |
| 35 22-09(a)(2) | 22-09(a)(2), Wax Intermediate and Off spec Tank TNK-0102 | N/A | 22-09, SO2 Scrubber | 89,041 | x | Yes No |
| 36 22-09(a)(3) | 22-09(a)(3), Slops Tank #1 TNK-0103 | N/A | 22-09, SO2 Scrubber | 475,903 | x | Yes No |
| 37 22-09(a)(4) | 22-09(a)(4), Slops Tank #2 TNK-0104 | N/A | 22-09, SO2 Scrubber | 475,903 | x | Yes No |
| 38 22-09(a)(5) | 22-09(a)(5), Railcar Loading | N/A | 22-09, SO2 Scrubber | | x | Yes No |

Appendix B
Emissions Inventory Questionnaires (EIQs)

**State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants**

Date of submittal
Jun | 2022

| | | | | | | | | | |
|---|---|---|--------------------------------|------------|-----------|-------|----------|------------|------------|
| Emission Point ID No. (Designation) 22-01 | Descriptive Name of the Emissions Source (Alt. Name) Biomass Boiler Stack | Approximate Location of Stack or Vent (see instructions) | | | | | | | |
| Tempo Subject Item ID No. <i>EQM</i> TBD | | Method | 20,"Interpolation - Satellite" | | Datum | WGS84 | | | |
| | | UTM Zone | 15 | Horizontal | 584001.54 | mE | Vertical | 3561874.15 | mN |
| | | Latitude | 32 ° | | 11 ' | | 24 " | 98 | hundredths |
| | | Longitude | -92 ° | | 6 ' | | 31 " | 84 | hundredths |

| | | | | | | | | | | | |
|--|---|---|---|---|--|---|---|---|---------|---------|---------|
| Stack and Discharge Physical Characteristics Change? (yes or no) yes | Diameter (ft) or Stack Discharge Area (ft²) 3 ft 7.07 ft ² | Height of Stack Above Grade (ft) 200 ft | Stack Gas Exit Velocity 665.74 ft/sec | Stack Gas Flow at Conditions, not at Standard (ft³/min) 282,350 ft ³ /min | Stack Gas Exit Temperature (°F) 186 °F | Normal Operating Time (hours per year) 8760 hr/yr | Date of Construction or Modification 2022 | Percent of Annual Throughput Through This Emission Point | | | |
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| | | | | | | | | 25% | 25% | 25% | 25% |

| | | | | | | | | | | | |
|--------------|--|---------------------|--|---|--|-------|-------------------|--------------------|--|--|--|
| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | | | | | | |
| | | Type of Fuel | Heat Input (MMBTU/hr) | | | | Parameter | Description | | | |
| | a | Biomass | 1168 | Normal Operating Rate/Throughput | | | 1,168 | MMBTu/hr | | | |
| b | | | Maximum Operating Rate/Throughput | | | 1,168 | MMBTu/hr | | | | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | 1,168 | MMBTu/hr | | | | |
| Notes | | | | Shell Height (ft) | | | N/A | | | | |
| | | | | Tank Diameter (ft) | | | N/A | | | | |
| | | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | | | | | |
| | | | | Date Engine Ordered | | | Engine Model Year | | | | |
| | | | | Date Engine Was Built by Manufacturer | | | | | | | |
| | | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | | | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-01 | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 008 | 90% | | 14.543 | 17.452 | 63.70 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 008 | 90% | | 14.543 | 17.452 | 63.70 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 013 | 80% | | 7.479 | 8.975 | 32.76 | --- | A | | ppm by vol |
| Nitrogen oxides | 032 | 85% | | 13.139 | 15.767 | 57.55 | --- | A | | ppm by vol |
| Carbon monoxide | 019 | 85% | | 12.970 | 15.564 | 56.81 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 8.178 | 9.814 | 35.82 | --- | A | | ppm by vol |
| Ammonia | 000 | | 07664-41-7 | 5.251 | 6.301 | 23.00 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

**State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants**

Date of submittal
Jun | 2022

| | | | | | |
|---|---|--|--|--|--|
| Emission Point ID No. (Designation) 22-02 | Descriptive Name of the Emissions Source (Alt. Name) Biomass Handling Baghouse | Approximate Location of Stack or Vent (see instructions) | | | |
| | | Method UTM Zone Latitude Longitude | 20, "Interpolation - Satellite" 15 32 ° -92 ° | Horizontal 584368.1 mE 11 ' 6 ' | Vertical Datum WGS84 3561484.42 mN 12 " 17 " |
| Tempo Subject Item ID No. FRT-2 TBD | | | | | |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 5 ft 19.63 ft ² | 25 ft | 292.00 ft/sec | 344,000 ft ³ /min | 100 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|---------|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| a | N/A | N/A | Normal Operating Rate/Throughput | 344,000 | SCFM | |
| b | | | Maximum Operating Rate/Throughput | 412,800 | SCFM | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|---|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-02 | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 017 | 99% | | 0.295 | 0.354 | 1.29 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 017 | 99% | | 0.295 | 0.354 | 1.29 | --- | A | | gr/std ft ³ |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

**State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants**

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| | | | | | |
|--|--|---|-------------------------------|----------------------|--|
| Emission Point ID No. (Designation) 22-03 | Descriptive Name of the Emissions Source (Alt. Name) Biomass Dryer No. 1 | Approximate Location of Stack or Vent (see instructions) | | | |
| Tempo Subject Item ID No. TBD <i>505/3</i> | Method <u>20,"Interpolation - Satellite"</u> | | Datum <u>WGS84</u> | | |
| | UTM Zone <u>15</u> | Horizontal <u>584289.46</u> mE | Vertical <u>3561474.67</u> mN | | |
| | Latitude <u>32</u> ° | <u>11</u> " | <u>11</u> " | <u>93</u> hundredths | |
| | Longitude <u>-92</u> ° | <u>6</u> ' | <u>20</u> " | <u>97</u> hundredths | |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 1.5 ft 1.77 ft ² | 25 ft | 282.94 ft/sec | 30,000 ft ³ /min | 190 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|------|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| a | N/A | N/A | Normal Operating Rate/Throughput | 15.9 | tons/hr | |
| b | | | Maximum Operating Rate/Throughput | 19.0 | tons/hr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|-------------------------|-------------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-03 | | | | | | | | | | |
| Pollutant | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Total VOC (including those listed below) | 000 | | | 2.426 | 2.912 | 10.63 | --- | A | | ppm by vol |
| Benzyl chloride | 000 | | 00100-44-7 | 0.004 | 0.005 | 0.02 | --- | A | | ppm by vol |
| Bromoform | 000 | | 00075-25-2 | 0.003 | 0.003 | 0.01 | --- | A | | ppm by vol |
| Carbon disulfide | 000 | | 00075-15-0 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Dichloromethane | 000 | | 00075-09-2 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Ethyl benzene | 000 | | 00100-41-4 | 0.002 | 0.003 | 0.01 | --- | A | | ppm by vol |
| n-Hexane | 000 | | 00110-54-3 | 0.013 | 0.015 | 0.06 | --- | A | | ppm by vol |
| Methyl chloride | 000 | | 00074-87-3 | 0.007 | 0.008 | 0.03 | --- | A | | ppm by vol |
| Methyl ethyl ketone | 000 | | 00078-93-3 | 0.001 | 0.002 | 0.01 | --- | A | | ppm by vol |
| Methyl isobutyl ketone | 000 | | 00108-10-1 | < 0.001 | < 0.001 | < 0.01 | --- | A | | ppm by vol |

| Emission Point ID No. (Designation) 22-03 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Pollutant | | | | | | | | | | |
| Styrene | 000 | | 00100-42-5 | 0.028 | 0.034 | 0.12 | --- | A | | ppm by vol |
| Toluene | 000 | | 00108-88-3 | 0.001 | 0.002 | 0.01 | --- | A | | ppm by vol |
| Xylene (mixed isomers) | 000 | | #N/A | 0.198 | 0.237 | 0.87 | --- | A | | ppm by vol |

**State of Louisiana
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| | | | | | |
|---|--|---|--------------------------------|-------------------------|------------------------|
| Emission Point ID No. (Designation) 22-04 | Descriptive Name of the Emissions Source (Alt. Name) Biomass Dryer No. 2 | Approximate Location of Stack or Vent (see instructions) | | | |
| Tempo Subject Item ID No. EQTY TBD | | Method | 20,"Interpolation - Satellite" | | Datum WGS84 |
| | | UTM Zone | 15 | Horizontal 584289.46 mE | Vertical 3561474.67 mN |
| | | Latitude | 32 ° | 11 " | 93 hundredths |
| | | Longitude | -92 ° | 6 " | 97 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 1.5 ft 1.77 ft ² | 25 ft | 282.94 ft/sec | 30,000 ft ³ /min | 190 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|--|----------------------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| | a | N/A | N/A | 15.9 tons/hr | Normal Operating Rate/Throughput | |
| b | | | 19.0 tons/hr | Maximum Operating Rate/Throughput | | |
| c | | | | Design Capacity/Volume/Cylinder Displacement | | |
| Notes | | | Shell Height (ft) | | N/A | |
| | | | Tank Diameter (ft) | | N/A | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-04 | | | | 2.426 | 2.912 | 10.63 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 2.426 | 2.912 | 10.63 | --- | A | | ppm by vol |
| Benzyl chloride | 000 | | 00100-44-7 | 0.004 | 0.005 | 0.02 | --- | A | | ppm by vol |
| Bromoform | 000 | | 00075-25-2 | 0.003 | 0.003 | 0.01 | --- | A | | ppm by vol |
| Carbon disulfide | 000 | | 00075-15-0 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Dichloromethane | 000 | | 00075-09-2 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Ethyl benzene | 000 | | 00100-41-4 | 0.002 | 0.003 | 0.01 | --- | A | | ppm by vol |
| n-Hexane | 000 | | 00110-54-3 | 0.013 | 0.015 | 0.06 | --- | A | | ppm by vol |
| Methyl chloride | 000 | | 00074-87-3 | 0.007 | 0.008 | 0.03 | --- | A | | ppm by vol |
| Methyl ethyl ketone | 000 | | 00078-93-3 | 0.001 | 0.002 | 0.01 | --- | A | | ppm by vol |
| Methyl isobutyl ketone | 000 | | 00108-10-1 | < 0.001 | < 0.001 | < 0.01 | --- | A | | ppm by vol |

| Emission Point ID No. (Designation) 22-04 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Styrene | 000 | | 00100-42-5 | 0.028 | 0.034 | 0.12 | --- | A | | ppm by vol |
| Toluene | 000 | | 00108-88-3 | 0.001 | 0.002 | 0.01 | --- | A | | ppm by vol |
| Xylene (mixed isomers) | 000 | | #N/A | 0.198 | 0.237 | 0.87 | --- | A | | ppm by vol |

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| | | | | | |
|---|--|---|--------------------------------|------------|-----------------------|
| Emission Point ID No. (Designation) 22-05 | Descriptive Name of the Emissions Source (Alt. Name) Biomass Dryer No. 3 | Approximate Location of Stack or Vent (see instructions) | | | |
| Tempo Subject Item ID No. E005 TBD | | Method | 20,"Interpolation - Satellite" | | Datum WGS84 |
| | | UTM Zone | 15 | Horizontal | 584289.46 mE Vertical |
| | | Latitude | 32 ° | 11' | 11" 93 hundredths |
| | | Longitude | -92 ° | 6' | 20" 97 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 1.5 ft 1.77 ft ² | 25 ft | 282.94 ft/sec | 30,000 ft ³ /min | 190 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|------|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| | a | N/A | Normal Operating Rate/Throughput | 15.9 | tons/hr | |
| b | | | Maximum Operating Rate/Throughput | 19.0 | tons/hr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|-------------------------|-------------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-05 | | | | | | | | | | |
| Pollutant | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Total VOC (including those listed below) | 000 | | | 2.426 | 2.912 | 10.63 | --- | A | | ppm by vol |
| Benzyl chloride | 000 | | 00100-44-7 | 0.004 | 0.005 | 0.02 | --- | A | | ppm by vol |
| Bromoform | 000 | | 00075-25-2 | 0.003 | 0.003 | 0.01 | --- | A | | ppm by vol |
| Carbon disulfide | 000 | | 00075-15-0 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Dichloromethane | 000 | | 00075-09-2 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Ethyl benzene | 000 | | 00100-41-4 | 0.002 | 0.003 | 0.01 | --- | A | | ppm by vol |
| n-Hexane | 000 | | 00110-54-3 | 0.013 | 0.015 | 0.06 | --- | A | | ppm by vol |
| Methyl chloride | 000 | | 00074-87-3 | 0.007 | 0.008 | 0.03 | --- | A | | ppm by vol |
| Methyl ethyl ketone | 000 | | 00078-93-3 | 0.001 | 0.002 | 0.01 | --- | A | | ppm by vol |
| Methyl isobutyl ketone | 000 | | 00108-10-1 | < 0.001 | < 0.001 | < 0.01 | --- | A | | ppm by vol |

| Emission Point ID No. (Designation) 22-05 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Pollutant | | | | | | | | | | |
| Styrene | 000 | | 00100-42-5 | 0.028 | 0.034 | 0.12 | --- | A | | ppm by vol |
| Toluene | 000 | | 00108-88-3 | 0.001 | 0.002 | 0.01 | --- | A | | ppm by vol |
| Xylene (mixed isomers) | 000 | | #N/A | 0.198 | 0.237 | 0.87 | --- | A | | ppm by vol |

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| | | | | | |
|--|--|---|--------------------------------|-------------------------|---------------|
| Emission Point ID No. (Designation) 22-06 | Descriptive Name of the Emissions Source (Alt. Name) Biomass Dryer No. 4 | Approximate Location of Stack or Vent (see instructions) | | | |
| Tempo Subject Item ID No. TBD <i>F0576</i> | | Method | 20,"Interpolation - Satellite" | | Datum WGS84 |
| | | UTM Zone | 15 | Horizontal 584289.46 mE | Vertical |
| | | Latitude | 32 ° | 11 " | 93 hundredths |
| | | Longitude | -92 ° | 6 ' | 20 " |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 1.5 ft 1.77 ft ² | 25 ft | 282.94 ft/sec | 30,000 ft ³ /min | 190 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|--------------|---|-----------------------|--|-----|--------------|-------------|
| | Type of Fuel | Heat Input (MMBTU/hr) | Normal Operating Rate/Throughput | | Parameter | Description |
| | a | N/A | 15.9 tons/hr | | 19.0 tons/hr | |
| | b | | Design Capacity/Volume/Cylinder Displacement | | | |
| c | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| Notes | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal Date Engine Ordered _____ Engine Model Year _____ Date Engine Was Built by Manufacturer _____ SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-06 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Total VOC (including those listed below) | 000 | | | 2.426 | 2.912 | 10.63 | --- | A | ppm by vol | |
| Benzyl chloride | 000 | | 00100-44-7 | 0.004 | 0.005 | 0.02 | --- | A | ppm by vol | |
| Bromoform | 000 | | 00075-25-2 | 0.003 | 0.003 | 0.01 | --- | A | ppm by vol | |
| Carbon disulfide | 000 | | 00075-15-0 | 0.001 | 0.001 | < 0.01 | --- | A | ppm by vol | |
| Dichloromethane | 000 | | 00075-09-2 | 0.001 | 0.001 | < 0.01 | --- | A | ppm by vol | |
| Ethyl benzene | 000 | | 00100-41-4 | 0.002 | 0.003 | 0.01 | --- | A | ppm by vol | |
| n-Hexane | 000 | | 00110-54-3 | 0.013 | 0.015 | 0.06 | --- | A | ppm by vol | |
| Methyl chloride | 000 | | 00074-87-3 | 0.007 | 0.008 | 0.03 | --- | A | ppm by vol | |
| Methyl ethyl ketone | 000 | | 00078-93-3 | 0.001 | 0.002 | 0.01 | --- | A | ppm by vol | |
| Methyl isobutyl ketone | 000 | | 00108-10-1 | < 0.001 | < 0.001 | < 0.01 | --- | A | ppm by vol | |

| Emission Point ID No. (Designation) 22-06 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Styrene | 000 | | 00100-42-5 | 0.028 | 0.034 | 0.12 | --- | A | | ppm by vol |
| Toluene | 000 | | 00108-88-3 | 0.001 | 0.002 | 0.01 | --- | A | | ppm by vol |
| Xylene (mixed isomers) | 000 | | #N/A | 0.198 | 0.237 | 0.87 | --- | A | | ppm by vol |

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| | | | |
|---|---|---|---------------|
| Emission Point ID No. (Designation) 22-07 | Descriptive Name of the Emissions Source (Alt. Name) Gasification Heater Common Stack | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. EQT-7 TBD | | Method 20, "Interpolation - Satellite" | Datum WGS84 |
| | | UTM Zone 15 Horizontal 584383.67 mE Vertical 3561516.58 mN | |
| | | Latitude 32 ° 11 ' 13 " | 26 hundredths |
| | | Longitude -92 ° 6 ' 17 " | 36 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, not at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|--|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 6 ft 28.27 ft ² | 30 ft | 64.65 ft/sec | 109,672 ft ³ /min | 785 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | |
|-------|---|-----------------------|
| | Type of Fuel | Heat Input (MMBTU/hr) |
| | a Fuel Gas/Natural Gas | 188.3 |
| b | | |
| c | | |
| Notes | | |

| Operating Parameters (include units) | | |
|--|-------------------------------------|--|
| Parameter | Description | |
| Normal Operating Rate/Throughput | 188.3 | MMBTu/hr |
| Maximum Operating Rate/Throughput | 226.0 | MMBTu/hr |
| Design Capacity/Volume/Cylinder Displacement | | |
| Shell Height (ft) | N/A | |
| Tank Diameter (ft) | N/A | |
| Tanks: | <input type="checkbox"/> Fixed Roof | <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal |
| Date Engine Ordered | | Engine Model Year |
| Date Engine Was Built by Manufacturer | | |
| SI Engines: | <input type="checkbox"/> Rich Burn | <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-07 | | | | | | | | | | |
| Pollutant | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Particulate matter (PM ₁₀) | 000 | | | 1.412 | 1.695 | 6.19 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 1.412 | 1.695 | 6.19 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 000 | | | 0.480 | 0.576 | 2.10 | --- | A | | ppm by vol |
| Nitrogen oxides | 032 | 90% | | 1.210 | 1.452 | 5.30 | --- | A | | ppm by vol |
| Carbon monoxide | 019 | 90% | | 0.405 | 0.486 | 1.77 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 1.017 | 1.220 | 4.45 | --- | A | | ppm by vol |
| Ammonia | 000 | | 07664-41-7 | 1.229 | 1.475 | 5.38 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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| | | | |
|--|---|---|--|
| Emission Point ID No. (Designation) 22-07 | Descriptive Name of the Emissions Source (Alt. Name) Gasification Heater Common Stack | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD <i>EQT-7</i> | | Method <u>20,"Interpolation - Satellite"</u> Datum <u>WGS84</u> | |
| | | UTM Zone <u>15</u> Horizontal <u>584383.67</u> mE Vertical <u>3561516.58</u> mN | |
| | | Latitude <u>32°</u> <u>11'</u> <u>13"</u> <u>26</u> hundredths | |
| | | Longitude <u>-92°</u> <u>6'</u> <u>17"</u> <u>36</u> hundredths | |

| | | | | | | | | | | | |
|---|---|---|--|--|---|--|--|---|---------|---------|---------|
| Stack and Discharge Physical Characteristics Change? (yes or no) <u>yes</u> | Diameter (ft) or Stack Discharge Area (ft²) <u>0.5</u> ft <u>0.20</u> ft ² | Height of Stack Above Grade (ft) <u>30</u> ft | Stack Gas Exit Velocity <u>9,309.25</u> ft/sec | Stack Gas Flow at Conditions, not at Standard (ft³/min) <u>109,672</u> ft ³ /min | Stack Gas Exit Temperature (°F) <u>785</u> °F | Normal Operating Time (hours per year) <u>8760</u> hr/yr | Date of Construction or Modification <u>2022</u> | Percent of Annual Throughput Through This Emission Point | | | |
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| | | | | | | | | 25% | 25% | 25% | 25% |

| | | | | | | |
|--------------|--|------------------------------|---|-------|-------------------|--------------------|
| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
| | Type of Fuel | Heat Input (MMBTU/hr) | Normal Operating Rate/Throughput | | Parameter | Description |
| | a | Fuel Gas/Natural Gas | 188.3 | 188.3 | | MMBTU/hr |
| b | | | 226.0 | | MMBTU/hr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) N/A | | | |
| | | | Tank Diameter (ft) N/A | | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Contiguous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-07 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 000 | | | 1.412 | 1.695 | 6.19 | --- | A | gr/std ft ³ | |
| Particulate matter (PM _{2.5}) | 000 | | | 1.412 | 1.695 | 6.19 | --- | A | gr/std ft ³ | |
| Sulfur dioxide | 000 | | | 0.480 | 0.576 | 2.10 | --- | A | ppm by vol | |
| Nitrogen oxides | 032 | 90% | | 1.210 | 1.452 | 5.30 | --- | A | ppm by vol | |
| Carbon monoxide | 019 | 90% | | 0.405 | 0.486 | 1.77 | --- | A | ppm by vol | |
| Total VOC (including those listed below) | 000 | | | 1.017 | 1.220 | 4.45 | --- | A | ppm by vol | |
| Ammonia | 000 | | 07664-41-7 | 1.229 | 1.475 | 5.38 | --- | A | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |

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|--|--|---|--------------------------------|-------------------------|------------------------|
| Emission Point ID No. (Designation) 22-08 | Descriptive Name of the Emissions Source (Alt. Name) Reactor Charge Heater | Approximate Location of Stack or Vent (see instructions) | | | |
| Tempo Subject Item ID No. TBD <i>EQT-8</i> | | Method | 20,"Interpolation - Satellite" | | Datum WGS84 |
| | | UTM Zone | 15 | Horizontal 584522.09 mE | Vertical 3561513.64 mN |
| | | Latitude | 32 ° | 11' | 13 " |
| | | Longitude | -92 ° | 6' | 12 " |
| | | | | | 13 hundredths |
| | | | | | 8 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.3 ft 0.07 ft ² | 20 ft | 4.95 ft/sec | 21 ft ³ /min | 785 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|--|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| a | Fuel Gas/Natural Gas | 15.6 | Normal Operating Rate/Throughput | | 15.6 MMBtu/hr | |
| b | | | Maximum Operating Rate/Throughput | | 18.7 MMBtu/hr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) | | N/A | |
| | | | Tank Diameter (ft) | | N/A | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-08 | | | | | | | | | | |
| Pollutant | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Particulate matter (PM ₁₀) | 000 | | | 0.117 | 0.140 | 0.51 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 0.117 | 0.140 | 0.51 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 000 | | | 0.268 | 0.322 | 1.17 | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | 0.764 | 0.917 | 3.35 | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | 1.285 | 1.543 | 5.63 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 0.084 | 0.101 | 0.37 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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|--|---|---|--------------------------------|-------------------------|------------------------|
| Emission Point ID No. (Designation) 22-09 | Descriptive Name of the Emissions Source (Alt. Name) SO ₂ Scrubber | Approximate Location of Stack or Vent (see instructions) | | | |
| Tempo Subject Item ID No. TBD <i>EAT-9</i> | | Method | 20,"Interpolation - Satellite" | | Datum WGS84 |
| | | UTM Zone | 15 | Horizontal 584471.57 mE | Vertical 3561388.28 mN |
| | | Latitude | 32 ° | 11 " | 9 " |
| | | Longitude | -92 ° | 6 ' | 14 " |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.5 ft 0.20 ft ² | 30 ft | 405.31 ft/sec | 4,775 ft ³ /min | 785 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|--|-------------------|-------------|
| | Type of Fuel | Heat Input (MMBTU/hr) | Normal Operating Rate/Throughput | | Parameter | Description |
| | a | | Maximum Operating Rate/Throughput | | | |
| | b | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) | | N/A | |
| | | | Tank Diameter (ft) | | N/A | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-09 | | | | | | | | | | |
| Pollutant | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Particulate matter (PM ₁₀) | 000 | | | 1.231 | 1.477 | 5.39 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 1.231 | 1.477 | 5.39 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 002 | 95% | | 0.070 | 0.085 | 0.31 | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | 0.914 | 1.096 | 4.00 | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | 0.231 | 0.277 | 1.01 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 0.015 | 0.018 | 0.07 | --- | A | | ppm by vol |
| Ammonia | 000 | | 07664-41-7 | 0.001 | 0.001 | <0.01 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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|---|--|---|----------------------|
| Emission Point ID No. (Designation) 22-10 | Descriptive Name of the Emissions Source (Alt. Name) Flare | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD EQS-10 | | Method <u>20,"Interpolation - Satellite"</u> Datum <u>WGS84</u> | |
| | | UTM Zone <u>15</u> Horizontal <u>584374.16</u> mE Vertical <u>3561685.01</u> mN | |
| | | Latitude <u>32</u> ° <u>11</u> ' <u>18</u> " | <u>73</u> hundredths |
| | | Longitude <u>-92</u> ° <u>6</u> ' <u>17</u> " | <u>67</u> hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 4 ft 12.57 ft ² | 270 ft | 0.01 ft/sec | 10 ft ³ /min | 785 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|--|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| a | Fuel Gas/Natural Gas | 6.7 | Normal Operating Rate/Throughput | | 6.7 MMBtu/hr | |
| b | | | Maximum Operating Rate/Throughput | | 8.0 MMBtu/hr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) | | N/A | |
| | | | Tank Diameter (ft) | | N/A | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-10 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 000 | | | 0.050 | 0.060 | 0.22 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 0.050 | 0.060 | 0.22 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 000 | | | 0.115 | 0.138 | 0.50 | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | 0.328 | 0.394 | 1.44 | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | 0.552 | 0.662 | 2.42 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 0.036 | 0.043 | 0.16 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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|---|--|---|--|
| Emission Point ID No. (Designation) 22-11 | Descriptive Name of the Emissions Source (Alt. Name) Emergency Generator Diesel Engine No. 1 | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD EQJ-11 | | Method <u>20,"Interpolation - Satellite"</u> Datum <u>WGS84</u> | |
| | | UTM Zone <u>15</u> Horizontal <u>584382.93</u> mE Vertical <u>3561435.43</u> mN | |
| | | Latitude <u>32°</u> <u>11'</u> <u>10"</u> <u>63</u> hundredths | |
| | | Longitude <u>-92°</u> <u>6'</u> <u>17"</u> <u>42</u> hundredths | |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | <u>0.67</u> ft <u>0.35</u> ft ² | <u>10</u> ft | <u>284.96</u> ft/sec | <u>6,028</u> ft ³ /min | <u>847</u> °F | <u>100</u> hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|-------|-------------------|----------------|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| a | Diesel | 7.04 | Normal Operating Rate/Throughput | 7.04 | MMBTu/hr | <u>1000 HP</u> |
| b | | | Maximum Operating Rate/Throughput | 8.45 | MMBTu/hr | <u>1000 HP</u> |
| c | | | Design Capacity/Volume/Cylinder Displacement | 18.13 | L | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | 2022 |
| | | | Date Engine Was Built by Manufacturer | | | 2022 |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-11 | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 000 | | | 0.704 | 0.845 | 0.04 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 0.704 | 0.845 | 0.04 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 000 | | | 7.112 | 8.535 | 0.36 | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | 22.534 | 27.041 | 1.13 | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | 5.986 | 7.183 | 0.30 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 0.634 | 0.761 | 0.03 | --- | A | | ppm by vol |
| Benzene | 000 | | 00071-43-2 | 0.005 | 0.007 | < 0.01 | --- | A | | ppm by vol |
| Formaldehyde | 000 | | 00050-00-0 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Naphthalene | 000 | | 00091-20-3 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |

| Emission Point ID No. (Designation) 22-11 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Polynuclear Aromatic Hydrocarbons | 000 | | 0 | 0.001 | 0.002 | < 0.01 | --- | A | | ppm by vol |
| Toluene | 000 | | 00108-88-3 | 0.002 | 0.002 | < 0.01 | --- | A | | ppm by vol |
| Xylene (mixed isomers) | 000 | | #N/A | 0.001 | 0.002 | < 0.01 | --- | A | | ppm by vol |

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|---|--|--|-------------|--|--|
| Emission Point ID No. (Designation) 22-12 | Descriptive Name of the Emissions Source (Alt. Name) Emergency Generator Diesel Engine No. 2 | Approximate Location of Stack or Vent (see instructions) | | | |
| Tempo Subject Item ID No. TBD <i>EQT-12</i> | | Method UTM Zone <u>15</u> Horizontal <u>584431.28</u> mE Vertical <u>3561494.59</u> mN Latitude <u>32°</u> Longitude <u>-92°</u> <u>11'</u> <u>12"</u> <u>53</u> hundredths <u>6'</u> <u>15"</u> <u>55</u> hundredths | Datum WGS84 | | |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.3 ft 0.07 ft ² | 10 ft | 259.84 ft/sec | 1,102 ft ³ /min | 825 °F | 100 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|-------------|-------------------|---------------|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | Description | | |
| a | Diesel | 1.41 | Normal Operating Rate/Throughput | 1.41 | MMBTU/hr | <i>201 HP</i> |
| b | | | Maximum Operating Rate/Throughput | 1.69 | MMBTU/hr | <i>201 HP</i> |
| c | | | Design Capacity/Volume/Cylinder Displacement | 7.01 | L | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | 2022 |
| | | | Date Engine Was Built by Manufacturer | | | 2022 |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-12 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 000 | | | 0.436 | 0.523 | 0.02 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 0.436 | 0.523 | 0.02 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 000 | | | 0.408 | 0.490 | 0.02 | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | 6.205 | 7.446 | 0.31 | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | 1.337 | 1.604 | 0.07 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 0.127 | 0.152 | 0.01 | --- | A | | ppm by vol |
| Acetaldehyde | 000 | | 00075-07-0 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Benzene | 000 | | 00071-43-2 | 0.001 | 0.002 | < 0.01 | --- | A | | ppm by vol |
| Formaldehyde | 000 | | 00050-00-0 | 0.002 | 0.002 | < 0.01 | --- | A | | ppm by vol |

| Emission Point ID No. (Designation) 22-12 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Pollutant | | | | | | | | | | |
| Toluene | 000 | | 00108-88-3 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |

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|--|--|--|----------------------------|---------------------------|--|
| Emission Point ID No. (Designation) 22-13 | Descriptive Name of the Emissions Source (Alt. Name) Diesel Fire Water Pump No. 1 | Approximate Location of Stack or Vent (see instructions) | | | |
| | | Method 20,"Interpolation - Satellite" | Datum WGS84 | | |
| Tempo Subject Item ID No. TBD <i>FOI-13</i> | UTM Zone 15 | | Horizontal 584533.62 mE | Vertical 3561657.07 mN | |
| | Latitude 32 ° | 11 " | 17 " | 78 hundredths | |
| | Longitude -92 ° | 6 ' | 11 " | 59 hundredths | |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.67 ft 0.35 ft ² | 10 ft | 284.96 ft/sec | 6,028 ft ³ /min | 847 °F | 100 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|------|-------------------|------|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| a | Diesel | 5.60 | Normal Operating Rate/Throughput | 5.60 | MMBTU/hr | |
| b | | | Maximum Operating Rate/Throughput | 6.72 | MMBTU/hr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | 800 | bhp | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | 2022 |
| | | | Date Engine Was Built by Manufacturer | | | 2022 |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) 22-13 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| Particulate matter (PM ₁₀) | 000 | | | 0.560 | 0.672 | 0.03 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 0.560 | 0.672 | 0.03 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 000 | | | 5.656 | 6.787 | 0.28 | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | 17.920 | 21.504 | 0.90 | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | 4.760 | 5.712 | 0.24 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 0.504 | 0.605 | 0.03 | --- | A | | ppm by vol |
| Benzene | 000 | | 00071-43-2 | 0.004 | 0.005 | < 0.01 | --- | A | | ppm by vol |
| Formaldehyde | 000 | | 00050-00-0 | < 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Naphthalene | 000 | | 00091-20-3 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |

| Emission Point ID No. (Designation) 22-13 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Pollutant | | | | | | | | | | |
| Polynuclear Aromatic Hydrocarbons | 000 | | 0 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Toluene | 000 | | 00108-88-3 | 0.002 | 0.002 | < 0.01 | --- | A | | ppm by vol |
| Xylene (mixed isomers) | 000 | | #N/A | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |

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| | | | |
|---|---|--|--|
| Emission Point ID No. (Designation) 22-14 | Descriptive Name of the Emissions Source (Alt. Name) Diesel Fire Water Pump No. 2 | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD EQT-14 | | Method 20,"Interpolation - Satellite" UTM Zone 15 Horizontal 584533.62 mE Vertical Datum WGS84 Latitude 32° 11' 17" 78 hundredths Longitude -92° 6' 11" 59 hundredths | |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, not at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|--|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.67 ft 0.35 ft ² | 10 ft | 284.96 ft/sec | 6.028 ft ³ /min | 847 °F | 100 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|-------------|-------------------|------|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | Description | | |
| a | Diesel | 5.60 | Normal Operating Rate/Throughput | 5.60 | MMBTu/hr | |
| b | | | Maximum Operating Rate/Throughput | 6.72 | MMBTu/hr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | 800 | bhp | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | 2022 |
| | | | Date Engine Was Built by Manufacturer | | | 2022 |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-14 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 000 | | | 0.560 | 0.672 | 0.03 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 0.560 | 0.672 | 0.03 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 000 | | | 5.656 | 6.787 | 0.28 | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | 17.920 | 21.504 | 0.90 | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | 4.760 | 5.712 | 0.24 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 0.504 | 0.605 | 0.03 | --- | A | | ppm by vol |
| Benzene | 000 | | 00071-43-2 | 0.004 | 0.005 | < 0.01 | --- | A | | ppm by vol |
| Formaldehyde | 000 | | 00050-00-0 | < 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Naphthalene | 000 | | 00091-20-3 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |

| Emission Point ID No. (Designation) 22-14 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Pollutant | | | | | | | | | | |
| Polynuclear Aromatic Hydrocarbons | 000 | | 0 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Toluene | 000 | | 00108-88-3 | 0.002 | 0.002 | < 0.01 | --- | A | | ppm by vol |
| Xylene (mixed isomers) | 000 | | #N/A | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |

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| | | | | | |
|---|--|---|--------------------------------|-------------------------|------------------------|
| Emission Point ID No. (Designation) 22-15 | Descriptive Name of the Emissions Source (Alt. Name) Cooling Tower | Approximate Location of Stack or Vent (see instructions) | | | |
| Tempo Subject Item ID No. TBD <i>EQT-15</i> | | Method | 20,"Interpolation - Satellite" | | Datum WGS84 |
| | | UTM Zone | 15 | Horizontal 584346.07 mE | Vertical 3561583.12 mN |
| | | Latitude | 32 ° | 11 " | 15 " |
| | | Longitude | -92 ° | 6 " | 18 " |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity (ft/sec) | Stack Gas Flow at Conditions, not at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|----------------------------------|--|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | _____ ft _____ ft ² | _____ ft | _____ ft/sec | _____ ft ³ /min | 77 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|--------|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| a | N/A | N/A | Normal Operating Rate/Throughput | 30,000 | gpm | |
| b | | | Maximum Operating Rate/Throughput | 30,000 | gpm | |
| c | | | Design Capacity/Volume/Cylinder Displacement | 30,000 | gpm | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|---|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-15 | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 000 | | | 0.376 | 0.751 | 1.64 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 0.376 | 0.751 | 1.64 | --- | A | | gr/std ft ³ |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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| | | | | | |
|---|---|---|--------------------------------|-------------------------|------------------------|
| Emission Point ID No. (Designation) 22-16 | Descriptive Name of the Emissions Source (Alt. Name) Fractionator Feed Heater | Approximate Location of Stack or Vent (see instructions) | | | |
| Tempo Subject Item ID No. TBD <i>FQT-16</i> | | Method | 20,"Interpolation - Satellite" | | Datum WGS84 |
| | | UTM Zone | 15 | Horizontal 584522.09 mE | Vertical 3561513.64 mN |
| | | Latitude | 32 ° | 11 " | 13 " hundredths |
| | | Longitude | -92 ° | 6 ' | 12 " 8 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.3 ft 0.07 ft ² | 20 ft | 4.95 ft/sec | 21 ft ³ /min | 785 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|-------------|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | Description | | |
| a | Fuel Gas/Natural Gas | 3.8 | Normal Operating Rate/Throughput | 3.8 | MMBTU/hr | |
| b | | | Maximum Operating Rate/Throughput | 4.6 | MMBTU/hr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-16 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 000 | | | 0.029 | 0.034 | 0.12 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 0.029 | 0.034 | 0.12 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 000 | | | 0.065 | 0.078 | 0.29 | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | 0.186 | 0.223 | 0.82 | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | 0.313 | 0.376 | 1.37 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 0.021 | 0.025 | 0.09 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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|--|--|--|--|--|---|
| Emission Point ID No. (Designation) 22-17 | Descriptive Name of the Emissions Source (Alt. Name) 2072-TNK-0201 - Naphtha Storage Tank | Approximate Location of Stack or Vent (see instructions) | | | |
| | | Method UTM Zone Latitude Longitude | 20,"Interpolation - Satellite" Horizontal 584672.28 mE 11' 10" 6' | | Datum WGS84 3561444.38 mN 84 hundredths 36 hundredths |
| Tempo Subject Item ID No. TBD <i>EAT-17</i> | | | | | |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.33 ft 0.09 ft ² | 35 ft | 0.19 ft/sec | 1 ft ³ /min | 77 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | |
|-------|---|-----------------------|
| | Type of Fuel | Heat Input (MMBTU/hr) |
| | a | N/A |
| | b | |
| c | | |
| Notes | | |

| Operating Parameters (include units) | | |
|--|-------------------------------------|---|
| Parameter | Description | |
| Normal Operating Rate/Throughput | 65,700 | bbl/yr |
| Maximum Operating Rate/Throughput | 65,700 | bbl/yr |
| Design Capacity/Volume/Cylinder Displacement | 117,500 | gallons |
| Shell Height (ft) | 32 | ft |
| Tank Diameter (ft) | 25 | ft |
| Tanks: | <input type="checkbox"/> Fixed Roof | <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input checked="" type="checkbox"/> Internal |
| Date Engine Ordered | | Engine Model Year |
| Date Engine Was Built by Manufacturer | | |
| SI Engines: | <input type="checkbox"/> Rich Burn | <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke |

| Emission Point ID No. (Designation) 22-17 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| Total VOC (including those listed below) | 000 | | | 0.150 | 0.150 | 0.66 | --- | A | | ppm by vol |
| n-Hexane | 000 | | 00110-54-3 | 0.045 | 0.045 | 0.20 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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| | | | |
|---|---|---|----------------------|
| Emission Point ID No. (Designation) 22-18 | Descriptive Name of the Emissions Source (Alt. Name) 2072-TNK-0202 - Naphtha Storage Tank | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD <i>EQT-18</i> | | Method <u>20,"Interpolation - Satellite"</u> Datum <u>WGS84</u> | |
| | | UTM Zone <u>15</u> Horizontal <u>584672.28</u> mE Vertical <u>3561444.38</u> mN | |
| | | Latitude <u>32</u> ° <u>11</u> ' <u>10</u> " | <u>84</u> hundredths |
| | | Longitude <u>-92</u> ° <u>6</u> ' <u>6</u> " | <u>36</u> hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.33 ft 0.09 ft ² | 35 ft | 0.19 ft/sec | 1 ft ³ /min | 77 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|---------|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| a | N/A | N/A | Normal Operating Rate/Throughput | 65,700 | bbl/yr | |
| b | | | Maximum Operating Rate/Throughput | 65,700 | bbl/yr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | 117,500 | gallons | |
| Notes | | | Shell Height (ft) | 32 | ft | |
| | | | Tank Diameter (ft) | 25 | ft | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input checked="" type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-18 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Total VOC (including those listed below) | 000 | | | 0.150 | 0.150 | 0.66 | --- | A | | ppm by vol |
| n-Hexane | 000 | | 00110-54-3 | 0.045 | 0.045 | 0.20 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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|---|---|---|--------------------------------|-------------------------|---------------------|
| Emission Point ID No. (Designation) 22-19 | Descriptive Name of the Emissions Source (Alt. Name) 2072-TNK-0203 - Naphtha Sales Tank | Approximate Location of Stack or Vent (see instructions) | | | |
| Tempo Subject Item ID No. TBD <i>EQT-19</i> | | Method | 20,"Interpolation - Satellite" | | Datum WGS84 |
| | | UTM Zone | 15 | Horizontal 584691.43 mE | Vertical 3561488 mN |
| | | Latitude | 32 ° | 11 " | 12 " |
| | | Longitude | -92 ° | 6 " | 5 " |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.33 ft 0.09 ft ² | 43 ft | 0.19 ft/sec | 1 ft ³ /min | 77 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|--|--|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| | a | N/A | Normal Operating Rate/Throughput | | 131,400 bbl/yr | |
| | b | | Maximum Operating Rate/Throughput | | 131,400 bbl/yr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | 287,900 gallons | |
| Notes | | | Shell Height (ft) | | 40 ft | |
| | | | Tank Diameter (ft) | | 35 ft | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input checked="" type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-19 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Total VOC (including those listed below) | 000 | | | 0.202 | 0.202 | 0.89 | --- | A | | ppm by vol |
| n-Hexane | 000 | | 00110-54-3 | 0.061 | 0.061 | 0.27 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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|--|--|---|----------------------|
| Emission Point ID No. (Designation) 22-20 | Descriptive Name of the Emissions Source (Alt. Name) 2072-TNK-0204 - Diesel Storage Tank | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD <i>EQ-10</i> | | Method <u>20,"Interpolation - Satellite"</u> | Datum <u>WGS84</u> |
| | | UTM Zone <u>15</u> Horizontal <u>584672.28</u> mE Vertical <u>3561444.38</u> mN | |
| | | Latitude <u>32 °</u> <u>11 "</u> <u>10 "</u> | <u>84</u> hundredths |
| | | Longitude <u>-92 °</u> <u>6 '</u> <u>6 "</u> | <u>36</u> hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|------------|------------|------------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| <u>yes</u> | <u>0.33</u> ft <u>0.09</u> ft ² | <u>51</u> ft | <u>0.19</u> ft/sec | <u>1</u> ft ³ /min | <u>77</u> °F | <u>8760</u> hr/yr | 2022 | <u>25%</u> | <u>25%</u> | <u>25%</u> | <u>25%</u> |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | |
|-------|---|-----------------------|--|-------------------|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | Description |
| a | N/A | N/A | Normal Operating Rate/Throughput | 365,000 bbl/yr |
| b | | | Maximum Operating Rate/Throughput | 365,000 bbl/yr |
| c | | | Design Capacity/Volume/Cylinder Displacement | 571,100 gallons |
| Notes | | | Shell Height (ft) | 48 ft |
| | | | Tank Diameter (ft) | 45 ft |
| | | | Tanks: <input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | |
| | | | Date Engine Ordered | Engine Model Year |
| | | | Date Engine Was Built by Manufacturer | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-20 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Total VOC (including those listed below) | 000 | | | 0.063 | 0.063 | 0.28 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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| Emission Point ID No. (Designation) 22-21 | Descriptive Name of the Emissions Source (Alt. Name) 2072-TNK-0205 - Diesel Storage Tank | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD <i>BAI-21</i> | | Method <u>20,"Interpolation - Satellite"</u> UTM Zone <u>15</u> Horizontal <u>584672.28</u> mE Vertical <u>3561444.38</u> mN Latitude <u>32</u> ° <u>11</u> ' <u>10</u> " <u>84</u> hundredths Longitude <u>-92</u> ° <u>6</u> ' <u>6</u> " <u>36</u> hundredths | Datum <u>WGS84</u> |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.33 ft 0.09 ft ² | 51 ft | 0.19 ft/sec | 1 ft ³ /min | 77 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|--|-------------|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | Description | | |
| a | N/A | N/A | Normal Operating Rate/Throughput | 365,000 | bbl/yr | |
| b | | | Maximum Operating Rate/Throughput | 365,000 | bbl/yr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | 571,100 | gallons | |
| Notes | | | Shell Height (ft) | 48 | ft | |
| | | | Tank Diameter (ft) | 45 | ft | |
| | | | Tanks: <input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-21 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Total VOC (including those listed below) | 000 | | | 0.063 | 0.063 | 0.28 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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| Emission Point ID No. (Designation) 22-22 | Descriptive Name of the Emissions Source (Alt. Name) 2072-TNK-0206 - Diesel Sales Tank | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD <i>EOS-22</i> | | Method <u>20,"Interpolation - Satellite"</u> Datum <u>WGS84</u> | |
| | | UTM Zone <u>15</u> Horizontal <u>584691.43</u> mE Vertical <u>3561488</u> mN | |
| | | Latitude <u>32°</u> <u>11'</u> <u>12"</u> <u>25</u> hundredths | |
| | | Longitude <u>-92°</u> <u>6'</u> <u>5"</u> <u>62</u> hundredths | |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.33 ft 0.09 ft ² | 45 ft | 0.19 ft/sec | 1 ft ³ /min | 77 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | |
|-------|---|-----------------------|
| | Type of Fuel | Heat Input (MMBTU/hr) |
| | a | N/A |
| | b | |
| c | | |
| Notes | | |

| Operating Parameters (include units) | |
|---|--|
| Parameter | Description |
| Normal Operating Rate/Throughput | 730,000 bbl/yr |
| Maximum Operating Rate/Throughput | 730,000 bbl/yr |
| Design Capacity/Volume/Cylinder Displacement | 1,209,100 gallons |
| Shell Height (ft) | 42 ft |
| Tank Diameter (ft) | 70 ft |
| Tanks: <input checked="" type="checkbox"/> Fixed Roof | <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal |
| Date Engine Ordered | Engine Model Year |
| Date Engine Was Built by Manufacturer | |
| SI Engines: <input type="checkbox"/> Rich Burn | <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-22 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Total VOC (including those listed below) | 000 | | | 0.131 | 0.131 | 0.57 | --- | A | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |

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|---|---|---|--------------------------------|------------|-----------------------|
| Emission Point ID No. (Designation) 22-23 | Descriptive Name of the Emissions Source (Alt. Name) 2043-TNK-0301 - Sulfuric Acid Storage Tank | Approximate Location of Stack or Vent (see instructions) | | | |
| Tempo Subject Item ID No. TBD <i>EQT-23</i> | | Method | 20,"Interpolation - Satellite" | | Datum WGS84 |
| | | UTM Zone | 15 | Horizontal | 584359.42 mE Vertical |
| | | Latitude | 32 ° | 11' | 12" 26 hundredths |
| | | Longitude | -92 ° | 6' | 18" 30 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.33 ft 0.09 ft ² | 22 ft | 0.19 ft/sec | 1 ft ³ /min | 77 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | |
|-------|---|-----------------------|
| | Type of Fuel | Heat Input (MMBTU/hr) |
| | a | N/A |
| | b | |
| c | | |
| Notes | | |

| Operating Parameters (include units) | |
|---|-------------------|
| Parameter | Description |
| Normal Operating Rate/Throughput | 280,000 gal/yr |
| Maximum Operating Rate/Throughput | 280,000 gal/yr |
| Design Capacity/Volume/Cylinder Displacement | 11,200 gallons |
| Shell Height (ft) | 19 ft |
| Tank Diameter (ft) | 10 ft |
| Tanks: <input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | |
| Date Engine Ordered | Engine Model Year |
| Date Engine Was Built by Manufacturer | |
| SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|-------------------------------------|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-23 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Sulfuric Acid | 000 | | 07664-93-9 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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|---|--|---|--|
| Emission Point ID No. (Designation) 22-24 | Descriptive Name of the Emissions Source (Alt. Name) 1041-TNK-0101 - Methanol Storage Tank | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD <i>EQT-24</i> | | Method: 20,"Interpolation - Satellite" UTM Zone: 15 Horizontal: 584469.32 mE Vertical: Datum WGS84 Latitude: 32° 11' 9" 37 hundredths Longitude: -92° 6' 14" 13 hundredths | |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.33 ft 0.09 ft ² | 29 ft | 0.19 ft/sec | 1 ft ³ /min | 77 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | |
|-------|---|-----------------------|
| | Type of Fuel | Heat Input (MMBTU/hr) |
| | a | N/A |
| | b | |
| Notes | | |

| Operating Parameters (include units) | |
|---|-------------------|
| Parameter | Description |
| Normal Operating Rate/Throughput | 36,000 gal/yr |
| Maximum Operating Rate/Throughput | 36,000 gal/yr |
| Design Capacity/Volume/Cylinder Displacement | 106,300 gallons |
| Shell Height (ft) | 26.25 ft |
| Tank Diameter (ft) | 26.25 ft |
| Tanks: <input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | |
| Date Engine Ordered | Engine Model Year |
| Date Engine Was Built by Manufacturer | |
| SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-24 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Total VOC (including those listed below) | 000 | | | 0.007 | 0.007 | 0.03 | --- | A | ppm by vol | |
| Methanol | 000 | | 00067-56-1 | 0.007 | 0.007 | 0.03 | --- | A | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |

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| Emission Point ID No. (Designation) 22-25 | Descriptive Name of the Emissions Source (Alt. Name) 2072-TNK-0207 - Diesel Blending Tank | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD <i>EQT-25</i> | | Method <u>20,"Interpolation - Satellite"</u> Datum <u>WGS84</u> | |
| | | UTM Zone <u>15</u> Horizontal <u>584613.4</u> mE Vertical <u>3561395</u> mN | |
| | | Latitude <u>32</u> ° <u>11</u> ' <u>9</u> " <u>25</u> hundredths | |
| | | Longitude <u>-92</u> ° <u>6</u> ' <u>8</u> " <u>63</u> hundredths | |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.33 ft 0.09 ft ² | 18 ft | 0.19 ft/sec | 1 ft ³ /min | 77 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | |
|-------|---|-----------------------|--|-------------------|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | Description |
| a | N/A | N/A | Normal Operating Rate/Throughput | 1,190 bbl/yr |
| b | | | Maximum Operating Rate/Throughput | 1,190 bbl/yr |
| c | | | Design Capacity/Volume/Cylinder Displacement | 12,700 gallons |
| Notes | | | Shell Height (ft) | 15 ft |
| | | | Tank Diameter (ft) | 12 ft |
| | | | Tanks: <input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | |
| | | | Date Engine Ordered | Engine Model Year |
| | | | Date Engine Was Built by Manufacturer | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-25 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Total VOC (including those listed below) | 000 | | | 0.001 | 0.001 | < 0.01 | --- | A | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |

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| Emission Point ID No. (Designation) WW-01 | Descriptive Name of the Emissions Source (Alt. Name) Wastewater Treatment System | Approximate Location of Stack or Vent (see instructions) | | | |
| | | Method 20,"Interpolation - Satellite" | Datum WGS84 | | |
| Tempo Subject Item ID No. TBD <i>EQT-26</i> | UTM Zone 15 | | Horizontal 584469.32 mE | Vertical 3561397.35 mN | |
| | Latitude 32 ° | | 11 " | 9 " | 37 hundredths |
| | Longitude -92 ° | | 6 ' | 14 " | 13 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity (ft/sec) | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|----------------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | _____ ft _____ ft ² | _____ ft | _____ ft/sec | _____ ft ³ /min | 77 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|--------|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| a | N/A | N/A | Normal Operating Rate/Throughput | 26,000 | gal/day | |
| b | | | Maximum Operating Rate/Throughput | 26,000 | gal/day | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) WW-01 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) Annual (tons/yr) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|---|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| Pollutant | | | | | | | | | | |
| Total VOC (including those listed below) | 000 | | | 0.477 | 0.573 | 2.09 | --- | Δ | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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| | | | |
|--|--|---|--|
| Emission Point ID No. (Designation) FUG-01 | Descriptive Name of the Emissions Source (Alt. Name) Fugitive Leak Emissions | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD <i>FUG-1</i> | | Method <u>20,"Interpolation - Satellite"</u> Datum <u>WGS84</u> | |
| | | UTM Zone <u>15</u> Horizontal <u>584466.37</u> mE Vertical <u>3561389.34</u> mN | |
| | | Latitude <u>32 °</u> <u>11 "</u> <u>9 "</u> <u>11</u> hundredths | |
| | | Longitude <u>-92 °</u> <u>6 '</u> <u>14 "</u> <u>24</u> hundredths | |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity (ft/sec) | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|----------------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | _____ ft _____ ft ² | _____ ft | _____ ft/sec | _____ ft ³ /min | 77 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|-------------------|-------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| a | N/A | N/A | Normal Operating Rate/Throughput | N/A | | |
| b | | | Maximum Operating Rate/Throughput | N/A | | |
| c | | | Design Capacity/Volume/Cylinder Displacement | N/A | | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | Engine Model Year | | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| FUG-01 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Total VOC (including those listed below) | 000 | | | 0.557 | --- | 2.44 | --- | A | | ppm by vol |
| n-Hexane | 000 | | 00110-54-3 | 0.057 | --- | 0.25 | --- | A | | ppm by vol |
| Methanol | 000 | | 00067-56-1 | 0.122 | --- | 0.53 | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

**State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants**

Date of submittal
Jun | 2022

| | | | |
|---|---|---|----------------------|
| Emission Point ID No. (Designation) FUG-02 | Descriptive Name of the Emissions Source (Alt. Name) Fugitive Roadway Emissions | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD <i>FUG-02</i> | | Method <u>20, "Interpolation - Satellite"</u> | Datum <u>WGS84</u> |
| | | UTM Zone <u>15</u> Horizontal <u>584464.41</u> mE Vertical <u>3561625.46</u> mN | |
| | | Latitude <u>32°</u> <u>11'</u> <u>16"</u> | <u>77</u> hundredths |
| | | Longitude <u>-92°</u> <u>6'</u> <u>31"</u> | <u>49</u> hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity (ft/sec) | Stack Gas Flow at Conditions, not at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|----------------------------------|--|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | _____ ft _____ ft ² | _____ ft | _____ ft/sec | _____ ft ³ /min | 77 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | |
|-------|---|-----------------------|
| | Type of Fuel | Heat Input (MMBTU/hr) |
| | a | N/A |
| | b | |
| c | | |
| Notes | | |

| Operating Parameters (include units) | |
|---|-------------------|
| Parameter | Description |
| Normal Operating Rate/Throughput | 272 VMT/day |
| Maximum Operating Rate/Throughput | 272 VMT/day |
| Design Capacity/Volume/Cylinder Displacement | N/A |
| Shell Height (ft) | N/A |
| Tank Diameter (ft) | N/A |
| Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | |
| Date Engine Ordered | Engine Model Year |
| Date Engine Was Built by Manufacturer | |
| SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|---|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| FUG-02 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Particulate matter (PM ₁₀) | | | | 0.834 | --- | 1.56 | --- | A | gr/std ft ³ | |
| Particulate matter (PM _{2.5}) | | | | 0.205 | --- | 0.38 | --- | A | gr/std ft ³ | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |
| | | | | | | | | | ppm by vol | |

Appendix C
Air Emission Calculations

Strategic Biofuels LLC
Louisiana Green Fuels Project
Initial Minor Source Air Permit

Facility Summary
Criteria Pollutant Emissions

| Criteria Pollutant Emissions Summary (TPY) | | | | | | | |
|--|--|------------------|-------------------|-----------------|-----------------|--------------|--------------|
| Source ID | Source Description | PM ₁₀ | PM _{2.5} | SO ₂ | NO _x | CO | VOC |
| 22-01 | Biomass Boiler | 63.7 | 63.7 | 32.76 | 57.55 | 56.81 | 35.82 |
| 22-02 | Biomass Handling Baghouse | 1.29 | 1.29 | --- | --- | --- | --- |
| 22-03 | Biomass Dryer No. 1 | --- | --- | --- | --- | --- | 10.63 |
| 22-04 | Biomass Dryer No. 2 | --- | --- | --- | --- | --- | 10.63 |
| 22-05 | Biomass Dryer No. 3 | --- | --- | --- | --- | --- | 10.63 |
| 22-06 | Biomass Dryer No. 4 | --- | --- | --- | --- | --- | 10.63 |
| 22-07 | Gasification Heater Common Stack | 6.19 | 6.19 | 2.1 | 5.3 | 1.77 | 4.45 |
| 22-08 | Reactor Charge Heater | 0.51 | 0.51 | 1.17 | 3.35 | 5.63 | 0.37 |
| 22-09 | SO ₂ Scrubber | 5.39 | 5.39 | 0.31 | 4 | 1.01 | 0.07 |
| 22-10 | Flare | 0.22 | 0.22 | 0.5 | 1.44 | 2.42 | 0.16 |
| 22-11 | Emergency Generator Diesel Engine No. 1 | 0.04 | 0.04 | 0.36 | 1.13 | 0.3 | 0.03 |
| 22-12 | Emergency Generator Diesel Engine No. 2 | 0.02 | 0.02 | 0.02 | 0.31 | 0.07 | 0.01 |
| 22-13 | Diesel Fire Water Pump No. 1 | 0.03 | 0.03 | 0.28 | 0.9 | 0.24 | 0.03 |
| 22-14 | Diesel Fire Water Pump No. 2 | 0.03 | 0.03 | 0.28 | 0.9 | 0.24 | 0.03 |
| 22-15 | Cooling Tower | 1.64 | 1.64 | --- | --- | --- | --- |
| 22-16 | Fractionator Feed Heater | 0.12 | 0.12 | 0.29 | 0.82 | 1.37 | 0.09 |
| 22-17 | 2072-TNK-0201 - Naphtha Storage Tank | --- | --- | --- | --- | --- | 0.66 |
| 22-18 | 2072-TNK-0202 - Naphtha Storage Tank | --- | --- | --- | --- | --- | 0.66 |
| 22-19 | 2072-TNK-0203 - Naphtha Sales Tank | --- | --- | --- | --- | --- | 0.89 |
| 22-20 | 2072-TNK-0204 - Diesel Storage Tank | --- | --- | --- | --- | --- | 0.28 |
| 22-21 | 2072-TNK-0205 - Diesel Storage Tank | --- | --- | --- | --- | --- | 0.28 |
| 22-22 | 2072-TNK-0206 - Diesel Sales Tank | --- | --- | --- | --- | --- | 0.57 |
| 22-23 | 2043-TNK-0301 - Sulfuric Acid Storage Tank | --- | --- | --- | --- | --- | --- |
| 22-24 | 1041-TNK-0101 - Methanol Storage Tank | --- | --- | --- | --- | --- | 0.03 |
| 22-25 | 2072-TNK-0207 - Diesel Blending Tank | --- | --- | --- | --- | --- | < 0.01 |
| WW-01 | Wastewater Treatment System | --- | --- | --- | --- | --- | 2.09 |
| FUG-01 | Fugitive Leak Emissions | --- | --- | --- | --- | --- | 2.44 |
| FUG-02 | Fugitive Roadway Emissions | 1.56 | 0.38 | --- | --- | --- | --- |
| UNF-01 | Total Facility Emissions | 80.74 | 79.56 | 38.07 | 75.70 | 69.86 | 91.49 |

| VOC TAP Emissions Summary (TPY) | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|--|--------------|--------------|-------------|-----------------|-------------|------------------|-----------------|--------------|--------------|-------------|-------------|-----------------|---------------------|-------------------------------|-------------|---------------------------------------|-------------|-------------|-------------|
| Source ID | Source Description | Total VOC | Acetaldehyde | Benzene | Benzyl chloride | Bromoform | Carbon disulfide | Dichloromethane | Ethylbenzene | Formaldehyde | Hexane | Methanol | Methyl chloride | Methyl ethyl ketone | Methyl isobutyl ketone (MIBK) | Naphthalene | Polycyclic Aromatic Hydrocarbon (PAH) | Styrene | Toluene | Xylenes |
| 22-01 | Biomass Boiler | 35.82 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-02 | Biomass Handling Baghouse | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-03 | Biomass Dryer No. 1 | 10.63 | --- | --- | 0.02 | 0.01 | < 0.01 | < 0.01 | 0.01 | --- | 0.06 | --- | 0.03 | 0.01 | < 0.01 | --- | --- | 0.12 | 0.01 | 0.87 |
| 22-04 | Biomass Dryer No. 2 | 10.63 | --- | --- | 0.02 | 0.01 | < 0.01 | < 0.01 | 0.01 | --- | 0.06 | --- | 0.03 | 0.01 | < 0.01 | --- | --- | 0.12 | 0.01 | 0.87 |
| 22-05 | Biomass Dryer No. 3 | 10.63 | --- | --- | 0.02 | 0.01 | < 0.01 | < 0.01 | 0.01 | --- | 0.06 | --- | 0.03 | 0.01 | < 0.01 | --- | --- | 0.12 | 0.01 | 0.87 |
| 22-06 | Biomass Dryer No. 4 | 10.63 | --- | --- | 0.02 | 0.01 | < 0.01 | < 0.01 | 0.01 | --- | 0.06 | --- | 0.03 | 0.01 | < 0.01 | --- | --- | 0.12 | 0.01 | 0.87 |
| 22-07 | Gasification Heater Common Stack | 4.45 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-08 | Reactor Charge Heater | 0.37 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-09 | SO ₂ Scrubber | 0.07 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-10 | Flare | 0.16 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-11 | Emergency Generator Diesel Engine No. 1 | 0.03 | --- | < 0.01 | --- | --- | --- | --- | --- | < 0.01 | --- | --- | --- | --- | --- | < 0.01 | < 0.01 | --- | < 0.01 | < 0.01 |
| 22-12 | Emergency Generator Diesel Engine No. 2 | 0.01 | < 0.01 | < 0.01 | --- | --- | --- | --- | --- | < 0.01 | --- | --- | --- | --- | --- | --- | --- | --- | < 0.01 | < 0.01 |
| 22-13 | Diesel Fire Water Pump No. 1 | 0.03 | --- | < 0.01 | --- | --- | --- | --- | --- | < 0.01 | --- | --- | --- | --- | --- | < 0.01 | < 0.01 | --- | < 0.01 | < 0.01 |
| 22-14 | Diesel Fire Water Pump No. 2 | 0.03 | --- | < 0.01 | --- | --- | --- | --- | --- | < 0.01 | --- | --- | --- | --- | --- | < 0.01 | < 0.01 | --- | < 0.01 | < 0.01 |
| 22-15 | Cooling Tower | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-16 | Fractionator Feed Heater | 0.09 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-17 | 2072-TNK-0201 - Naphtha Storage Tank | 0.66 | --- | --- | --- | --- | --- | --- | --- | --- | 0.2 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-18 | 2072-TNK-0202 - Naphtha Storage Tank | 0.66 | --- | --- | --- | --- | --- | --- | --- | --- | 0.2 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-19 | 2072-TNK-0203 - Naphtha Sales Tank | 0.89 | --- | --- | --- | --- | --- | --- | --- | --- | 0.27 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-20 | 2072-TNK-0204 - Diesel Storage Tank | 0.28 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-21 | 2072-TNK-0205 - Diesel Storage Tank | 0.28 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-22 | 2072-TNK-0206 - Diesel Sales Tank | 0.57 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-23 | 2043-TNK-0301 - Sulfuric Acid Storage Tank | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-24 | 1041-TNK-0101 - Methanol Storage Tank | 0.03 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 0.03 | --- | --- | --- | --- | --- | --- | --- | --- |
| 22-25 | 2072-TNK-0207 - Diesel Blending Tank | < 0.01 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| WW-01 | Wastewater Treatment System | 2.09 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| FUG-01 | Fugitive Leak Emissions | 2.44 | --- | --- | --- | --- | --- | --- | --- | --- | 0.25 | 0.53 | --- | --- | --- | --- | --- | --- | --- | --- |
| FUG-02 | Fugitive Roadway Emissions | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| UNF-01 | Total Facility Emissions | 91.49 | 0.01 | 0.04 | 0.08 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 1.16 | 0.56 | 0.12 | 0.04 | 0.04 | 0.03 | 0.03 | 0.48 | 0.08 | 3.51 |

Strategic Biofuels LLC
Louisiana Green Fuels Project
Initial Minor Source Air Permit

Facility Summary
Non-VOC TAP Emissions

| Non-VOC TAP Emissions Summary (TPY) | | | |
|--|--|----------------|----------------------|
| Source ID | Source Description | Ammonia | Sulfuric Acid |
| 22-01 | Biomass Boiler | 23.00 | --- |
| 22-02 | Biomass Handling Baghouse | --- | --- |
| 22-03 | Biomass Dryer No. 1 | --- | --- |
| 22-04 | Biomass Dryer No. 2 | --- | --- |
| 22-05 | Biomass Dryer No. 3 | --- | --- |
| 22-06 | Biomass Dryer No. 4 | --- | --- |
| 22-07 | Gasification Heater Common Stack | 5.38 | --- |
| 22-08 | Reactor Charge Heater | --- | --- |
| 22-09 | SO ₂ Scrubber | < 0.01 | --- |
| 22-10 | Flare | --- | --- |
| 22-11 | Emergency Generator Diesel Engine No. 1 | --- | --- |
| 22-12 | Emergency Generator Diesel Engine No. 2 | --- | --- |
| 22-13 | Diesel Fire Water Pump No. 1 | --- | --- |
| 22-14 | Diesel Fire Water Pump No. 2 | --- | --- |
| 22-15 | Cooling Tower | --- | --- |
| 22-16 | Fractionator Feed Heater | --- | --- |
| 22-17 | 2072-TNK-0201 - Naphtha Storage Tank | --- | --- |
| 22-18 | 2072-TNK-0202 - Naphtha Storage Tank | --- | --- |
| 22-19 | 2072-TNK-0203 - Naphtha Sales Tank | --- | --- |
| 22-20 | 2072-TNK-0204 - Diesel Storage Tank | --- | --- |
| 22-21 | 2072-TNK-0205 - Diesel Storage Tank | --- | --- |
| 22-22 | 2072-TNK-0206 - Diesel Sales Tank | --- | --- |
| 22-23 | 2043-TNK-0301 - Sulfuric Acid Storage Tank | --- | < 0.01 |
| 22-24 | 1041-TNK-0101 - Methanol Storage Tank | --- | --- |
| 22-25 | 2072-TNK-0207 - Diesel Blending Tank | --- | --- |
| WW-01 | Wastewater Treatment System | --- | --- |
| FUG-01 | Fugitive Leak Emissions | --- | --- |
| FUG-02 | Fugitive Roadway Emissions | --- | --- |
| UNF-01 | Total Facility Emissions | 28.39 | 0.01 |

Description of Source

A 85.54 MW biomass boiler generates the power required by the facility. Nox emissions are controlled by an SNCR and SCR system. CO emissions are controlled by CO catalyst. SO₂ and Condensable PM are controlled by a circulating dry scrubber. Filterable PM Emissions are controlled by a mechanical collector. Approximately 90% of CO₂e emissions are recovered and injected via the facility's onsite CO₂ sequestration well.

Annual Operation: 8,760 hrs/yr
 Total Fuel Usage: 1,168.0 MMBtu/hr

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|---|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | --- | 0.1245 | 90% | 14.543 | 17.452 | 63.70 |
| Particulate Matter (PM _{2.5}) | --- | 0.1245 | 90% | 14.543 | 17.452 | 63.70 |
| Sulfur dioxide (SO ₂) | --- | 0.0320 | 80% | 7.479 | 8.975 | 32.76 |
| Nitrogen oxides (NO _x) | --- | 0.0750 | 85% | 13.139 | 15.767 | 57.55 |
| Carbon monoxide (CO) | --- | 0.0740 | 85% | 12.970 | 15.564 | 56.81 |
| Total VOC | --- | 0.0070 | --- | 8.178 | 9.814 | 35.82 |
| Ammonia | 5.251 | --- | --- | 5.251 | 6.301 | 23.00 |

- ⁽¹⁾ Emission factors are derived from vendor emissions specifications. Ammonia emissions are based off of 10 ppm Ammonia slip.
- ⁽²⁾ Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Usage (MMBtu/hr) X (1- Control Efficiency)
- ⁽³⁾ Calculated as: Average (lbs/hr) X 1.2
- ⁽⁴⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Strategic Biofuels LLC
Louisiana Green Fuels Project
Initial Minor Source Air Permit

Biomass Handling Baghouse
Emission Point No.: 22-02

Description of Source

Biomass handling includes Biomass delivered by trucks and then stacked, prepared, and conveyed to the process area. Airflow is directed to a Baghouse to filter PM emissions.

| | |
|--|--------------|
| Annual Operation: | 8,760 hrs/yr |
| 22-02(a) - Collector No. 1 - Truck Receiving Area | 44,000 SCFM |
| 22-02(b) - Collector No. 2 - Dryer Island Area | 120,000 SCFM |
| 22-02(c) - Collector No. 3 - Dried Chip Conveying and Storage Silos Area | 72,000 SCFM |
| 22-02(d) - Collector No. 4 - Gasifier Feed/Distribution Systems | 108,000 SCFM |
| Total Air Flow: | 344,000 SCFM |

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/SCFM) | Emissions | | |
|---|--|------------------------------------|------------------------------------|------------------------------------|
| | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | 1.43E-08 | 0.295 | 0.354 | 1.29 |
| Particulate Matter (PM _{2.5}) | 1.43E-08 | 0.295 | 0.354 | 1.29 |

- ⁽¹⁾ Emission factors derived from vendor emissions specifications of 0.0001 grains/dscf.
- ⁽²⁾ Calculated as: Emission Factor (lbs/SCFM) X Average Operating Rate (SCFM) X 60 (minutes/hour)
- ⁽³⁾ Calculated as: Average (lbs/hr) X 1.2
- ⁽⁴⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Description of Source

Four rotary steam dryers are used to dry feedstock woody biomass to meet moisture content requirements of downstream processing. All heat required by the dryers is provided by saturated steam at 230 psia and 294.4 °F.

Annual Operation: 8,760 hrs/yr
 Average Operating Rate Dry Biomass Tons: 15.9 tons/hr
 Maximum Operating Rate Dry Biomass Tons: 19.0 tons/hr

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/ton) | Emissions | | |
|-------------------------------|---|------------------------------------|------------------------------------|------------------------------------|
| | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Total VOC | 1.53E-01 | 2.426 | 2.912 | 10.63 |
| Benzyl chloride | 2.71E-04 | 0.004 | 0.005 | 0.02 |
| Bromoform | 1.67E-04 | 0.003 | 0.003 | 0.01 |
| Carbon disulfide | 6.46E-05 | 0.001 | 0.001 | 0.00 |
| Dichloromethane | 4.29E-05 | 0.001 | 0.001 | 0.00 |
| Ethylbenzene | 1.54E-04 | 0.002 | 0.003 | 0.01 |
| Hexane | 8.13E-04 | 0.013 | 0.015 | 0.06 |
| Methyl chloride | 4.20E-04 | 0.007 | 0.008 | 0.03 |
| Methyl ethyl ketone | 9.37E-05 | 0.001 | 0.002 | 0.01 |
| Methyl isobutyl ketone (MIBK) | 5.73E-06 | 0.000 | 0.000 | 0.00 |
| Styrene | 1.78E-03 | 0.028 | 0.034 | 0.12 |
| Toluene | 8.63E-05 | 0.001 | 0.002 | 0.01 |
| o-Xylene | 1.25E-02 | 0.198 | 0.237 | 0.87 |

⁽¹⁾ Emission factors derived from 10/25/21 Laboratory Test Results.

⁽²⁾ Calculated as: Emission Factor (lbs/ton) X Average Operating Rate (tons/hr)

⁽³⁾ Calculated as: Emission Factor (lbs/ton) X Maximum Operating Rate (tons/hr)

⁽⁴⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ 2,000 lbs/ton.

Description of Source

Fuel-gas-fired gasification heaters provide heat to the facility's syngas generation unit. Fuel gas consists of fuel gas recovered from onsite processes and supplemental natural gas.

Annual Operation: 8,760 hrs/yr
 Total Fuel Gas Usage: 188.3 MMBtu/hr

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency ⁽²⁾ | Emissions | | |
|---|--|---|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | --- | 0.0075 | --- | 1.412 | 1.695 | 6.19 |
| Particulate Matter (PM _{2.5}) | --- | 0.0075 | --- | 1.412 | 1.695 | 6.19 |
| Sulfur dioxide (SO ₂) | 0.48 | --- | --- | 0.480 | 0.576 | 2.10 |
| Nitrogen oxides (NO _x) | 12.10 | --- | 90% | 1.210 | 1.452 | 5.30 |
| Carbon monoxide (CO) | 4.05 | --- | 90% | 0.405 | 0.486 | 1.77 |
| Total VOC | --- | 0.0054 | --- | 1.017 | 1.220 | 4.45 |
| Ammonia | 1.229 | --- | --- | 1.229 | 1.475 | 5.38 |

⁽¹⁾ Emission factors for SO₂, NO_x, and CO are derived from vendor emissions specifications.

Emission factors for PM₁₀, PM_{2.5}, and Total VOC are from AP42 Table 1.4-2.

Emission factor for Ammonia derived from 10 ppmv slip from control device vendor specifications.

⁽²⁾ Control Efficiency is based on vendor specifications.

Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

⁽³⁾ or Emission Factor (lbs/hr) X (1- Control Efficiency)

⁽⁴⁾ Calculated as: Average (lbs/hr) X 1.2

⁽⁵⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Description of Source

A process-fired heater provides heat for the facility's liquid upgrading unit. The heater utilizes the facility's fuel gas.

Annual Operation: 8,760 hrs/yr
 Total Fuel Gas Usage: 15.6 MMBtu/hr

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|---|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | --- | 0.0075 | --- | 0.117 | 0.140 | 0.51 |
| Particulate Matter (PM _{2.5}) | --- | 0.0075 | --- | 0.117 | 0.140 | 0.51 |
| Sulfur dioxide (SO ₂) | --- | 0.0172 | --- | 0.268 | 0.322 | 1.17 |
| Nitrogen oxides (NO _x) | --- | 0.0490 | --- | 0.764 | 0.917 | 3.35 |
| Carbon monoxide (CO) | --- | 0.0824 | --- | 1.285 | 1.543 | 5.63 |
| Total VOC | --- | 0.0054 | --- | 0.084 | 0.101 | 0.37 |

⁽¹⁾ Emission factors for PM₁₀, PM_{2.5}, NO_x, CO, and Total VOC are from AP42 Table 1.4-2.

Emission factor for SO₂ assumes total fuel gas sulfur content is combusted to SO₂.

⁽²⁾ Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

⁽³⁾ Calculated as: Average (lbs/hr) X 1.2

⁽⁴⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Description of Source

A thermal oxidizer receives tank farm outbreathing, sour water degasser off-gas, filtration off-gas, vapors recovered from railcar loading activities, and CO₂ streams in case of well injection upsets. A lock hopper vent stream from Gasification area is directed to the Thermal Oxidizer as it will contain trace amounts of syngas. This stream also contains ash. The ash content is assumed to contribute to PM₁₀ and PM_{2.5} emissions. The effluent gases from the Thermal Oxidizer are sent to SO₂ Scrubber before being emitted to atmosphere.

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency ⁽²⁾ | Emissions | | |
|---|--|---|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | 1.231 | --- | --- | 1.231 | 1.477 | 5.39 |
| Particulate Matter (PM _{2.5}) | 1.231 | --- | --- | 1.231 | 1.477 | 5.39 |
| Sulfur dioxide (SO ₂) | 1.409 | --- | 95% | 0.070 | 0.085 | 0.31 |
| Nitrogen oxides (NO _x) | 0.914 | --- | --- | 0.914 | 1.096 | 4.00 |
| Carbon monoxide (CO) | 0.231 | --- | --- | 0.231 | 0.277 | 1.01 |
| Total VOC | 0.015 | --- | --- | 0.015 | 0.018 | 0.07 |
| Ammonia | 0.001 | --- | --- | 0.001 | 0.001 | 0.003 |

⁽¹⁾ Emission factors are the sum of Fuel Gas Combustion Emissions, Lock Hopper Vent PM Emissions, and Sour Water Degasser Off-Gas NO_x Emissions.

⁽²⁾ Control Efficiency is based on vendor specifications.

⁽³⁾ Calculated as: Emission Factor (lbs/hr) X (1- Control Efficiency)

⁽⁴⁾ Calculated as: Average (lbs/hr) X 1.2

⁽⁵⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Annual Operation: 8,760 hrs/yr
Total Fuel Gas Usage: 2.8 MMBtu/hr

Fuel Gas Combustion Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|---|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | --- | 0.0075 | --- | 0.021 | 0.025 | 0.09 |
| Particulate Matter (PM _{2.5}) | --- | 0.0075 | --- | 0.021 | 0.025 | 0.09 |
| Sulfur dioxide (SO ₂) | 1.409 | --- | --- | 1.409 | 1.691 | 6.17 |
| Nitrogen oxides (NO _x) | --- | 0.0490 | --- | 0.137 | 0.165 | 0.60 |
| Carbon monoxide (CO) | --- | 0.0824 | --- | 0.231 | 0.277 | 1.01 |
| Total VOC | --- | 0.0054 | --- | 0.015 | 0.018 | 0.07 |

- (1) Emission factors for PM₁₀, PM_{2.5}, NO_x, CO, and Total VOC are from AP42 Table 1.4-2. Emission factor for SO₂ is based on vendor specifications.
Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)
- (2) or Emission Factor (lbs/hr) X (1- Control Efficiency)
- (3) Calculated as: Average (lbs/hr) X 1.2
- (4) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Lock Hopper Vent PM Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|---|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | 1.210 | --- | --- | 1.210 | 1.452 | 5.30 |
| Particulate Matter (PM _{2.5}) | 1.210 | --- | --- | 1.210 | 1.452 | 5.30 |

- (1) Emission factors for PM₁₀ and PM_{2.5} are based off of stream ash content. 100% of ash content is assumed as PM_{2.5}.
- (2) Calculated as: Emission Factor (lbs/hr) X (1- Control Efficiency)
- (3) Calculated as: Average (lbs/hr) X 1.2
- (4) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Sour Water Degasser Off-Gas NO_x Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|------------------------------------|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Nitrogen oxides (NO _x) | 0.776 | --- | --- | 0.776 | 0.932 | 3.40 |
| Ammonia | 0.001 | --- | --- | 0.001 | 0.001 | 0.003 |

- (1) Emission factor for NO_x and Ammonia are derived from Sour Water Degasser Off-Gas ammonia content. 99.9% conversion of Ammonia to NO_x is assumed.
- (2) Calculated as: Emission Factor (lbs/hr) X (1- Control Efficiency)
- (3) Calculated as: Average (lbs/hr) X 1.2
- (4) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Description of Source

The design of the project has allowed for a facility that avoids continuous flaring. During emergencies or upset conditions, however, flaring will be required for certain process streams for safety purposes. A continuous flow of fuel gas is required for certain process streams for the flare pilots and purge gas.

Annual Operation: 8,760 hrs/yr
 Total Fuel Gas Usage: 6.7 MMBtu/hr

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|---|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | --- | 0.0075 | --- | 0.050 | 0.060 | 0.22 |
| Particulate Matter (PM _{2.5}) | --- | 0.0075 | --- | 0.050 | 0.060 | 0.22 |
| Sulfur dioxide (SO ₂) | --- | 0.0172 | --- | 0.115 | 0.138 | 0.50 |
| Nitrogen oxides (NO _x) | --- | 0.0490 | --- | 0.328 | 0.394 | 1.44 |
| Carbon monoxide (CO) | --- | 0.0824 | --- | 0.552 | 0.662 | 2.42 |
| Total VOC | --- | 0.0054 | --- | 0.036 | 0.043 | 0.16 |

⁽¹⁾ Emission factors for PM₁₀, PM_{2.5}, NO_x, CO, and Total VOC are from AP42 Table 1.4-2.

Emission factor for SO₂ assumes total fuel gas sulfur content is combusted to SO₂.

⁽²⁾ Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

⁽³⁾ Calculated as: Average (lbs/hr) X 1.2

⁽⁴⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Description of Source

A 750kW diesel generator is maintained to provide power to the facility in the event of emergency power loss.

Diesel Rate: 7.04 MMBtu/hr
Fuel Consumption¹: 7,000 Btu/hp-hr
Operating Rate: 100 hrs/yr
Max. Power Rating: 1,006 bhp
Fuel Usage: 5,103 gal/yr

| Pollutant | Emission Factor ^{(1),(2)} | Average Emissions (lbs/hr) | Maximum Emissions ⁽³⁾ (lbs/hr) | Annual Emissions (tpy) |
|---|------------------------------------|----------------------------|---|------------------------|
| Particulate Matter (PM ₁₀) | 1.00E-01 lb/MMBtu | 0.704 | 0.845 | 0.04 |
| Particulate Matter (PM _{2.5}) | 1.00E-01 lb/MMBtu | 0.704 | 0.845 | 0.04 |
| Sulfur dioxide (SO ₂) | 1.01E+00 lb/MMBtu | 7.112 | 8.535 | 0.36 |
| Nitrogen oxides (NO _x) | 3.20E+00 lb/MMBtu | 22.534 | 27.041 | 1.13 |
| Carbon monoxide (CO) | 8.50E-01 lb/MMBtu | 5.986 | 7.183 | 0.30 |
| Total VOC | 9.00E-02 lb/MMBtu | 0.634 | 0.761 | 0.03 |
| Acenaphthylene | 9.23E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Acenaphthene | 4.98E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Fluorene | 1.28E-05 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Phenanthrene | 4.08E-05 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Anthracene | 1.23E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Fluoranthene | 4.03E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Acetaldehyde | 2.52E-05 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Acrolein | 7.88E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzene | 7.76E-04 lb/MMBtu | 0.005 | 0.007 | 0.000 |
| Pyrene | 3.71E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzo(a)anthracene | 6.22E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Chrysene | 1.53E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzo(b)fluoranthene | 1.11E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzo(k)fluoranthene | 2.18E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzo(a)pyrene | 2.57E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Formaldehyde | 7.89E-05 lb/MMBtu | 0.001 | 0.001 | 0.000 |
| Indeno(1,2,3-dc)pyrene | 4.14E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Dibenz(a,h)anthracene | 3.46E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Naphthalene | 1.30E-04 lb/MMBtu | 0.001 | 0.001 | 0.000 |
| PAH | 2.12E-04 lb/MMBtu | 0.001 | 0.002 | 0.000 |
| Propylene | 2.79E-03 lb/MMBtu | 0.020 | 0.024 | 0.001 |
| Benzo(g,h,i)perylene | 5.56E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Toluene | 2.81E-04 lb/MMBtu | 0.002 | 0.002 | 0.000 |
| Xylenes | 1.93E-04 lb/MMBtu | 0.001 | 0.002 | 0.000 |

(1) Brake-specific fuel consumption from AP-42 for diesel engines (Section 3.4, rev. 10/96).

(2) Emission factors from AP-42 for large diesel engines (Tables 3.4-1, 3.4-2, 3.4-3 and 3.4-4 rev. 10/96). SO2 assumes 1% Sulfur in the fuel.

(3) Maximum hourly emissions assumed to be 1.2 times average hourly emissions.

Description of Source

A 150kW diesel generator is maintained to provide power to the facility in the event of emergency power loss.

Diesel Rate: 1.41 MMBtu/hr
Fuel Consumption¹: 7,000 Btu/hp-hr
Operating Rate: 100 hrs/yr
Max. Power Rating: 201 bhp
Fuel Usage: 1,020 gal/yr

| Pollutant | Emission Factor ^{(1),(2)} | Average Emissions (lbs/hr) | Maximum Emissions ⁽³⁾ (lbs/hr) | Annual Emissions (tpy) |
|---|------------------------------------|----------------------------|---|------------------------|
| Particulate Matter (PM ₁₀) | 3.10E-01 lb/MMBtu | 0.436 | 0.523 | 0.02 |
| Particulate Matter (PM _{2.5}) | 3.10E-01 lb/MMBtu | 0.436 | 0.523 | 0.02 |
| Sulfur dioxide (SO ₂) | 2.90E-01 lb/MMBtu | 0.408 | 0.490 | 0.02 |
| Nitrogen oxides (NO _x) | 4.41E+00 lb/MMBtu | 6.205 | 7.446 | 0.31 |
| Carbon monoxide (CO) | 9.50E-01 lb/MMBtu | 1.337 | 1.604 | 0.07 |
| Total VOC | 9.00E-02 lb/MMBtu | 0.127 | 0.152 | 0.01 |
| Benzene | 9.33E-04 lb/MMBtu | 0.001 | 0.002 | 0.000 |
| Toluene | 4.09E-04 lb/MMBtu | 0.001 | 0.001 | 0.000 |
| Xylenes | 2.85E-04 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Propylene | 2.58E-03 lb/MMBtu | 0.004 | 0.004 | 0.000 |
| 1,3-Butadiene | 3.91E-05 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Formaldehyde | 1.18E-03 lb/MMBtu | 0.002 | 0.002 | 0.000 |
| Acetaldehyde | 7.67E-04 lb/MMBtu | 0.001 | 0.001 | 0.000 |
| Acrolein | 9.25E-05 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Total PAH | 1.68E-04 lb/MMBtu | 0.000 | 0.000 | 0.000 |

- (1) Brake-specific fuel consumption from AP-42 for diesel engines (Section 3.3, rev. 10/96).
- (2) Emission factors from AP-42 for diesel industrial engines (Tables 3.3-1 and 3.3-2 rev. 10/96).
- (3) Maximum hourly emissions assumed to be 1.2 times average hourly emissions.

Strategic Biofuels LLC
Louisiana Green Fuels Project
Initial Minor Source Air Permit

Diesel Fire Water Pump No. 1
Emission Point No.: 22-13

Description of Source

Two electric driven pumps serve as the facility's primary fire water pumps. Two identical 800 hp diesel pumps serve as backup fire water pumps.

Diesel Rate: 5.60 MMBtu/hr
 Fuel Consumption¹: 7,000 Btu/hp-hr
 Operating Rate: 100 hrs/yr
 Max. Power Rating: 800 bhp
 Fuel Usage: 4,058 gal/yr

| Pollutant | Emission Factor ^{(1),(2)} | Average Emissions (lbs/hr) | Maximum Emissions ⁽³⁾ (lbs/hr) | Annual Emissions (tpy) |
|---|------------------------------------|----------------------------|---|------------------------|
| Particulate Matter (PM ₁₀) | 1.00E-01 lb/MMBtu | 0.560 | 0.672 | 0.03 |
| Particulate Matter (PM _{2.5}) | 1.00E-01 lb/MMBtu | 0.560 | 0.672 | 0.03 |
| Sulfur dioxide (SO ₂) | 1.01E+00 lb/MMBtu | 5.656 | 6.787 | 0.28 |
| Nitrogen oxides (NO _x) | 3.20E+00 lb/MMBtu | 17.920 | 21.504 | 0.90 |
| Carbon monoxide (CO) | 8.50E-01 lb/MMBtu | 4.760 | 5.712 | 0.24 |
| Total VOC | 9.00E-02 lb/MMBtu | 0.504 | 0.605 | 0.03 |
| Acenaphthylene | 9.23E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Acenaphthene | 4.98E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Fluorene | 1.28E-05 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Phenanthrene | 4.08E-05 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Anthracene | 1.23E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Fluoranthene | 4.03E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Acetaldehyde | 2.52E-05 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Acrolein | 7.88E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzene | 7.76E-04 lb/MMBtu | 0.004 | 0.005 | 0.000 |
| Pyrene | 3.71E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzo(a)anthracene | 6.22E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Chrysene | 1.53E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzo(b)fluoranthene | 1.11E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzo(k)fluoranthene | 2.18E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzo(a)pyrene | 2.57E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Formaldehyde | 7.89E-05 lb/MMBtu | 0.000 | 0.001 | 0.000 |
| Indeno(1,2,3-dc)pyrene | 4.14E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Dibenz(a,h)anthracene | 3.46E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Naphthalene | 1.30E-04 lb/MMBtu | 0.001 | 0.001 | 0.000 |
| PAH | 2.12E-04 lb/MMBtu | 0.001 | 0.001 | 0.000 |
| Propylene | 2.79E-03 lb/MMBtu | 0.016 | 0.019 | 0.001 |
| Benzo(g,h,i)perylene | 5.56E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Toluene | 2.81E-04 lb/MMBtu | 0.002 | 0.002 | 0.000 |
| Xylenes | 1.93E-04 lb/MMBtu | 0.001 | 0.001 | 0.000 |

- (1) Brake-specific fuel consumption from AP-42 for diesel engines (Section 3.4, rev. 10/96).
- (2) Emission factors from AP-42 for large diesel engines (Tables 3.4-1, 3.4-2, 3.4-3 and 3.4-4 rev. 10/96). SO₂ assumes 1% Sulfur in the fuel.
- (3) Maximum hourly emissions assumed to be 1.2 times average hourly emissions.

Strategic Biofuels LLC
Louisiana Green Fuels Project
Initial Minor Source Air Permit

Diesel Fire Water Pump No. 2
Emission Point No.: 22-14

Description of Source

Two electric driven pumps serve as the facility's primary fire water pumps. Two identical 800 hp diesel pumps serve as backup fire water pumps.

Diesel Rate: 5.60 MMBtu/hr
 Fuel Consumption¹: 7,000 Btu/hp-hr
 Operating Rate: 100 hrs/yr
 Max. Power Rating: 800 bhp
 Fuel Usage: 4,058 gal/yr

| Pollutant | Emission Factor ^{(1),(2)} | Average Emissions (lbs/hr) | Maximum Emissions ⁽³⁾ (lbs/hr) | Annual Emissions (tpy) |
|---|------------------------------------|----------------------------|---|------------------------|
| Particulate Matter (PM ₁₀) | 1.00E-01 lb/MMBtu | 0.560 | 0.672 | 0.03 |
| Particulate Matter (PM _{2.5}) | 1.00E-01 lb/MMBtu | 0.560 | 0.672 | 0.03 |
| Sulfur dioxide (SO ₂) | 1.01E+00 lb/MMBtu | 5.656 | 6.787 | 0.28 |
| Nitrogen oxides (NO _x) | 3.20E+00 lb/MMBtu | 17.920 | 21.504 | 0.90 |
| Carbon monoxide (CO) | 8.50E-01 lb/MMBtu | 4.760 | 5.712 | 0.24 |
| Total VOC | 9.00E-02 lb/MMBtu | 0.504 | 0.605 | 0.03 |
| Acenaphthylene | 9.23E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Acenaphthene | 4.98E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Fluorene | 1.28E-05 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Phenanthrene | 4.08E-05 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Anthracene | 1.23E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Fluoranthene | 4.03E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Acetaldehyde | 2.52E-05 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Acrolein | 7.88E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzene | 7.76E-04 lb/MMBtu | 0.004 | 0.005 | 0.000 |
| Pyrene | 3.71E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzo(a)anthracene | 6.22E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Chrysene | 1.53E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzo(b)fluoranthene | 1.11E-06 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzo(k)fluoranthene | 2.18E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Benzo(a)pyrene | 2.57E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Formaldehyde | 7.89E-05 lb/MMBtu | 0.000 | 0.001 | 0.000 |
| Indeno(1,2,3-dc)pyrene | 4.14E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Dibenz(a,h)anthracene | 3.46E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Naphthalene | 1.30E-04 lb/MMBtu | 0.001 | 0.001 | 0.000 |
| PAH | 2.12E-04 lb/MMBtu | 0.001 | 0.001 | 0.000 |
| Propylene | 2.79E-03 lb/MMBtu | 0.016 | 0.019 | 0.001 |
| Benzo(g,h,i)perylene | 5.56E-07 lb/MMBtu | 0.000 | 0.000 | 0.000 |
| Toluene | 2.81E-04 lb/MMBtu | 0.002 | 0.002 | 0.000 |
| Xylenes | 1.93E-04 lb/MMBtu | 0.001 | 0.001 | 0.000 |

- (1) Brake-specific fuel consumption from AP-42 for diesel engines (Section 3.4, rev. 10/96).
- (2) Emission factors from AP-42 for large diesel engines (Tables 3.4-1, 3.4-2, 3.4-3 and 3.4-4 rev. 10/96). SO2 assumes 1% Sulfur in the fuel.
- (3) Maximum hourly emissions assumed to be 1.2 times average hourly emissions.

Description of Source

A cooling tower provides cooling water for the facility.

Hours of Operation: 8,760 hrs
 Circulating Water: 30,000 gpm
 Circulating Water: 1,800,000 gph
 Dissolved Solids⁽¹⁾: 0.042 lb/gal
 Drift Emission Factor⁽²⁾: 0.0005%

| Pollutant | Emission Rates ⁽³⁾ | | |
|---|-------------------------------|----------------|---------------------|
| | Avg (lb/hr) | Max (lb/hr) | Annual (tons/yr) |
| Particulate Matter (PM ₁₀) | 0.376 | 0.751 | 1.64 |
| Particulate Matter (PM _{2.5}) | 0.376 | 0.751 | 1.64 |

⁽¹⁾ TDS is derived from Water System Design basis of < 5,000 mg/L.

⁽²⁾ Drift Emission Factor is based on vendor specifications.

⁽³⁾ Calculated per methodology from AP-42 13.4, Wet Cooling Towers.

Description of Source

A process-fired heater provides heat for the facility's liquid upgrading unit. The heater utilizes the facility's fuel gas.

Annual Operation: 8,760 hrs/yr
 Total Fuel Gas Usage: 3.8 MMBtu/hr

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|---|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | --- | 0.0075 | --- | 0.029 | 0.034 | 0.12 |
| Particulate Matter (PM _{2.5}) | --- | 0.0075 | --- | 0.029 | 0.034 | 0.12 |
| Sulfur dioxide (SO ₂) | --- | 0.0172 | --- | 0.065 | 0.078 | 0.29 |
| Nitrogen oxides (NO _x) | --- | 0.0490 | --- | 0.186 | 0.223 | 0.82 |
| Carbon monoxide (CO) | --- | 0.0824 | --- | 0.313 | 0.376 | 1.37 |
| Total VOC | --- | 0.0054 | --- | 0.021 | 0.025 | 0.09 |

- (1) Emission factors for PM₁₀, PM_{2.5}, NO_x, CO, and Total VOC are from AP42 Table 1.4-2. Emission factor for SO₂ assumes total fuel gas sulfur content is combusted to SO₂.
- (2) Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)
- (3) Calculated as: Average (lbs/hr) X 1.2
- (4) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

| Tank Information | | |
|---|------------------------|--------------|
| Type | Internal Floating Roof | |
| Shell Diameter | 25 | ft |
| Shell Height | 32 | ft |
| Throughput | 2759400 | gallons/year |
| Nearest City | Shreveport | |
| Insulation | Uninsulated | |
| Tank Paint | | |
| Roof Color | Gray (Light) | |
| Roof Condition | New | |
| Shell Color | Gray (Light) | |
| Shell Condition | New | |
| Internal Shell Condition | Light Rust | |
| Tank Construction | | |
| Tank Construction: Welded | | |
| Rim-Seal System: Mechanical-shoe seal: Shoe-mounted secondary | | |
| Seal Fit: Average-Fitting | | |
| Deck Construction: Welded | | |
| Deck Seam Length: | 25 | ft |
| Number of Support Columns | | |
| Effective Column Diameter | ft | |
| Contents | | |
| Tank Contents | Naphtha | |
| Crude Oil | No | |

| Constants | | | |
|-------------------------|------------|---------|--|
| Ideal Gas Constant | R | 10.731 | psia * ft ³ /(lb-mole * °R) |
| Paint Solar Absorptance | α_R | 0.54 | |
| Paint Solar Absorptance | α_S | 0.54 | |
| Solar Insolation | I | 1424.00 | Btu/(ft ² * day) |

| Deck Fittings | | |
|--|--------------------------------|------------------------------------|
| Fitting Type | Number of Fittings N_{Fi} | Fitting Loss Factor $N_{Fi}K_{Fi}$ |
| Access hatch: Bolted cover, gasketed | 1 | 1.6 |
| Gauge-float well (automatic gauge): Bolted cover, gasketed | 1 | 2.8 |
| Gauge-hatch/sample port: Weighted mechanical actuation, gasketed | 1 | 0.47 |
| Rim vent: Weighted mechanical actuation, gasketed | 1 | 0.71 |

| Emissions Summary | | |
|-------------------|-------|---------------|
| Total VOC Losses | L_t | 1310.84 lb/yr |
| Total VOC Losses | L_t | 0.150 lb/hr |
| Total VOC Losses | L_t | 0.66 ton/yr |
| n-Hexane Losses | L_t | 393.25 lb/yr |
| n-Hexane Losses | L_t | 0.045 lb/hr |
| n-Hexane Losses | L_t | 0.20 ton/yr |

| | | |
|---|----------|---|
| Standing Losses | L_s | 1286.97 lb/yr |
| Rim Seal Loss | L_R | 1129.42 lb/yr |
| Deck Fitting Loss | L_F | 157.55 lb/yr |
| Deck Seam Loss | L_D | 0.00 lb/yr |
| Zero Wind Speed Rim Seal Loss Factor | K_{Ra} | 1.60 lb-mole/(ft * yr) |
| Wind Speed Dependent Rim Seal Loss Factor | K_{Rb} | 0.30 lb-mole/(mph ⁿ * ft * yr) |
| Average Ambient Wind Speed | v | 0.00 mph |
| Seal Wind Speed Exponent | n | 1.60 |
| Vapor Pressure Function | P^* | 0.282 |
| Product Factor | K_C | 1.00 |
| Deck Seam Loss Factor | K_D | 0.00 lb-mole/ft-yr |
| Deck Seam Length Factor | S_D | 0.05 ft/ft ² |
| Min Daily Ambient Temp. | T_{AN} | 515.77 °R |
| Max Daily Ambient Temp. | T_{AX} | 535.67 °R |
| Avg. Daily Ambient Temp. | T_{AA} | 525.72 °R |
| Liquid Bulk Temp. | T_B | 528.80 °R |
| Avg. Daily Liq. Surface Temp. | T_{LA} | 530.95 °R |
| Atmospheric Pressure | P_A | 14.56 psia |
| Vapor Pressure at T_{LA} | P_{VA} | 10.000 psia |
| Total Deck Fitting Loss Factor | F_F | 5.58 lb-mole/yr |
| Vapor Molecular Weight | M_V | 100.00 lb/lb-mole |

| | | |
|--------------------------------|-------|---------------------------------|
| Working Losses | L_w | 23.87 lb/yr |
| Annual Net Throughput | Q | 65700.00 bbl/yr |
| Shell Clingage Factor | C_S | 0.0015 bbl/1000 ft ² |
| Average Organic Liquid Density | W_L | 6.42 lb/gal |
| Number of Support Columns | N_C | 0 |
| Effective Column Diameter | F_C | 0 ft |

Notes:

¹ AP-42 Chapter 7.1 (11/19): Section 7.1.3.2 - Routine Losses From Floating Roof Tanks

² n-Hexane emissions are based off of potential 30% content in naphtha.

| Tank Information | | |
|---|------------------------|--------------|
| Type | Internal Floating Roof | |
| Shell Diameter | 25 | ft |
| Shell Height | 32 | ft |
| Throughput | 2759400 | gallons/year |
| Nearest City | Shreveport | |
| Insulation | Uninsulated | |
| Tank Paint | | |
| Roof Color | Gray (Light) | |
| Roof Condition | New | |
| Shell Color | Gray (Light) | |
| Shell Condition | New | |
| Internal Shell Condition | Light Rust | |
| Tank Construction | | |
| Tank Construction: Welded | | |
| Rim-Seal System: Mechanical-shoe seal: Shoe-mounted secondary | | |
| Seal Fit: Average-Fitting | | |
| Deck Construction: Welded | | |
| Deck Seam Length: | 25 | ft |
| Number of Support Columns | | |
| Effective Column Diameter | ft | |
| Contents | | |
| Tank Contents | Naphtha | |
| Crude Oil | No | |

| Constants | | |
|-------------------------|------------|---|
| Ideal Gas Constant | R | 10.731 psia * ft ³ /(lb-mole * °R) |
| Paint Solar Absorptance | α_R | 0.54 |
| Paint Solar Absorptance | α_S | 0.54 |
| Solar Insolation | I | 1424.00 Btu/(ft ² * day) |

| Deck Fittings | | |
|--|--------------------------------|------------------------------------|
| Fitting Type | Number of Fittings N_{Fi} | Fitting Loss Factor $N_{Fi}K_{Fi}$ |
| Access hatch: Bolted cover, gasketed | 1 | 1.6 |
| Gauge-float well (automatic gauge): Bolted cover, gasketed | 1 | 2.8 |
| Gauge-hatch/sample port: Weighted mechanical actuation, gasketed | 1 | 0.47 |
| Rim vent: Weighted mechanical actuation, gasketed | 1 | 0.71 |

| Emissions Summary | | |
|-------------------|-------|---------------|
| Total Losses | L_t | 1310.84 lb/yr |
| Total Losses | L_t | 0.150 lb/hr |
| Total Losses | L_t | 0.66 ton/yr |
| n-Hexane Losses | L_t | 393.25 lb/yr |
| n-Hexane Losses | L_t | 0.045 lb/hr |
| n-Hexane Losses | L_t | 0.20 ton/yr |

| | | |
|---|----------|---|
| Standing Losses | L_s | 1286.97 lb/yr |
| Rim Seal Loss | L_R | 1129.42 lb/yr |
| Deck Fitting Loss | L_F | 157.55 lb/yr |
| Deck Seam Loss | L_D | 0.00 lb/yr |
| Zero Wind Speed Rim Seal Loss Factor | K_{Ra} | 1.60 lb-mole/(ft * yr) |
| Wind Speed Dependent Rim Seal Loss Factor | K_{Rb} | 0.30 lb-mole/(mph ⁿ * ft * yr) |
| Average Ambient Wind Speed | v | 0.00 mph |
| Seal Wind Speed Exponent | n | 1.60 |
| Vapor Pressure Function | P^* | 0.282 |
| Product Factor | K_C | 1.00 |
| Deck Seam Loss Factor | K_D | 0.00 lb-mole/ft-yr |
| Deck Seam Length Factor | S_D | 0.05 ft/ft ² |
| Min Daily Ambient Temp. | T_{AN} | 515.77 °R |
| Max Daily Ambient Temp. | T_{AX} | 535.67 °R |
| Avg. Daily Ambient Temp. | T_{AA} | 525.72 °R |
| Liquid Bulk Temp. | T_B | 528.80 °R |
| Avg. Daily Liq. Surface Temp. | T_{LA} | 530.95 °R |
| Atmospheric Pressure | P_A | 14.56 psia |
| Vapor Pressure at T_{LA} | P_{VA} | 10.000 psia |
| Total Deck Fitting Loss Factor | F_F | 5.58 lb-mole/yr |
| Vapor Molecular Weight | M_V | 100.00 lb/lb-mole |

| | | |
|--------------------------------|-------|---------------------------------|
| Working Losses | L_w | 23.87 lb/yr |
| Annual Net Throughput | Q | 65700.00 bbl/yr |
| Shell Clingage Factor | C_S | 0.0015 bbl/1000 ft ² |
| Average Organic Liquid Density | W_L | 6.42 lb/gal |
| Number of Support Columns | N_C | 0 |
| Effective Column Diameter | F_C | 0 ft |

Notes:

¹ AP-42 Chapter 7.1 (11/19): Section 7.1.3.2 - Routine Losses From Floating Roof Tanks

² n-Hexane emissions are based off of potential 30% content in naphtha.

| Tank Information | | |
|---|------------------------|--------------|
| Type | Internal Floating Roof | |
| Shell Diameter | 35 | ft |
| Shell Height | 40 | ft |
| Throughput | 5518800 | gallons/year |
| Nearest City | Shreveport | |
| Insulation | Uninsulated | |
| Tank Paint | | |
| Roof Color | Gray (Light) | |
| Roof Condition | New | |
| Shell Color | Gray (Light) | |
| Shell Condition | New | |
| Internal Shell Condition | Light Rust | |
| Tank Construction | | |
| Tank Construction: Welded | | |
| Rim-Seal System: Mechanical-shoe seal: Shoe-mounted secondary | | |
| Seal Fit: Average-Fitting | | |
| Deck Construction: Welded | | |
| Deck Seam Length: | 25 | ft |
| Number of Support Columns | | |
| Effective Column Diameter | ft | |
| Contents | | |
| Tank Contents | Naphtha | |
| Crude Oil | No | |

| Constants | | |
|-------------------------|------------|---|
| Ideal Gas Constant | R | 10.731 psia * ft ³ /(lb-mole * °R) |
| Paint Solar Absorptance | α_R | 0.54 |
| Paint Solar Absorptance | α_S | 0.54 |
| Solar Insolation | I | 1424.00 Btu/(ft ² * day) |

| Deck Fittings | | |
|--|--------------------------------|------------------------------------|
| Fitting Type | Number of Fittings N_{Fi} | Fitting Loss Factor $N_{Fi}K_{Fi}$ |
| Access hatch: Bolted cover, gasketed | 1 | 1.6 |
| Gauge-float well (automatic gauge): Bolted cover, gasketed | 1 | 2.8 |
| Gauge-hatch/sample port: Weighted mechanical actuation, gasketed | 1 | 0.47 |
| Rim vent: Weighted mechanical actuation, gasketed | 1 | 0.71 |

| Emissions Summary | | |
|-------------------|-------|---------------|
| Total Losses | L_t | 1772.84 lb/yr |
| Total Losses | L_t | 0.202 lb/hr |
| Total Losses | L_t | 0.89 ton/yr |
| n-Hexane Losses | L_t | 531.85 lb/yr |
| n-Hexane Losses | L_t | 0.061 lb/hr |
| n-Hexane Losses | L_t | 0.27 ton/yr |

| | | |
|---|----------|---|
| Standing Losses | L_s | 1738.74 lb/yr |
| Rim Seal Loss | L_R | 1581.19 lb/yr |
| Deck Fitting Loss | L_F | 157.55 lb/yr |
| Deck Seam Loss | L_D | 0.00 lb/yr |
| Zero Wind Speed Rim Seal Loss Factor | K_{Ra} | 1.60 lb-mole/(ft * yr) |
| Wind Speed Dependent Rim Seal Loss Factor | K_{Rb} | 0.30 lb-mole/(mph ⁿ * ft * yr) |
| Average Ambient Wind Speed | v | 0.00 mph |
| Seal Wind Speed Exponent | n | 1.60 |
| Vapor Pressure Function | P^* | 0.282 |
| Product Factor | K_C | 1.00 |
| Deck Seam Loss Factor | K_D | 0.00 lb-mole/ft-yr |
| Deck Seam Length Factor | S_D | 0.03 ft/ft ² |
| Min Daily Ambient Temp. | T_{AN} | 515.77 °R |
| Max Daily Ambient Temp. | T_{AX} | 535.67 °R |
| Avg. Daily Ambient Temp. | T_{AA} | 525.72 °R |
| Liquid Bulk Temp. | T_B | 528.80 °R |
| Avg. Daily Liq. Surface Temp. | T_{LA} | 530.95 °R |
| Atmospheric Pressure | P_A | 14.56 psia |
| Vapor Pressure at T_{LA} | P_{VA} | 10.000 psia |
| Total Deck Fitting Loss Factor | F_F | 5.58 lb-mole/yr |
| Vapor Molecular Weight | M_V | 100.00 lb/lb-mole |

| | | |
|--------------------------------|-------|---------------------------------|
| Working Losses | L_w | 34.10 lb/yr |
| Annual Net Throughput | Q | 131400.00 bbl/yr |
| Shell Clingage Factor | C_S | 0.0015 bbl/1000 ft ² |
| Average Organic Liquid Density | W_L | 6.42 lb/gal |
| Number of Support Columns | N_C | 0 |
| Effective Column Diameter | F_C | 0 ft |

Notes:

¹ AP-42 Chapter 7.1 (11/19): Section 7.1.3.2 - Routine Losses From Floating Roof Tanks

² n-Hexane emissions are based off of potential 30% content in naphtha.

| Tank Information | | | |
|---|---------------------|----------------|--|
| Type | Vertical Fixed-Roof | | |
| Shell Diameter | 45 | ft | |
| Shell Height | 48 | ft | |
| Average Height of Liquid | 24 | ft | |
| Maximum Height of Liquid | 48 | ft | |
| Throughput | 15330000 | gallons/year | |
| Maximum Liquid Volume | 571068.14 | gallons | |
| Turnovers | 27.41 | turnovers/year | |
| Nearest City | Shreveport | | |
| Insulation | Uninsulated | | |
| Tank Paint | | | |
| Roof Color | Gray (Light) | | |
| Roof Condition | New | | |
| Shell Color | Gray (Light) | | |
| Shell Condition | New | | |
| Tank Roof | | | |
| Type | Cone | | |
| Cone Slope (If Applicable) | 0.167 | ft/ft | |
| Dome Radius (If Applicable) | ft | | |
| Vent Settings | | | |
| Breather Vent Pressure Setting | 0.03 | psig | |
| Breather Vent Vacuum Setting | -0.03 | psig | |
| Tank Pressure | 0 | psig | |
| Contents | | | |
| Tank Contents Distillate fuel oil No. 2 | | | |

| Constants | | | |
|-------------------------|------------|---------|--|
| Ideal Gas Constant | R | 10.731 | psia * ft ³ /(lb-mole * °R) |
| Paint Solar Absorptance | α_R | 0.54 | |
| Paint Solar Absorptance | α_S | 0.54 | |
| Solar Insolation | I | 1424.00 | Btu/(ft ² * day) |

| Emissions Summary | | | |
|-------------------|-------|--------|--------|
| Total Losses | L_t | 552.67 | lb/yr |
| Total Losses | L_t | 0.063 | lb/hr |
| Total Losses | L_t | 0.28 | ton/yr |

| | | |
|----------------------------------|-----------------|--------------------------------|
| Standing Losses | L_s | 145.56 lb/yr |
| Min Daily Ambient Temp. | T_{AN} | 515.77 °R |
| Max Daily Ambient Temp. | T_{AX} | 535.67 °R |
| Avg. Daily Ambient Temp. | T_{AA} | 525.72 °R |
| Liquid Bulk Temp. | T_B | 528.03 °R |
| Average Vapor Temperature | T_V | 532.47 °R |
| Daily Vapor Temp. Range | ΔT_V | 28.78 °R |
| Avg. Daily Liq. Surface Temp. | T_{LA} | 530.25 °R |
| Min Daily Liq. Surface Temp. | T_{LN} | 523.05 °R |
| Max Daily Liq. Surface Temp. | T_{LX} | 537.44 °R |
| Atmospheric Pressure | P_A | 14.7 psia |
| Vent Pressure Range | ΔP_B | 0.06 psia |
| Vapor Pressure at T_{LA} | P_{VA} | 0.009 psia |
| Vapor Pressure at T_{LN} | P_{VN} | 0.007 psia |
| Vapor Pressure at T_{LX} | P_{VX} | 0.011 psia |
| Daily Vapor Press. Range | ΔP_V | 0.004 psia |
| Vapor Molecular Weight | M_V | 130.00 lb/lb-mole |
| Vapor Space Exp. Factor | K_E | 0.05 |
| Vapor Saturation Factor | K_S | 0.99 |
| Stock Vapor Density | W_V | 0.000 lb/ft ³ |
| Vapor Space Outage | H_{VO} | 25.25 ft |
| Shell Height | H_S | 48.00 ft |
| Liquid Height | H_L | 24.00 ft |
| Roof Height | H_R | 3.75 ft |
| Cone Roof Slope | S_R | 0.17 ft/ft |
| Shell Radius | R_S | 22.50 ft |
| Dome Roof Radius | R_R | 45.00 ft |
| Roof Outage | H_{RO} | 1.25 ft |
| Working Losses | L_w | 407.11 lb/yr |
| Vapor Molecular Weight | M_V | 130.00 lb/lb-mole |
| Vapor Pressure at T_{LA} | P_{VA} | 0.01 psia |
| Turnovers | N | 27.41 |
| Sum of Increases in Liquid Level | ΣH_{QI} | 1288.42 ft/yr |
| Max Height of Liquid | H_{LX} | 48 ft |
| Net Working Loss Throughput | V_Q | 2049150.98 ft ³ /yr |
| Stock Vapor Density | W_V | 0.000 lb/ft ³ |
| L_w Turnover Factor | K_N | 1.00 |
| L_w Product Factor | K_P | 1.00 |
| Vent Correction Factor | K_B | 1.00 |
| Tank Pressure | P_I | 0.00 psig |
| Vent Pressure Setting | P_{BP} | 0.03 psig |

Notes:

¹ AP-42 Chapter 7.1 (11/19): Section 7.1.3.1 - Routine Losses From Fixed Roof Tanks

| Tank Information | | | |
|---|---------------------|----------------|--|
| Type | Vertical Fixed-Roof | | |
| Shell Diameter | 45 | ft | |
| Shell Height | 48 | ft | |
| Average Height of Liquid | 24 | ft | |
| Maximum Height of Liquid | 48 | ft | |
| Throughput | 15330000 | gallons/year | |
| Maximum Liquid Volume | 571068.14 | gallons | |
| Turnovers | 27.41 | turnovers/year | |
| Nearest City | Shreveport | | |
| Insulation | Uninsulated | | |
| Tank Paint | | | |
| Roof Color | Gray (Light) | | |
| Roof Condition | New | | |
| Shell Color | Gray (Light) | | |
| Shell Condition | New | | |
| Tank Roof | | | |
| Type | Cone | | |
| Cone Slope (If Applicable) | 0.167 | ft/ft | |
| Dome Radius (If Applicable) | ft | | |
| Vent Settings | | | |
| Breather Vent Pressure Setting | 0.03 | psig | |
| Breather Vent Vacuum Setting | -0.03 | psig | |
| Tank Pressure | 0 | psig | |
| Contents | | | |
| Tank Contents Distillate fuel oil No. 2 | | | |

| Constants | | | |
|-------------------------|------------|---------|--|
| Ideal Gas Constant | R | 10.731 | psia * ft ³ /(lb-mole * °R) |
| Paint Solar Absorptance | α_R | 0.54 | |
| Paint Solar Absorptance | α_S | 0.54 | |
| Solar Insolation | I | 1424.00 | Btu/(ft ² * day) |

| Emissions Summary | | | |
|-------------------|-------|--------|--------|
| Total Losses | L_t | 552.67 | lb/yr |
| Total Losses | L_t | 0.063 | lb/hr |
| Total Losses | L_t | 0.28 | ton/yr |

| | | |
|-------------------------------|--------------|--------------------------|
| Standing Losses | L_s | 145.56 lb/yr |
| Min Daily Ambient Temp. | T_{AN} | 515.77 °R |
| Max Daily Ambient Temp. | T_{AX} | 535.67 °R |
| Avg. Daily Ambient Temp. | T_{AA} | 525.72 °R |
| Liquid Bulk Temp. | T_B | 528.03 °R |
| Average Vapor Temperature | T_V | 532.47 °R |
| Daily Vapor Temp. Range | ΔT_V | 28.78 °R |
| Avg. Daily Liq. Surface Temp. | T_{LA} | 530.25 °R |
| Min Daily Liq. Surface Temp. | T_{LN} | 523.05 °R |
| Max Daily Liq. Surface Temp. | T_{LX} | 537.44 °R |
| Atmospheric Pressure | P_A | 14.7 psia |
| Vent Pressure Range | ΔP_B | 0.06 psia |
| Vapor Pressure at T_{LA} | P_{VA} | 0.009 psia |
| Vapor Pressure at T_{LN} | P_{VN} | 0.007 psia |
| Vapor Pressure at T_{LX} | P_{VX} | 0.011 psia |
| Daily Vapor Press. Range | ΔP_V | 0.004 psia |
| Vapor Molecular Weight | M_V | 130.00 lb/lb-mole |
| Vapor Space Exp. Factor | K_E | 0.05 |
| Vapor Saturation Factor | K_S | 0.99 |
| Stock Vapor Density | W_V | 0.000 lb/ft ³ |
| Vapor Space Outage | H_{VO} | 25.25 ft |
| Shell Height | H_S | 48.00 ft |
| Liquid Height | H_L | 24.00 ft |
| Roof Height | H_R | 3.75 ft |
| Cone Roof Slope | S_R | 0.17 ft/ft |
| Shell Radius | R_S | 22.50 ft |
| Dome Roof Radius | R_R | 45.00 ft |
| Roof Outage | H_{RO} | 1.25 ft |

| | | |
|----------------------------------|-----------------|--------------------------------|
| Working Losses | L_w | 407.11 lb/yr |
| Vapor Molecular Weight | M_V | 130.00 lb/lb-mole |
| Vapor Pressure at T_{LA} | P_{VA} | 0.01 psia |
| Turnovers | N | 27.41 |
| Sum of Increases in Liquid Level | ΣH_{QI} | 1288.42 ft/yr |
| Max Height of Liquid | H_{LX} | 48 ft |
| Net Working Loss Throughput | V_Q | 2049150.98 ft ³ /yr |
| Stock Vapor Density | W_V | 0.000 lb/ft ³ |
| L_w Turnover Factor | K_N | 1.00 |
| L_w Product Factor | K_P | 1.00 |
| Vent Correction Factor | K_B | 1.00 |
| Tank Pressure | P_I | 0.00 psig |
| Vent Pressure Setting | P_{BP} | 0.03 psig |

Notes:

¹ AP-42 Chapter 7.1 (11/19): Section 7.1.3.1 - Routine Losses From Fixed Roof Tanks

| Tank Information | | | |
|---|---------------------|----------------|--|
| Type | Vertical Fixed-Roof | | |
| Shell Diameter | 70 | ft | |
| Shell Height | 42 | ft | |
| Average Height of Liquid | 21 | ft | |
| Maximum Height of Liquid | 42 | ft | |
| Throughput | 30660000 | gallons/year | |
| Maximum Liquid Volume | 1209113.42 | gallons | |
| Turnovers | 25.97 | turnovers/year | |
| Nearest City | Shreveport | | |
| Insulation | Uninsulated | | |
| Tank Paint | | | |
| Roof Color | Gray (Light) | | |
| Roof Condition | New | | |
| Shell Color | Gray (Light) | | |
| Shell Condition | New | | |
| Tank Roof | | | |
| Type | Cone | | |
| Cone Slope (If Applicable) | 0.167 | ft/ft | |
| Dome Radius (If Applicable) | ft | | |
| Vent Settings | | | |
| Breather Vent Pressure Setting | 0.03 | psig | |
| Breather Vent Vacuum Setting | -0.03 | psig | |
| Tank Pressure | 0 | psig | |
| Contents | | | |
| Tank Contents Distillate fuel oil No. 2 | | | |

| Constants | | | |
|-------------------------|------------|---------|--|
| Ideal Gas Constant | R | 10.731 | psia * ft ³ /(lb-mole * °R) |
| Paint Solar Absorptance | α_R | 0.54 | |
| Paint Solar Absorptance | α_S | 0.54 | |
| Solar Insolation | I | 1424.00 | Btu/(ft ² * day) |

| Emissions Summary | | | |
|-------------------|-------|---------|--------|
| Total Losses | L_t | 1144.97 | lb/yr |
| Total Losses | L_t | 0.131 | lb/hr |
| Total Losses | L_t | 0.57 | ton/yr |

| | | |
|-------------------------------|--------------|--------------------------|
| Standing Losses | L_s | 322.56 lb/yr |
| Min Daily Ambient Temp. | T_{AN} | 515.77 °R |
| Max Daily Ambient Temp. | T_{AX} | 535.67 °R |
| Avg. Daily Ambient Temp. | T_{AA} | 525.72 °R |
| Liquid Bulk Temp. | T_B | 528.03 °R |
| Average Vapor Temperature | T_V | 533.17 °R |
| Daily Vapor Temp. Range | ΔT_V | 28.71 °R |
| Avg. Daily Liq. Surface Temp. | T_{LA} | 530.60 °R |
| Min Daily Liq. Surface Temp. | T_{LN} | 523.42 °R |
| Max Daily Liq. Surface Temp. | T_{LX} | 537.78 °R |
| Atmospheric Pressure | P_A | 14.7 psia |
| Vent Pressure Range | ΔP_B | 0.06 psia |
| Vapor Pressure at T_{LA} | P_{VA} | 0.009 psia |
| Vapor Pressure at T_{LN} | P_{VN} | 0.007 psia |
| Vapor Pressure at T_{LX} | P_{VX} | 0.011 psia |
| Daily Vapor Press. Range | ΔP_V | 0.004 psia |
| Vapor Molecular Weight | M_V | 130.00 lb/lb-mole |
| Vapor Space Exp. Factor | K_E | 0.05 |
| Vapor Saturation Factor | K_S | 0.99 |
| Stock Vapor Density | W_V | 0.000 lb/ft ³ |
| Vapor Space Outage | H_{VO} | 22.94 ft |
| Shell Height | H_S | 42.00 ft |
| Liquid Height | H_L | 21.00 ft |
| Roof Height | H_R | 5.83 ft |
| Cone Roof Slope | S_R | 0.17 ft/ft |
| Shell Radius | R_S | 35.00 ft |
| Dome Roof Radius | R_R | 70.00 ft |
| Roof Outage | H_{RO} | 1.94 ft |

| | | |
|----------------------------------|-----------------|--------------------------------|
| Working Losses | L_w | 822.40 lb/yr |
| Vapor Molecular Weight | M_V | 130.00 lb/lb-mole |
| Vapor Pressure at T_{LA} | P_{VA} | 0.01 psia |
| Turnovers | N | 25.97 |
| Sum of Increases in Liquid Level | ΣH_{QI} | 1064.92 ft/yr |
| Max Height of Liquid | H_{LX} | 42 ft |
| Net Working Loss Throughput | V_Q | 4098301.96 ft ³ /yr |
| Stock Vapor Density | W_V | 0.000 lb/ft ³ |
| L_w Turnover Factor | K_N | 1.00 |
| L_w Product Factor | K_P | 1.00 |
| Vent Correction Factor | K_B | 1.00 |
| Tank Pressure | P_I | 0.00 psig |
| Vent Pressure Setting | P_{BP} | 0.03 psig |

Notes:

¹ AP-42 Chapter 7.1 (11/19): Section 7.1.3.1 - Routine Losses From Fixed Roof Tanks

| Tank Information | | | |
|--------------------------------|---------------------|--|----------------|
| Type | Vertical Fixed-Roof | | |
| Shell Diameter | 10 | | ft |
| Shell Height | 19 | | ft |
| Average Height of Liquid | 9.5 | | ft |
| Maximum Height of Liquid | 19 | | ft |
| Throughput | 279071 | | gallons/year |
| Maximum Liquid Volume | 11162.85 | | gallons |
| Turnovers | 26.39 | | turnovers/year |
| Nearest City | Shreveport | | |
| Insulation | Uninsulated | | |
| Tank Paint | | | |
| Roof Color | Gray (Light) | | |
| Roof Condition | New | | |
| Shell Color | Gray (Light) | | |
| Shell Condition | New | | |
| Tank Roof | | | |
| Type | Cone | | |
| Cone Slope (If Applicable) | 0.167 | | ft/ft |
| Dome Radius (If Applicable) | | | ft |
| Vent Settings | | | |
| Breather Vent Pressure Setting | 0.03 | | psig |
| Breather Vent Vacuum Setting | -0.03 | | psig |
| Tank Pressure | 0 | | psig |
| Contents | | | |
| Tank Contents | Sulfuric Acid | | |

| Constants | | | |
|-------------------------|------------|---------|--|
| Ideal Gas Constant | R | 10.731 | psia * ft ³ /(lb-mole * °R) |
| Paint Solar Absorptance | α_R | 0.54 | |
| Paint Solar Absorptance | α_S | 0.54 | |
| Solar Insolation | I | 1424.00 | Btu/(ft ² * day) |

| Emissions Summary | | | |
|-------------------|-------|-------|--------|
| Total Losses | L_t | 5.11 | lb/yr |
| Total Losses | L_t | 0.001 | lb/hr |
| Total Losses | L_t | 0.00 | ton/yr |

| | | |
|----------------------------------|-----------------|------------------------------|
| Standing Losses | L_s | 1.40 lb/yr |
| Min Daily Ambient Temp. | T_{AN} | 515.77 °R |
| Max Daily Ambient Temp. | T_{AX} | 535.67 °R |
| Avg. Daily Ambient Temp. | T_{AA} | 525.72 °R |
| Liquid Bulk Temp. | T_B | 528.03 °R |
| Average Vapor Temperature | T_V | 531.80 °R |
| Daily Vapor Temp. Range | ΔT_V | 28.84 °R |
| Avg. Daily Liq. Surface Temp. | T_{LA} | 529.92 °R |
| Min Daily Liq. Surface Temp. | T_{LN} | 522.70 °R |
| Max Daily Liq. Surface Temp. | T_{LX} | 537.13 °R |
| Atmospheric Pressure | P_A | 14.7 psia |
| Vent Pressure Range | ΔP_B | 0.06 psia |
| Vapor Pressure at T_{LA} | P_{VA} | 0.006 psia |
| Vapor Pressure at T_{LN} | P_{VN} | 0.006 psia |
| Vapor Pressure at T_{LX} | P_{VX} | 0.006 psia |
| Daily Vapor Press. Range | ΔP_V | 0.000 psia |
| Vapor Molecular Weight | M_V | 98.08 lb/lb-mole |
| Vapor Space Exp. Factor | K_E | 0.05 |
| Vapor Saturation Factor | K_S | 1.00 |
| Stock Vapor Density | W_V | 0.000 lb/ft ³ |
| Vapor Space Outage | H_{VO} | 9.78 ft |
| Shell Height | H_S | 19.00 ft |
| Liquid Height | H_L | 9.50 ft |
| Roof Height | H_R | 0.83 ft |
| Cone Roof Slope | S_R | 0.17 ft/ft |
| Shell Radius | R_S | 5.00 ft |
| Dome Roof Radius | R_R | 10.00 ft |
| Roof Outage | H_{RO} | 0.28 ft |
| Working Losses | L_w | 3.71 lb/yr |
| Vapor Molecular Weight | M_V | 98.08 lb/lb-mole |
| Vapor Pressure at T_{LA} | P_{VA} | 0.01 psia |
| Turnovers | N | 26.39 |
| Sum of Increases in Liquid Level | ΣH_{QI} | 474.96 ft/yr |
| Max Height of Liquid | H_{LX} | 19 ft |
| Net Working Loss Throughput | V_Q | 37303.29 ft ³ /yr |
| Stock Vapor Density | W_V | 0.000 lb/ft ³ |
| L_w Turnover Factor | K_N | 1.00 |
| L_w Product Factor | K_P | 1.00 |
| Vent Correction Factor | K_B | 1.00 |
| Tank Pressure | P_I | 0.00 psig |
| Vent Pressure Setting | P_{BP} | 0.03 psig |

Notes:

¹ AP-42 Chapter 7.1 (11/19): Section 7.1.3.1 - Routine Losses From Fixed Roof Tanks

| Tank Information | | |
|---|------------------------|--------------|
| Type | Internal Floating Roof | |
| Shell Diameter | 26.25 | ft |
| Shell Height | 26.25 | ft |
| Throughput | 36000 | gallons/year |
| Nearest City | Shreveport | |
| Insulation | Uninsulated | |
| Tank Paint | | |
| Roof Color | Gray (Light) | |
| Roof Condition | New | |
| Shell Color | Gray (Light) | |
| Shell Condition | New | |
| Internal Shell Condition | Light Rust | |
| Tank Construction | | |
| Tank Construction: Welded | | |
| Rim-Seal System: Mechanical-shoe seal: Shoe-mounted secondary | | |
| Seal Fit: Average-Fitting | | |
| Deck Construction: Welded | | |
| Deck Seam Length: | 25 | ft |
| Number of Support Columns | | |
| Effective Column Diameter | ft | |
| Contents | | |
| Tank Contents | Methanol | |
| Crude Oil | No | |

| Constants | | |
|-------------------------|------------|---|
| Ideal Gas Constant | R | 10.731 psia * ft ³ /(lb-mole * °R) |
| Paint Solar Absorptance | α_R | 0.54 |
| Paint Solar Absorptance | α_S | 0.54 |
| Solar Insolation | I | 1424.00 Btu/(ft ² * day) |

| Deck Fittings | | |
|--|--------------------|------------------------------------|
| Fitting Type | Number of Fittings | |
| | N_{Fi} | Fitting Loss Factor $N_{Fi}K_{Fi}$ |
| Access hatch: Bolted cover, gasketed | 1 | 1.6 |
| Gauge-float well (automatic gauge): Bolted cover, gasketed | 1 | 2.8 |
| Gauge-hatch/sample port: Weighted mechanical actuation, gasketed | 1 | 0.47 |
| Rim vent: Weighted mechanical actuation, gasketed | 1 | 0.71 |

| Emissions Summary | | |
|-------------------|-------|-------------|
| Total Losses | L_t | 57.78 lb/yr |
| Total Losses | L_t | 0.007 lb/hr |
| Total Losses | L_t | 0.03 ton/yr |

| | | |
|---|----------|---|
| Standing Losses | L_s | 57.47 lb/yr |
| Rim Seal Loss | L_R | 50.73 lb/yr |
| Deck Fitting Loss | L_F | 6.74 lb/yr |
| Deck Seam Loss | L_D | 0.00 lb/yr |
| Zero Wind Speed Rim Seal Loss Factor | K_{Ra} | 1.60 lb-mole/(ft * yr) |
| Wind Speed Dependent Rim Seal Loss Factor | K_{Rb} | 0.30 lb-mole/(mph ⁿ * ft * yr) |
| Average Ambient Wind Speed | v | 0.00 mph |
| Seal Wind Speed Exponent | n | 1.60 |
| Vapor Pressure Function | P^* | 0.038 |
| Product Factor | K_C | 1.00 |
| Deck Seam Loss Factor | K_D | 0.00 lb-mole/ft-yr |
| Deck Seam Length Factor | S_D | 0.05 ft/ft ² |
| Min Daily Ambient Temp. | T_{AN} | 515.77 °R |
| Max Daily Ambient Temp. | T_{AX} | 535.67 °R |
| Avg. Daily Ambient Temp. | T_{AA} | 525.72 °R |
| Liquid Bulk Temp. | T_B | 528.80 °R |
| Avg. Daily Liq. Surface Temp. | T_{LA} | 530.95 °R |
| Atmospheric Pressure | P_A | 14.56 psia |
| Vapor Pressure at T_{LA} | P_{VA} | 2.039 psia |
| Total Deck Fitting Loss Factor | F_F | 5.58 lb-mole/yr |
| Vapor Molecular Weight | M_V | 32.04 lb/lb-mole |

| | | |
|--------------------------------|-------|---------------------------------|
| Working Losses | L_w | 0.31 lb/yr |
| Annual Net Throughput | Q | 857.14 bbl/yr |
| Shell Clingage Factor | C_S | 0.0015 bbl/1000 ft ² |
| Average Organic Liquid Density | W_L | 6.61 lb/gal |
| Number of Support Columns | N_C | 0 |
| Effective Column Diameter | F_C | 0 ft |

Notes:

¹ AP-42 Chapter 7.1 (11/19): Section 7.1.3.2 - Routine Losses From Floating Roof Tanks

| Tank Information | | | |
|---|---------------------|----------------|--|
| Type | Vertical Fixed-Roof | | |
| Shell Diameter | 12 | ft | |
| Shell Height | 15 | ft | |
| Average Height of Liquid | 7.5 | ft | |
| Maximum Height of Liquid | 15 | ft | |
| Throughput | 50000 | gallons/year | |
| Maximum Liquid Volume | 12690.40 | gallons | |
| Turnovers | 4.22 | turnovers/year | |
| Nearest City | Shreveport | | |
| Insulation | Uninsulated | | |
| Tank Paint | | | |
| Roof Color | Gray (Light) | | |
| Roof Condition | New | | |
| Shell Color | Gray (Light) | | |
| Shell Condition | New | | |
| Tank Roof | | | |
| Type | Cone | | |
| Cone Slope (If Applicable) | 0.167 | ft/ft | |
| Dome Radius (If Applicable) | ft | | |
| Vent Settings | | | |
| Breather Vent Pressure Setting | 0.03 | psig | |
| Breather Vent Vacuum Setting | -0.03 | psig | |
| Tank Pressure | 0 | psig | |
| Contents | | | |
| Tank Contents Distillate fuel oil No. 2 | | | |

| Constants | | | |
|-------------------------|------------|---------|--|
| Ideal Gas Constant | R | 10.731 | psia * ft ³ /(lb-mole * °R) |
| Paint Solar Absorptance | α_R | 0.54 | |
| Paint Solar Absorptance | α_S | 0.54 | |
| Solar Insolation | I | 1424.00 | Btu/(ft ² * day) |

| Emissions Summary | | | |
|-------------------|-------|-------|--------|
| Total Losses | L_t | 4.56 | lb/yr |
| Total Losses | L_t | 0.001 | lb/hr |
| Total Losses | L_t | 0.00 | ton/yr |

| | | |
|----------------------------------|-----------------|-----------------------------|
| Standing Losses | L_s | 3.23 lb/yr |
| Min Daily Ambient Temp. | T_{AN} | 515.77 °R |
| Max Daily Ambient Temp. | T_{AX} | 535.67 °R |
| Avg. Daily Ambient Temp. | T_{AA} | 525.72 °R |
| Liquid Bulk Temp. | T_B | 528.03 °R |
| Average Vapor Temperature | T_V | 532.28 °R |
| Daily Vapor Temp. Range | ΔT_V | 28.80 °R |
| Avg. Daily Liq. Surface Temp. | T_{LA} | 530.15 °R |
| Min Daily Liq. Surface Temp. | T_{LN} | 522.95 °R |
| Max Daily Liq. Surface Temp. | T_{LX} | 537.35 °R |
| Atmospheric Pressure | P_A | 14.7 psia |
| Vent Pressure Range | ΔP_B | 0.06 psia |
| Vapor Pressure at T_{LA} | P_{VA} | 0.009 psia |
| Vapor Pressure at T_{LN} | P_{VN} | 0.007 psia |
| Vapor Pressure at T_{LX} | P_{VX} | 0.011 psia |
| Daily Vapor Press. Range | ΔP_V | 0.004 psia |
| Vapor Molecular Weight | M_V | 130.00 lb/lb-mole |
| Vapor Space Exp. Factor | K_E | 0.05 |
| Vapor Saturation Factor | K_S | 1.00 |
| Stock Vapor Density | W_V | 0.000 lb/ft ³ |
| Vapor Space Outage | H_{VO} | 7.83 ft |
| Shell Height | H_S | 15.00 ft |
| Liquid Height | H_L | 7.50 ft |
| Roof Height | H_R | 1.00 ft |
| Cone Roof Slope | S_R | 0.17 ft/ft |
| Shell Radius | R_S | 6.00 ft |
| Dome Roof Radius | R_R | 12.00 ft |
| Roof Outage | H_{RO} | 0.33 ft |
| Working Losses | L_w | 1.32 lb/yr |
| Vapor Molecular Weight | M_V | 130.00 lb/lb-mole |
| Vapor Pressure at T_{LA} | P_{VA} | 0.01 psia |
| Turnovers | N | 4.22 |
| Sum of Increases in Liquid Level | ΣH_{QI} | 59.09 ft/yr |
| Max Height of Liquid | H_{LX} | 15 ft |
| Net Working Loss Throughput | V_Q | 6683.47 ft ³ /yr |
| Stock Vapor Density | W_V | 0.000 lb/ft ³ |
| L_w Turnover Factor | K_N | 1.00 |
| L_w Product Factor | K_P | 1.00 |
| Vent Correction Factor | K_B | 1.00 |
| Tank Pressure | P_I | 0.00 psig |
| Vent Pressure Setting | P_{BP} | 0.03 psig |

Notes:

¹ AP-42 Chapter 7.1 (11/19): Section 7.1.3.1 - Routine Losses From Fixed Roof Tanks

Description of Source

Various process wastewater streams are treated by an onsite wastewater treatment system.

| Wastewater Input | Stream 1 | Stream 2 | Stream 3 | Stream 4 | Stream 5 | Stream 6 | Stream 7 | |
|--|----------|----------|----------|----------|----------|----------|----------|--|
| Water _{IN} (lb/hr) ¹ | 4216 | 168 | 1820 | 940 | 262 | 1428 | 105 | |
| TOC _{IN} (ppm) ¹ | 139 | 127 | 139 | 400 | 1413 | 10000 | 144 | |
| TOC _{IN} (lb/hr) | 0.586 | 0.021 | 0.253 | 0.376 | 0.370 | 14.283 | 0.015 | |
| Total TOC _{IN} (lb/hr) | | | | | | | 15.905 | |

| Pollutant | TOC _{IN} (lb/hr) | Percent Emitted ⁽²⁾ | Emission Rates | | |
|-----------|------------------------------|-----------------------------------|----------------|----------------|---------------------|
| | | | Avg (lb/hr) | Max (lb/hr) | Annual (tons/yr) |
| Total VOC | 15.905 | 3.00% | 0.477 | 0.573 | 2.09 |

⁽¹⁾ Wastewater streams and TOC content based on process specifications.

⁽²⁾ 3% of TOC content is assumed to be emitted to atmosphere as VOC.

Description of Source

Facility fugitive leak emissions are estimated based on equipment component counts and railcar loading throughputs.

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|-----------|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Total VOC | 0.557 | --- | --- | 0.557 | --- | 2.44 |
| n-Hexane | 0.057 | --- | --- | 0.057 | --- | 0.25 |
| Methanol | 0.122 | --- | --- | 0.122 | --- | 0.53 |

Equipment Leak Fugitive Emissions

Leaking components⁽¹⁾ 2%
Non-leaking components⁽¹⁾ 98%

| Total VOCs | | | | | | |
|----------------------------|-----------------|--|---|-------------------------------|-------------------------------|---------------------------|
| Component Type and Service | Component Count | Leak Emission Factor ⁽²⁾ (kg/hr-comp.) | No-Leak Emission Factor ⁽³⁾ (kg/hr-comp.) | Average Emissions (lbs/hr) | Maximum Emissions (lbs/hr) | Annual Emissions (tpy) |
| Connectors - All | 259 | 0.00025 | 7.50E-06 | 0.007 | -- | 0.03 |
| Valves - Gas | 74 | 0.02680 | 7.80E-06 | 0.089 | -- | 0.39 |
| Valves - Light Liquid | 137 | 0.01090 | 7.80E-06 | 0.068 | -- | 0.30 |
| Valves - Heavy Liquid | 23 | 0.00023 | 7.80E-06 | 0.001 | -- | 0.00 |
| Pumps - Light Liquid | 38 | 0.11400 | 2.40E-05 | 0.193 | -- | 0.85 |
| Pumps - Heavy Liquid | 8 | 0.02100 | 2.40E-05 | 0.008 | -- | 0.03 |
| Total VOC | | | | 0.365 | -- | 1.60 |

- ⁽¹⁾ Percentages of leaking components based on 98% non-leaking (0 range), and 2% leaking.
- ⁽²⁾ Emission factors taken from EPA's Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017, November 1995) Average Emission Factors (Table 2-2).
- ⁽³⁾ Default Zero Values: Petroleum Industry (Table 2-12)

Leaking components⁽¹⁾ 2%
Non-leaking components⁽¹⁾ 98%

| Methanol ⁽²⁾ | | | | | | |
|----------------------------|-----------------|--|---|-------------------------------|-------------------------------|---------------------------|
| Component Type and Service | Component Count | Leak Emission Factor ⁽³⁾ (kg/hr-comp.) | No-Leak Emission Factor ⁽⁴⁾ (kg/hr-comp.) | Average Emissions (lbs/hr) | Maximum Emissions (lbs/hr) | Annual Emissions (tpy) |
| Connectors - All | 58 | 0.00025 | 7.50E-06 | 0.002 | -- | 0.01 |
| Valves - Gas | 0 | 0.02680 | 7.80E-06 | 0.000 | -- | 0.00 |
| Valves - Light Liquid | 58 | 0.01090 | 7.80E-06 | 0.029 | -- | 0.13 |
| Valves - Heavy Liquid | 0 | 0.00023 | 7.80E-06 | 0.000 | -- | 0.00 |
| Pumps - Light Liquid | 18 | 0.11400 | 2.40E-05 | 0.091 | -- | 0.40 |
| Pumps - Heavy Liquid | 0 | 0.02100 | 2.40E-05 | 0.000 | -- | 0.00 |
| Methanol | | | | 0.122 | -- | 0.53 |

- ⁽¹⁾ Percentages of leaking components based on 98% non-leaking (0 range), and 2% leaking.
- ⁽²⁾ Methanol lines conservatively assumed to contain 100% methanol for permit emissions calculations purposes.
- ⁽³⁾ Emission factors taken from EPA's Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017, November 1995) Average Emission Factors (Table 2-2).
- ⁽⁴⁾ Default Zero Values: Petroleum Industry (Table 2-12)

Railcar Loading Fugitive Emissions⁽¹⁾

saturation factor (S)⁽²⁾ 1
temperature of bulk liquid loaded (T) 77 °F
temperature of bulk liquid loaded (T) 537 °R
collection efficiency (eff)⁽²⁾ 98.7 %

| Product | Throughput (gal/yr) | Vapor Pressure (P) (psia) | Vapor Molecular Weight (M) (lb/lbmol) | Emission Factor ⁽³⁾ (lb/10 ³ gal) | Total VOC Emission Rates | | |
|-------------------------------|------------------------|-------------------------------------|---|---|--------------------------|----------------|---------------------|
| | | | | | Avg (lb/hr) | Max (lb/hr) | Annual (tons/yr) |
| Distillate fuel oil No. 2 | 30660000 | 0.009 | 130 | 0.00034 | 0.001 | 0.001 | 0.01 |
| Naphtha | 5518800 | 10.0 | 100 | 0.30164 | 0.190 | 0.228 | 0.83 |
| Total VOC | | | | | 0.191 | 0.229 | 0.84 |
| n-Hexane⁽⁴⁾ | | | | | 0.057 | 0.068 | 0.25 |

- ⁽¹⁾ Biodiesel and naphtha products are loaded onto railcars for shipment offsite. Railcar loading will occur under vapor balance service. Recovered emissions are routed to the facility's Thermal Oxidizer. Fugitive emissions from loading activities are calculated here.
- ⁽²⁾ Factors are taken from AP-42 Chapter 5.2, Transportation And Marketing Of Petroleum Liquids (6/08).
- ⁽³⁾ Emission Factor Calculated according to methodology of AP-42 Chapter 5.2, Transportation And Marketing Of Petroleum Liquids (6/08).
- ⁽⁴⁾ n-Hexane emissions are based off of potential 30% content in naphtha.

Description of Source

Facility fugitive roadway emissions are based on onsite traffic of feedstock delivery trucks.

| | |
|--|----------------------|
| road surface silt loading (<i>sL</i>) ⁽¹⁾ | 0.6 g/m ² |
| average weight of trucks (<i>W</i>) | 25 tons |
| trucks per day | 140 trucks |
| VMT per truck | 1.94 miles |
| total VMT per day | 271.6 VMT/day |
| truck hours per year ⁽²⁾ | 3744 hours/year |

| Pollutant | Particle Size Multiplier (<i>k</i>) ⁽¹⁾ (lb/VMT) | Emission Factor (lb/VMT) | Emission Rates | | |
|---|--|-----------------------------|----------------|----------------|---------------------|
| | | | Avg (lb/hr) | Max (lb/hr) | Annual (tons/yr) |
| Particulate Matter (PM ₁₀) | 0.0022 | 0.0369 | 0.834 | 1.001 | 1.56 |
| Particulate Matter (PM _{2.5}) | 0.00054 | 0.0090 | 0.205 | 0.246 | 0.38 |

⁽¹⁾ Factors are taken from AP-42 Chapter 13.2.1, Paved Roads (01/11).

⁽²⁾ Truck hours per year based on average of 12 hours/day X 6 days/week X 52 weeks/year.

| Tank Information | | | |
|---|---------------------|----------------|--|
| Type | Vertical Fixed-Roof | | |
| Shell Diameter | 3 | ft | |
| Shell Height | 5 | ft | |
| Average Height of Liquid | 2.5 | ft | |
| Maximum Height of Liquid | 5 | ft | |
| Throughput | 6610 | gallons/year | |
| Maximum Liquid Volume | 264.38 | gallons | |
| Turnovers | 31.25 | turnovers/year | |
| Nearest City | Shreveport | | |
| Insulation | Uninsulated | | |
| Tank Paint | | | |
| Roof Color | Gray (Light) | | |
| Roof Condition | New | | |
| Shell Color | Gray (Light) | | |
| Shell Condition | New | | |
| Tank Roof | | | |
| Type | Cone | | |
| Cone Slope (If Applicable) | 0.167 | ft/ft | |
| Dome Radius (If Applicable) | | ft | |
| Vent Settings | | | |
| Breather Vent Pressure Setting | 0.03 | psig | |
| Breather Vent Vacuum Setting | -0.03 | psig | |
| Tank Pressure | 0 | psig | |
| Contents | | | |
| Tank Contents Distillate fuel oil No. 2 | | | |

| Constants | | | |
|-------------------------|------------|---------|--|
| Ideal Gas Constant | R | 10.731 | psia * ft ³ /(lb-mole * °R) |
| Paint Solar Absorptance | α_R | 0.54 | |
| Paint Solar Absorptance | α_S | 0.54 | |
| Solar Insolation | I | 1424.00 | Btu/(ft ² * day) |

| Emissions Summary | | |
|-------------------|-------|-------------|
| Total Losses | L_t | 0.24 lb/yr |
| Total Losses | L_t | 0.000 lb/hr |
| Total Losses | L_t | 0.00 ton/yr |

Strategic Biofuels LLC
Louisiana Green Fuels Project
Initial Minor Source Air Permit

2045-TNK-0505 - CPI Waste Oil Tank
Emission Point No.: IA-22-01

| Standing Losses | L_s | 0.07 lb/yr |
|-------------------------------|--------------|--------------------------|
| Min Daily Ambient Temp. | T_{AN} | 515.77 °R |
| Max Daily Ambient Temp. | T_{AX} | 535.67 °R |
| Avg. Daily Ambient Temp. | T_{AA} | 525.72 °R |
| Liquid Bulk Temp. | T_B | 528.03 °R |
| Average Vapor Temperature | T_V | 531.95 °R |
| Daily Vapor Temp. Range | ΔT_V | 28.83 °R |
| Avg. Daily Liq. Surface Temp. | T_{LA} | 529.99 °R |
| Min Daily Liq. Surface Temp. | T_{LN} | 522.78 °R |
| Max Daily Liq. Surface Temp. | T_{LX} | 537.19 °R |
| Atmospheric Pressure | P_A | 14.7 psia |
| Vent Pressure Range | ΔP_B | 0.06 psia |
| Vapor Pressure at T_{LA} | P_{VA} | 0.009 psia |
| Vapor Pressure at T_{LN} | P_{VN} | 0.007 psia |
| Vapor Pressure at T_{LX} | P_{VX} | 0.011 psia |
| Daily Vapor Press. Range | ΔP_V | 0.004 psia |
| Vapor Molecular Weight | M_V | 130.00 lb/lb-mole |
| Vapor Space Exp. Factor | K_E | 0.05 |
| Vapor Saturation Factor | K_S | 1.00 |
| Stock Vapor Density | W_V | 0.000 lb/ft ³ |
| Vapor Space Outage | H_{VO} | 2.58 ft |
| Shell Height | H_S | 5.00 ft |
| Liquid Height | H_L | 2.50 ft |
| Roof Height | H_R | 0.25 ft |
| Cone Roof Slope | S_R | 0.17 ft/ft |
| Shell Radius | R_S | 1.50 ft |
| Dome Roof Radius | R_R | 3.00 ft |
| Roof Outage | H_{RO} | 0.08 ft |

| Working Losses | L_w | 0.17 lb/yr |
|----------------------------------|-----------------|----------------------------|
| Vapor Molecular Weight | M_V | 130.00 lb/lb-mole |
| Vapor Pressure at T_{LA} | P_{VA} | 0.01 psia |
| Turnovers | N | 31.25 |
| Sum of Increases in Liquid Level | ΣH_{QI} | 124.99 ft/yr |
| Max Height of Liquid | H_{LX} | 5 ft |
| Net Working Loss Throughput | V_Q | 883.50 ft ³ /yr |
| Stock Vapor Density | W_V | 0.000 lb/ft ³ |
| L_w Turnover Factor | K_N | 1.00 |
| L_w Product Factor | K_P | 1.00 |
| Vent Correction Factor | K_B | 1.00 |
| Tank Pressure | P_I | 0.00 psig |
| Vent Pressure Setting | P_{BP} | 0.03 psig |

Notes:

¹ AP-42 Chapter 7.1 (11/19): Section 7.1.3.1 - Routine Losses From Fixed Roof Tanks

Appendix D
Certificate of Good Standing

State of
Louisiana
Secretary of
State



COMMERCIAL DIVISION
225.925.4704

Fax Numbers
225.932.5317 (Admin. Services)
225.932.5314 (Corporations)
225.932.5318 (UCC)

| Name | Type | City | Status |
|---------------------------|---------------------------|----------|--------|
| LOUISIANA GREEN FUELS LLC | Limited Liability Company | COLUMBIA | Active |

Previous Names

Business: LOUISIANA GREEN FUELS LLC
Charter Number: 44176934K
Registration Date: 12/4/2020

Domicile Address

303 WALL STREET
COLUMBIA, LA 71418

Mailing Address

PO BOX 1269
COLUMBIA, LA 71418

Status

Status: Active
Annual Report Status: In Good Standing
File Date: 12/4/2020
Last Report Filed: 12/10/2021
Type: Limited Liability Company

Registered Agent(s)

| |
|---|
| Agent: ROBERT F. MEREDITH, III Address 1: 303 WALL STREET City, State, Zip: COLUMBIA, LA 71418 Appointment Date: 8/12/2021 |
|---|

Officer(s)

Additional Officers: No

| |
|--|
| Officer: STRATEGIC BIOFUELS LLC Title: Manager, Member Address 1: C/O PAUL F. SCHUBERT, MANAGER Address 2: 303 WALL ST City, State, Zip: COLUMBIA, LA 71418 |
|--|

Amendments on File (2)

| Description | Date |
|-------------|------|
|-------------|------|

| | |
|------------------------------------|-----------|
| Change State of Incorporation | 8/12/2021 |
| Domestic LLC Agent/Domicile Change | 6/3/2022 |

Print

AI 20193
PER2020001



original to IOA
9B
copy to O+G/Meyers

PAAR

July 5, 2022

Louisiana Department of Environmental Quality
Office of Environmental Services
ATTN: Ms. Bliss Higgins, Assistant Secretary
P.O. Box 4213
Baton Rouge, LA 70821-4313

RE: Strategic Biofuels, LLC – Louisiana Green Fuels, LLC Renewable Fuels Bio Refinery, Caldwell Parish, Louisiana

Dear Ms. Higgins,

On May 17, 2022, Gulf South Research Corporation, on behalf of Strategic Biofuels, LLC Louisiana Green Fuels, LLC, provided your organization a coordination letter for the above referenced project. Since submittal of that letter the project site has been revised. Attached please find a revised Project Site Map (Attachment 2) to replace Attachment 2 included in the May 17, 2022 correspondence.

If you have any questions, please do not hesitate to contact me (225) 757-8088 or via email at hness@gsrcorp.com.

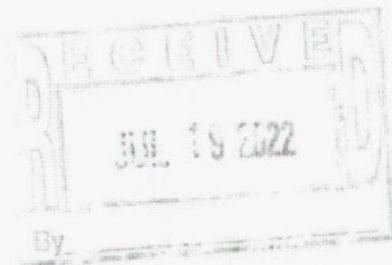
Thank You,

A handwritten signature in black ink that reads "Howard Nass". The signature is fluid and cursive.

Howard Nass
Natural Resources Manager

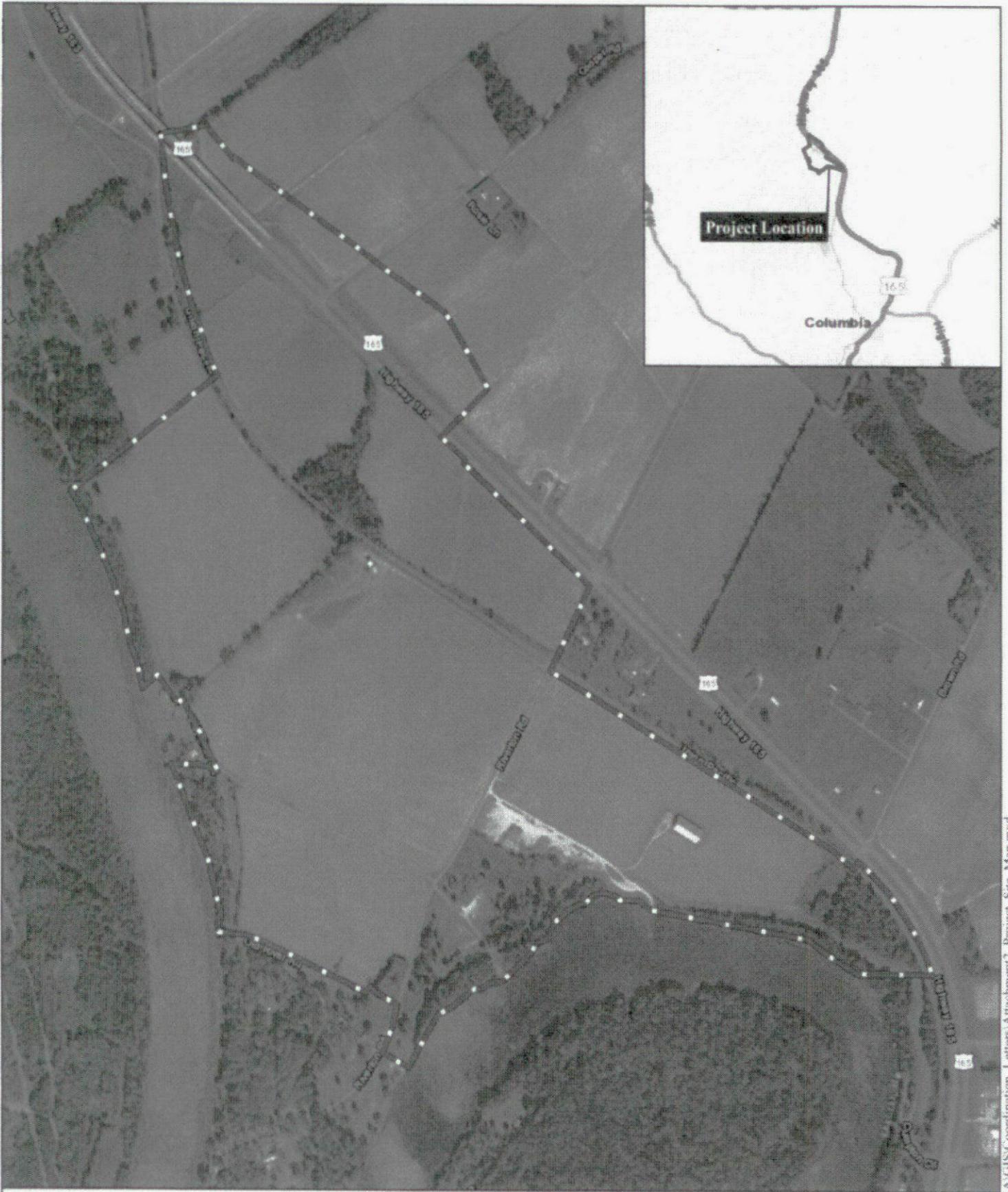
Ref: 80986004

Attachment

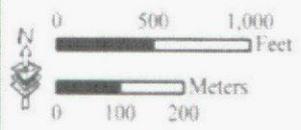


ATTACHMENT 2





Legend
 Biofuels Property



Attachment 2. Project Site Map

jects-80986004_Strategic_Biofuels_EAGIS_Coordination_Letters/Attachment2_Project_Site_Map.mxd

Yvette Olmos

From: Barrett Kyle <barrett.kyle@eaglered.com>
Sent: Monday, July 25, 2022 3:25 PM
To: Yvette Olmos
Cc: Paul Schubert; Paul Oesterreich; Charles Brumfield
Subject: RE: 234155 Green Fuels
Attachments: Updated EIQ - 22-07.pdf

EXTERNAL EMAIL: Please do not click on links or attachments unless you know the content is safe.

Good Afternoon, Yvette.

We reviewed the stack parameters for the Gasification Heater Common Stack (Source 22-07). The Stack Diameter (0.5 ft) was mistakenly left over from an earlier design, and the Stack Gas Exit Velocity (9,309.25 ft/sec) was calculated from the incorrectly listed Stack Diameter. All other stack parameters are accurate for this source.

After review with the engineering team, we've corrected the Stack Inner Diameter to 6 ft. With the corrected Stack Diameter, the Stack Gas Exit Velocity now calculates to 64.65 ft/sec. I've attached an updated EIQ sheet with corrected Stack Diameter and Stack Gas Exit Velocity.

Please let us know if you have any additional questions or need any additional information.

Thanks,

Barrett Kyle
Eagle Environmental Services, Inc.
18379 Petroleum Drive Baton Rouge, LA 70809
Office: 225-757-0870

From: Paul Schubert <paulschubert@strategicbiofuels.net>
Date: Monday, July 18, 2022 at 10:32 AM
To: Yvette Olmos <Yvette.McGeheeOlmos@LA.GOV>
Subject: Re: 234155 Green Fuels

Yvette,
Thanks for reaching out to me with your question about the velocity. I will have my engineering and environmental teams review it and I will get back to you with their response.

Best regards,
Paul

Dr. Paul F. Schubert
CEO, Strategic Biofuels LLC



Phone: 913-490-6610

Email | Website | LinkedIn

Information in this email and any attachments is confidential and intended solely for the use of the individual(s) to whom it is addressed or otherwise directed. The recipient should check this email and any attachments for the presence of viruses. The sender accepts no liability for any damage caused by any virus transmitted by this email.

From: Yvette Olmos <Yvette.McGeheeOlmos@LA.GOV>

Date: Monday, July 18, 2022 at 10:29 AM

To: Paul Schubert <paulschubert@strategicbiofuels.net>

Subject: 234155 Green Fuels

Mr. Schubert,

I am reviewing the air quality for this permit application and I noticed that emission point 22-07 heater EIQ sheet lists a velocity of 9309.25ft/sec. That doesn't sound right, can you verify that this an accurate velocity for the 22-07 Gasification Heater Common Stack.

Thank you,
Yvette Olmos
LDEQ

State of Louisiana

Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal
Nov | 2022

| | | | |
|--|--|---|--|
| Emission Point ID No. (Designation) 22-02(a) | Descriptive Name of the Emissions Source (Alt. Name) Collector No. 1- Truck Receiving Area | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD | | Method 20, "Interpolation - Satellite" Datum WGS84 | |
| | | UTM Zone 15 Horizontal 584368.1 mE Vertical 3561484.42 mN | |
| | | Latitude 32° 11' 12" 22 hundredths | |
| | | Longitude -92° 6' 17" 97 hundredths | |

| | | | | | | | | | | | |
|--|---|---|--|---|--|---|---|---|-------------|-------------|-------------|
| Stack and Discharge Physical Characteristics Change? (yes or no) yes | Diameter (ft) or Stack Discharge Area (ft²) ft 0.00 ft ² | Height of Stack Above Grade (ft) ft | Stack Gas Exit Velocity ft/sec | Stack Gas Flow at Conditions, not at Standard (ft³/min) ft ³ /min | Stack Gas Exit Temperature (°F) °F | Normal Operating Time (hours per year) 8760 hr/yr | Date of Construction or Modification 2022 | Percent of Annual Throughput Through This Emission Point | | | |
| | | | | | | | | Jan-Mar 25% | Apr-Jun 25% | Jul-Sep 25% | Oct-Dec 25% |

| | | | | | | |
|--|--|------------------------------|--|--|--------------------|--|
| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| | a | N/A | Normal Operating Rate/Throughput | | 44,000 SCFM | |
| | b | | Maximum Operating Rate/Throughput | | 52,800 SCFM | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) | | N/A | |
| This source is routed to the Biomass Handling Baghouse, Source 22-02. The emissions are calculated under Source 22-02. | | | Tank Diameter (ft) | | N/A | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|---|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-02(a) | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 017 | 99% | | --- | --- | --- | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 017 | 99% | | --- | --- | --- | --- | A | | gr/std ft ³ |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

| State of Louisiana Emissions Inventory Questionnaire (EIQ) for Air Pollutants | | | | | | | | | | Date of submittal | |
|---|--|--|--|---|---|--|--|--|-----------------------------------|------------------------------|---|
| | | | | | | | | | | Nov | 2022 |
| Emission Point ID No. (Designation) 22-02(b) | | Descriptive Name of the Emissions Source (Alt. Name) Collector No. 2- Dryer Island Area | | | | Approximate Location of Stack or Vent (see instructions) | | | | | |
| Tempo Subject Item ID No. TBD | | | | | | Method 20,"Interpolation - Satellite" | | Datum WGS84 | | | |
| | | | | | | UTM Zone 15 | | Horizontal 584368.1 mE | | Vertical 3561484.42 mN | |
| | | | | | | Latitude 32 ° | | 11' | | 12" | |
| | | | | | | Longitude -92 ° | | 6' | | 97 hundredths | |
| Stack and Discharge Physical Characteristics Change? (yes or no) yes | Diameter (ft) or Stack Discharge Area (ft ²) ft 0.00 ft ² | Height of Stack Above Grade (ft) ft | Stack Gas Exit Velocity ft/sec | Stack Gas Flow at Conditions, not at Standard (ft ³ /min) ft ³ /min | Stack Gas Exit Temperature (°F) °F | Normal Operating Time (hours per year) 8760 hr/yr | Date of Construction or Modification 2022 | Percent of Annual Throughput Through This Emission Point | | | |
| | | | | | | | | Jan-Mar 25% | Apr-Jun 25% | Jul-Sep 25% | Oct-Dec 25% |
| Fuel | Type of Fuel Used and Heat Input (see instructions) | | | Operating Parameters (include units) | | | | | | | |
| | | Type of Fuel | Heat Input (MMBTU/hr) | | | | | Parameter | Description | | |
| | a | N/A | N/A | Normal Operating Rate/Throughput | | | | 120,000 | SCFM | | |
| | b | | | Maximum Operating Rate/Throughput | | | | 144,000 | SCFM | | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | | | | | | |
| Notes | | | | | | | | | | | |
| This source is routed to the Biomass Handling Baghouse, Source 22-02. The emissions are calculated under Source 22-02. | | | | | | | | | | | |
| | | | | Shell Height (ft) N/A | | | | Tank Diameter (ft) N/A | | | |
| | | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | | Date Engine Ordered | | | |
| | | | | Date Engine Was Built by Manufacturer | | | | Engine Model Year | | | |
| SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | | | | | | | | | |
| Emission Point ID No. (Designation) 22-02(b) | | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
| Pollutant | | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| Particulate matter (PM ₁₀) | | 017 | 99% | | --- | --- | --- | A | | gr/std ft ³ | |
| Particulate matter (PM _{2.5}) | | 017 | 99% | | --- | --- | --- | A | | gr/std ft ³ | |
| | | | | | | | | | | ppm by vol | |
| | | | | | | | | | | ppm by vol | |
| | | | | | | | | | | ppm by vol | |
| | | | | | | | | | | ppm by vol | |
| | | | | | | | | | | ppm by vol | |
| | | | | | | | | | | ppm by vol | |
| | | | | | | | | | | ppm by vol | |

State of Louisiana

Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal
Nov | 2022

| | | | | | | | |
|--|---|---|--------------------------------|------------|-------------|----------|---------------|
| Emission Point ID No. (Designation) 22-02(c) | Descriptive Name of the Emissions Source (Alt. Name) Collector No. 3- Dried Chip Conveying and Storage Silos Area | Approximate Location of Stack or Vent (see instructions) | | | | | |
| Tempo Subject Item ID No. TBD | | Method | 20,"Interpolation - Satellite" | | Datum | WGS84 | |
| | | UTM Zone | 15 | Horizontal | 584368.1 mE | Vertical | 3561484.42 mN |
| | | Latitude | 32 ° | | 11 ' 12 " | | 22 hundredths |
| | | Longitude | -92 ° | | 6 ' 17 " | | 97 hundredths |

| Stack and-Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, not at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|--|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.00 ft ² | | | | | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|--|---|--|--|--|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| | a | N/A | Normal Operating Rate/Throughput | | 72,000 SCFM | |
| | b | | Maximum Operating Rate/Throughput | | 86,400 SCFM | |
| c | | Design Capacity/Volume/Cylinder Displacement | | | | |
| Notes | | | Shell Height (ft) | | N/A | |
| This source is routed to the Biomass Handling Baghouse, Source 22-02. The emissions are calculated under Source 22-02. | | | Tank Diameter (ft) | | N/A | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|---|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-02(c) | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 017 | 99% | | --- | --- | --- | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 017 | 99% | | --- | --- | --- | --- | A | | gr/std ft ³ |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

State of Louisiana

Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal
Nov | 2022

| | | | | | | | | | |
|--|--|---|--------------------------------|------------|----------|-------|----------|------------|------------|
| Emission Point ID No. (Designation) 22-02(d) | Descriptive Name of the Emissions Source (Alt. Name) Collector No. 4- Gasifier Feed/Distribution Systems | Approximate Location of Stack or Vent (see instructions) | | | | | | | |
| Tempo Subject Item ID No. TBD | | Method | 20,"Interpolation - Satellite" | | Datum | WGS84 | | | |
| | | UTM Zone | 15 | Horizontal | 584368.1 | mE | Vertical | 3561484.42 | mN |
| | | Latitude | 32 ° | | 11' | | 12 " | 22 | hundredths |
| | | Longitude | -92 ° | | 6' | | 17 " | 97 | hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | ft 0.00 ft ² | ft | ft/sec | ft ³ /min | °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|--|---|--------------|--|-----------------------------------|-----|--------------|
| | a | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description |
| | | N/A | N/A | Normal Operating Rate/Throughput | | 108,000 SCFM |
| | | | | Maximum Operating Rate/Throughput | | 129,600 SCFM |
| | | | Design Capacity/Volume/Cylinder Displacement | | | |
| | | | Shell Height (ft) | | N/A | |
| | | | Tank Diameter (ft) | | N/A | |
| Notes | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal Date Engine Ordered _____ Engine Model Year _____ Date Engine Was Built by Manufacturer _____ SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |
| This source is routed to the Biomass Handling Baghouse, Source 22-02. The emissions are calculated under Source 22-02. | | | | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|---|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-02(d) | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 017 | 99% | | --- | --- | --- | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 017 | 99% | | --- | --- | --- | --- | A | | gr/std ft ³ |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

State of Louisiana

Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal
Nov | 2022

| | | | | | |
|--|--|--|----------------------------|---------------------------|--------------|
| Emission Point ID No. (Designation) 22-09(a) | Descriptive Name of the Emissions Source (Alt. Name) Thermal Oxidizer | Approximate Location of Stack or Vent (see instructions) | | | |
| | | Method 20, "Interpolation - Satellite" | Datum WGS84 | | |
| Tempo Subject Item ID No. TBD | | UTM Zone 15 | Horizontal 584471.57 mE | Vertical 3561388.28 mN | |
| | | Latitude 32 ° | 11' | 9" | 7 hundredths |
| | | Longitude -92 ° | 6' | 14" | 5 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | _____ ft 0.00 ft ² | _____ ft | _____ ft/sec | _____ ft ³ /min | _____ °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|--|---|-----------------------|---|--|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| a | | | Normal Operating Rate/Throughput | | 2.8 MMBtu/hr | |
| b | | | Maximum Operating Rate/Throughput | | 3.4 MMBtu/hr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) | | N/A | |
| This source vents through SO2 Scrubber, 22-09. Emissions are calculated in the 22-09 source. | | | Tank Diameter (ft) | | N/A | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) 22-09(a) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|---|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| Pollutant | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 000 | | | --- | --- | --- | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | --- | --- | --- | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 001 | 95% | | --- | --- | --- | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | --- | --- | --- | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | --- | --- | --- | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | --- | --- | --- | --- | A | | ppm by vol |
| Ammonia | 000 | | 07664-41-7 | --- | --- | --- | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

State of Louisiana

Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal
Nov | 2022

| | | | | | |
|---|---|--|----------------------------|---------------------------|--------------|
| Emission Point ID No. (Designation) 22-09(a)(1) | Descriptive Name of the Emissions Source (Alt. Name) LHC Intermediate and Off spec Tank TNK-0101 | Approximate Location of Stack or Vent (see instructions) | | | |
| | | Method 20, "Interpolation - Satellite" | Datum WGS84 | | |
| Tempo Subject Item ID No. TBD | | UTM Zone 15 | Horizontal 584471.57 mE | Vertical 3561388.28 mN | |
| | | Latitude 32 ° | 11 " | 9 " | 7 hundredths |
| | | Longitude -92 ° | 6 ' | 14 " | 5 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, not at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|--|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.00 ft ² | | | | | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|--|---|--|--|-------------|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| | a | | Normal Operating Rate/Throughput | | | |
| | b | | Maximum Operating Rate/Throughput | | | |
| c | | Design Capacity/Volume/Cylinder Displacement | | 170,518 gal | | |
| Notes | | | Shell Height (ft) | | 32 ft | |
| This tank vents to the Thermal Oxidizer 22-09(a) and then to the SO2 Scrubber 22-09. | | | Tank Diameter (ft) | | 30 ft | |
| | | | Tanks: <input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) 22-09(a)(1) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| Particulate matter (PM ₁₀) | 000 | | | --- | --- | --- | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | --- | --- | --- | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 002 | 95% | | --- | --- | --- | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | --- | --- | --- | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | --- | --- | --- | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 047 | 99% | | --- | --- | --- | --- | A | | ppm by vol |
| Ammonia | 000 | | 07664-41-7 | --- | --- | --- | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

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| | | | | | |
|---|---|--|----------------------------|---------------------------|--------------|
| Emission Point ID No. (Designation) 22-09(a)(2) | Descriptive Name of the Emissions Source (Alt. Name) Wax Intermediate and Off spec Tank TNK-0102 | Approximate Location of Stack or Vent (see instructions) | | | |
| | | Method 20,"Interpolation - Satellite" | Datum WGS84 | | |
| Tempo Subject Item ID No. TBD | | UTM Zone 15 | Horizontal 584471.57 mE | Vertical 3561388.28 mN | |
| | | Latitude 32 ° | 11 ' | 9 " | 7 hundredths |
| | | Longitude -92 ° | 6 ' | 14 " | 5 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, not at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|--|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | ft 0.00 ft ² | ft | ft/sec | ft ³ /min | °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Type of Fuel Used and Heat Input (see instructions) | | |
|--|--------------|-----------------------|
| Fuel | Type of Fuel | Heat Input (MMBTU/hr) |
| a | | |
| b | | |
| c | | |
| Notes | | |
| This tank vents to the Thermal Oxidizer 22-09(a) and then to the SO2 Scrubber 22-09. | | |

| Operating Parameters (include units) | |
|--|---|
| Parameter | Description |
| Normal Operating Rate/Throughput | |
| Maximum Operating Rate/Throughput | |
| Design Capacity/Volume/Cylinder Displacement | 89,041 gal |
| Shell Height (ft) | 24 ft |
| Tank Diameter (ft) | 25 ft |
| Tanks: | <input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal |
| Date Engine Ordered | Engine Model Year |
| Date Engine Was Built by Manufacturer | |
| SI Engines: | <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke |

| Emission Point ID No. (Designation) 22-09(a)(2) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| Pollutant | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 000 | | | --- | --- | --- | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | --- | --- | --- | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 002 | 95% | | --- | --- | --- | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | --- | --- | --- | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | --- | --- | --- | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 047 | 99% | | --- | --- | --- | --- | A | | ppm by vol |
| Ammonia | 000 | | 07664-41-7 | --- | --- | --- | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

| State of Louisiana Emissions Inventory Questionnaire (EIQ) for Air Pollutants | | | | | | | | | | Date of submittal | | | | |
|--|---|--|------------------------------|--|-------------------------|--|---------------------------------|--|--------------------------------------|------------------------------|--|---------|---------|---------|
| | | | | | | | | | | Nov | 2022 | | | |
| Emission Point ID No. (Designation) | | Descriptive Name of the Emissions Source (Alt. Name) | | | | Approximate Location of Stack or Vent (see instructions) | | | | | | | | |
| 22-09(a)(3) | | Slops Tank #1 TNK-0103 | | | | Method <u>20,"Interpolation - Satellite"</u> | | Datum <u>WGS84</u> | | | | | | |
| Tempo Subject Item ID No. | | Diameter (ft) or Stack Discharge Area (ft ²) | | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, not at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | | Percent of Annual Throughput Through This Emission Point | | | |
| TBD | | _____ ft <u>0.00</u> ft ² | | _____ ft | _____ ft/sec | _____ ft ³ /min | _____ °F | 8760 hr/yr | 2022 | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | | | | | | | | | | | 25% | 25% | 25% | 25% |
| Fuel | Type of Fuel Used and Heat Input (see instructions) | | | Operating Parameters (include units) | | | | | | | | | | |
| | Type of Fuel | | Heat Input (MMBTU/hr) | Normal Operating Rate/Throughput | | | Parameter | | Description | | | | | |
| | a | | | | | | | | | | | | | |
| b | | | | | | | | | | | | | | |
| c | | | | | | | | | | | | | | |
| Notes | | | | | | | | | | | | | | |
| This tank vents to the Thermal Oxidizer 22-09(a) and then to the SO2 Scrubber 22-09. | | | | | | | | | | | | | | |
| | | | | Tanks: <input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | Date Engine Ordered | | Engine Model Year | | | | | |
| | | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | | | | | | | | |
| Emission Point ID No. (Designation) | | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack | | | |
| 22-09(a)(3) | | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | | | | |
| Pollutant | | | | | | | | | | | | | | |
| Particulate matter (PM ₁₀) | | 000 | | | --- | --- | --- | --- | A | | gr/std ft ³ | | | |
| Particulate matter (PM _{2.5}) | | 000 | | | --- | --- | --- | --- | A | | gr/std ft ³ | | | |
| Sulfur dioxide | | 002 | 95% | | --- | --- | --- | --- | A | | ppm by vol | | | |
| Nitrogen oxides | | 000 | | | --- | --- | --- | --- | A | | ppm by vol | | | |
| Carbon monoxide | | 000 | | | --- | --- | --- | --- | A | | ppm by vol | | | |
| Total VOC (including those listed below) | | 047 | 99% | | --- | --- | --- | --- | A | | ppm by vol | | | |
| Ammonia | | 000 | | 07664-41-7 | --- | --- | --- | --- | A | | ppm by vol | | | |
| | | | | | | | | | | | ppm by vol | | | |
| | | | | | | | | | | | ppm by vol | | | |

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| | | | |
|---|---|---|---------------------|
| Emission Point ID No. (Designation) 22-09(a)(4) | Descriptive Name of the Emissions Source (Alt. Name) Slops Tank #2 TNK-0104 | Approximate Location of Stack or Vent (see instructions) | |
| Tempo Subject Item ID No. TBD | | Method <u>20,"Interpolation - Satellite"</u> Datum <u>WGS84</u> | |
| | | UTM Zone <u>15</u> Horizontal <u>584471.57</u> mE Vertical <u>3561388.28</u> mN | |
| | | Latitude <u>32 °</u> <u>11 '</u> <u>9 "</u> | <u>7</u> hundredths |
| | | Longitude <u>-92 °</u> <u>6 '</u> <u>14 "</u> | <u>5</u> hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | ft 0.00 ft ² | ft | ft/sec | ft ³ /min | °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | |
|--|---|-----------------------|
| | Type of Fuel | Heat Input (MMBTU/hr) |
| | a | |
| | b | |
| c | | |
| Notes | | |
| This tank vents to the Thermal Oxidizer 22-09(a) and then to the SO2 Scrubber 22-09. | | |

| Operating Parameters (include units) | |
|---|-------------------|
| Parameter | Description |
| Normal Operating Rate/Throughput | |
| Maximum Operating Rate/Throughput | |
| Design Capacity/Volume/Cylinder Displacement | 475,903 gal |
| Shell Height (ft) | 40 ft |
| Tank Diameter (ft) | 45 ft |
| Tanks: <input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | |
| Date Engine Ordered | Engine Model Year |
| Date Engine Was Built by Manufacturer | |
| SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-09(a)(4) | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 000 | | | --- | --- | --- | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | --- | --- | --- | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 002 | 95% | | --- | --- | --- | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | --- | --- | --- | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | --- | --- | --- | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 047 | 99% | | --- | --- | --- | --- | A | | ppm by vol |
| Ammonia | ,000 | | 07664-41-7 | --- | --- | --- | --- | A | | ppm by vol |
| | | | | | | | | | | ppm by vol |
| | | | | | | | | | | ppm by vol |

| State of Louisiana Emissions Inventory Questionnaire (EIQ) for Air Pollutants | | | | | | | | | | Date of submittal Nov 2022 | | | |
|---|--|---|--|--|---------------------------------|--|--------------------------------------|---|-----------------------------------|-------------------------------------|---|---------------------------------------|--|
| Emission Point ID No. (Designation) 22-09(a)(5) | | Descriptive Name of the Emissions Source (Alt. Name) Railcar Loading | | | | Approximate Location of Stack or Vent (see instructions) | | | | | | | |
| Tempo Subject Item ID No. TBD | | | | | | Method 20,"Interpolation - Satellite" Datum WGS84 | | UTM Zone 15 Horizontal 584471.57 mE Vertical 3561388.28 mN | | Latitude 32 ° 11 ' 9 " 7 hundredths | | Longitude -92 ° 6 ' 14 " 5 hundredths | |
| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, not at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | | | |
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec | | |
| yes | ft 0.00 ft ² | ft | ft/sec | ft ³ /min | °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% | | |
| Fuel | Type of Fuel Used and Heat Input (see instructions) | | | Operating Parameters (include units) | | | | | | | | | |
| | Type of Fuel | | Heat Input (MMBTU/hr) | Parameter | | Description | | | | | | | |
| | a | | | Normal Operating Rate/Throughput | | | | | | | | | |
| b | | | Maximum Operating Rate/Throughput | | | | | | | | | | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | | | | | | | | |
| Notes | | | | | | | | | | | | | |
| This tank vents to the Thermal Oxidizer 22-09(a) and then to the SO2 Scrubber 22-09. | | | | | | | | | | | | | |
| Shell Height (ft) | | N/A | | Tank Diameter (ft) | | N/A | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | | | |
| Date Engine Ordered | | | | Engine Model Year | | | | Date Engine Was Built by Manufacturer | | | | | |
| SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | | | | | | | | | | | |
| Emission Point ID No. (Designation) | | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack | | |
| Pollutant | | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | | Annual (tons/yr) | |
| 22-09(a)(5) | | | | | | | | | | | | | |
| Particulate matter (PM ₁₀) | | 000 | | | --- | --- | --- | A | | gr/std ft ³ | | | |
| Particulate matter (PM _{2.5}) | | 000 | | | --- | --- | --- | A | | gr/std ft ³ | | | |
| Sulfur dioxide | | 002 | 95% | | --- | --- | --- | A | | ppm by vol | | | |
| Nitrogen oxides | | 000 | | | --- | --- | --- | A | | ppm by vol | | | |
| Carbon monoxide | | 000 | | | --- | --- | --- | A | | ppm by vol | | | |
| Total VOC (including those listed below) | | 047 | 99% | | --- | --- | --- | A | | ppm by vol | | | |
| Ammonia | | 000 | | 07664-41-7 | --- | --- | --- | A | | ppm by vol | | | |
| | | | | | | | | | | ppm by vol | | | |
| | | | | | | | | | | ppm by vol | | | |

Description of Source

A 85.54 MW biomass boiler generates the power required by the facility. Nox emissions are controlled by an SNCR and SCR system. CO emissions are controlled by CO catalyst. SO₂ and Condensable PM are controlled by a circulating dry scrubber. Filterable PM Emissions are controlled by a mechanical collector. Approximately 90% of CO₂e emissions are recovered and injected via the facility's onsite CO₂ sequestration well.

Annual Operation: 8,760 hrs/yr
 Total Fuel Usage: 1,168.0 MMBtu/hr

Summary of Emissions

| Pollutant | Control Efficiency | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Emissions | | |
|---|--------------------|---|--|---------------------------------|---------------------------------|---------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | 90% | --- | 0.0125 | 14.543 | 17.452 | 63.70 |
| Particulate Matter (PM _{2.5}) | 90% | --- | 0.0125 | 14.543 | 17.452 | 63.70 |
| Sulfur dioxide (SO ₂) | 80% | --- | 0.0064 | 7.479 | 8.975 | 32.76 |
| Nitrogen oxides (NO _x) | 85% | --- | 0.0112 | 13.139 | 15.767 | 57.55 |
| Carbon monoxide (CO) | 85% | --- | 0.0111 | 12.970 | 15.564 | 56.81 |
| Total VOC | --- | --- | 0.0070 | 8.178 | 9.814 | 35.82 |
| Ammonia | --- | 1.838 | --- | 1.838 | 2.205 | 8.05 |

⁽¹⁾ Emission factors are derived from vendor emissions specifications. Emission factors are presented after controls.

Ammonia emissions are based off of 3.5 ppm Ammonia slip.

⁽²⁾ Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Usage (MMBtu/hr)

⁽³⁾ Calculated as: Average (lbs/hr) X 1.2

⁽⁴⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Speciated HAP Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽²⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|-------------------|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| Acetaldehyde | 0.014 | --- | --- | 0.014 | 0.017 | 0.06 |
| Acrolein | 0.524 | --- | --- | 0.524 | 0.629 | 2.30 |
| Benzene | 0.086 | --- | --- | 0.086 | 0.103 | 0.38 |
| Chromium | 0.0006 | --- | --- | 0.001 | 0.001 | 0.00 |
| Ethyl Benzene | 0.002 | --- | --- | 0.002 | 0.002 | 0.01 |
| Formaldehyde | 0.078 | --- | --- | 0.078 | 0.094 | 0.34 |
| Hydrochloric Acid | 0.080 | --- | --- | 0.080 | 0.096 | 0.35 |
| Hydrofluoric Acid | 0.080 | --- | --- | 0.080 | 0.096 | 0.35 |
| Lead | 0.0003 | --- | --- | 0.000 | 0.000 | 0.00 |
| Manganese | 0.004 | --- | --- | 0.004 | 0.005 | 0.02 |
| Mercury | --- | 0.0000016 | --- | 0.002 | 0.002 | 0.01 |
| Methyl Chloride | 0.006 | --- | --- | 0.006 | 0.007 | 0.03 |
| Methyl Chloroform | 0.001 | --- | --- | 0.001 | 0.001 | 0.00 |
| PAH | 0.338 | --- | --- | 0.338 | 0.406 | 1.48 |
| Phosphorus | 0.026 | --- | --- | 0.026 | 0.031 | 0.11 |
| Sulfuric Acid | 0.200 | --- | --- | 0.200 | 0.240 | 0.88 |
| Toluene | 0.004 | --- | --- | 0.004 | 0.005 | 0.02 |
| Xylene | 0.002 | --- | --- | 0.002 | 0.002 | 0.01 |

⁽¹⁾ Emission factors are derived from test data of a nearly identical, but larger, 100 MW biomass boiler.

A safety factor is added to the test results to provide a conservative estimate of potential emissions.

⁽²⁾ Mercury emission factor is set according to the emission limit of 40 CFR 63 Subpart DDDDD.

⁽³⁾ Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)
or Emission Factor (lbs/hr) X (1- Control Efficiency)

⁽⁴⁾ Calculated as: Average (lbs/hr) X 1.2

⁽⁵⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Description of Source

Fuel-gas-fired gasification heaters provide heat to the facility's syngas generation unit. Fuel gas consists of fuel gas recovered from onsite processes and supplemental natural gas.

Annual Operation: 8,760 hrs/yr
 Total Fuel Gas Usage: 188.3 MMBtu/hr

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency ⁽²⁾ | Emissions | | |
|---|--|---|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | --- | 0.0075 | --- | 1.412 | 1.695 | 6.19 |
| Particulate Matter (PM _{2.5}) | --- | 0.0075 | --- | 1.412 | 1.695 | 6.19 |
| Sulfur dioxide (SO ₂) | 0.48 | --- | --- | 0.480 | 0.576 | 2.10 |
| Nitrogen oxides (NO _x) | 12.10 | --- | 90% | 1.210 | 1.452 | 5.30 |
| Carbon monoxide (CO) | 4.05 | --- | 90% | 0.405 | 0.486 | 1.77 |
| Total VOC | --- | 0.0054 | --- | 1.017 | 1.220 | 4.45 |
| Ammonia | 0.307 | --- | --- | 0.307 | 0.369 | 1.35 |

⁽¹⁾ Emission factors for SO₂, NO_x, and CO are derived from vendor emissions specifications.

Emission factors for PM₁₀, PM_{2.5}, and Total VOC are from AP42 Table 1.4-2.

Emission factor for Ammonia derived from 2.5 ppm slip from control device vendor specifications.

⁽²⁾ Control Efficiency is based on vendor specifications.

⁽³⁾ Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)
 or Emission Factor (lbs/hr) X (1- Control Efficiency)

⁽⁴⁾ Calculated as: Average (lbs/hr) X 1.2

⁽⁵⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Speciated Organic Compound Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/10 ⁶ scf) | Emission Factor ⁽²⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|--------------------------------|---|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| 2-Methylnaphthalene | 2.4E-05 | 2.4E-08 | --- | 0.000 | 0.000 | 0.00 |
| 3-Methylcholanthrene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| 7,12-Dimethylbenz(a)anthracene | 1.6E-05 | 1.6E-08 | --- | 0.000 | 0.000 | 0.00 |
| Acenaphthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Acenaphthylene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Anthracene | 2.4E-06 | 2.4E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benz(a)anthracene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzene | 2.1E-03 | 2.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(a)pyrene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(b)fluoranthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(g,h,i)perylene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(k)fluoranthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Butane | 2.1E+00 | 2.1E-03 | --- | 0.388 | 0.465 | 1.70 |
| Chrysene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Dibenzo(a,h)anthracene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Dichlorobenzene | 1.2E-03 | 1.2E-06 | --- | 0.000 | 0.000 | 0.00 |
| Ethane | 3.1E+00 | 3.0E-03 | --- | 0.572 | 0.687 | 2.51 |
| Fluoroanthene | 3.0E-06 | 2.9E-09 | --- | 0.000 | 0.000 | 0.00 |
| Fluorene | 2.8E-06 | 2.7E-09 | --- | 0.000 | 0.000 | 0.00 |
| Formaldehyde | 7.5E-02 | 7.4E-05 | --- | 0.014 | 0.017 | 0.06 |
| Hexane | 1.8E+00 | 1.8E-03 | --- | 0.332 | 0.399 | 1.46 |
| Indeno(1,2,3-cd)pyrene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Naphthalene | 6.1E-04 | 6.0E-07 | --- | 0.000 | 0.000 | 0.00 |
| Pentane | 2.6E+00 | 2.5E-03 | --- | 0.480 | 0.576 | 2.10 |
| Phenanthrene | 1.7E-05 | 1.7E-08 | --- | 0.000 | 0.000 | 0.00 |
| Propane | 1.6E+00 | 1.6E-03 | --- | 0.295 | 0.354 | 1.29 |
| Pyrene | 5.0E-06 | 4.9E-09 | --- | 0.000 | 0.000 | 0.00 |
| Toluene | 3.4E-03 | 3.3E-06 | --- | 0.001 | 0.001 | 0.00 |

(1) Emission factors are from AP42 Table 1.4-3.

(2) Calculated as: Emission Factor (lbs/10⁶ scf) ÷ 1,020 (MMBtu/10⁶ scf)

(3) Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

(4) Calculated as: Average (lbs/hr) X 1.2

(5) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Speciated Metal Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/10 ⁶ scf) | Emission Factor ⁽²⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|------------|---|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| Arsenic | 2.0E-04 | 2.0E-07 | --- | 0.000 | 0.000 | 0.00 |
| Barium | 4.4E-03 | 4.3E-06 | --- | 0.001 | 0.001 | 0.00 |
| Beryllium | 1.2E-05 | 1.2E-08 | --- | 0.000 | 0.000 | 0.00 |
| Cadmium | 1.1E-03 | 1.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Chromium | 1.4E-03 | 1.4E-06 | --- | 0.000 | 0.000 | 0.00 |
| Cobalt | 8.4E-05 | 8.2E-08 | --- | 0.000 | 0.000 | 0.00 |
| Copper | 8.5E-04 | 8.3E-07 | --- | 0.000 | 0.000 | 0.00 |
| Manganese | 3.8E-04 | 3.7E-07 | --- | 0.000 | 0.000 | 0.00 |
| Mercury | 2.6E-04 | 2.5E-07 | --- | 0.000 | 0.000 | 0.00 |
| Molybdenum | 1.1E-03 | 1.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Nickel | 2.1E-03 | 2.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Selenium | 2.4E-05 | 2.4E-08 | --- | 0.000 | 0.000 | 0.00 |
| Vanadium | 2.3E-03 | 2.3E-06 | --- | 0.000 | 0.001 | 0.00 |
| Zinc | 2.9E-02 | 2.8E-05 | --- | 0.005 | 0.006 | 0.02 |

⁽¹⁾ Emission factors are from AP42 Table 1.4-4.

⁽²⁾ Calculated as: Emission Factor (lbs/10⁶ scf) ÷ 1,020 (MMBtu/10⁶ scf)

⁽³⁾ Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

⁽⁴⁾ Calculated as: Average (lbs/hr) X 1.2

⁽⁵⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Description of Source

A process-fired heater provides heat for the facility's liquid upgrading unit. The heater utilizes the facility's fuel gas.

Annual Operation: 8,760 hrs/yr
 Total Fuel Gas Usage: 15.6 MMBtu/hr

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|---|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | --- | 0.0075 | --- | 0.117 | 0.140 | 0.51 |
| Particulate Matter (PM _{2.5}) | --- | 0.0075 | --- | 0.117 | 0.140 | 0.51 |
| Sulfur dioxide (SO ₂) | --- | 0.0172 | --- | 0.268 | 0.322 | 1.17 |
| Nitrogen oxides (NO _x) | --- | 0.0490 | --- | 0.764 | 0.917 | 3.35 |
| Carbon monoxide (CO) | --- | 0.0824 | --- | 1.285 | 1.543 | 5.63 |
| Total VOC | --- | 0.0054 | --- | 0.084 | 0.101 | 0.37 |

(1) Emission factors for PM₁₀, PM_{2.5}, NO_x, CO, and Total VOC are from AP42 Table 1.4-2.

Emission factor for SO₂ assumes total fuel gas sulfur content is combusted to SO₂.

(2) Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

(3) Calculated as: Average (lbs/hr) X 1.2

(4) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Speciated Organic Compound Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/10 ⁶ scf) | Emission Factor ⁽²⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|--------------------------------|---|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| 2-Methylnaphthalene | 2.4E-05 | 2.4E-08 | --- | 0.000 | 0.000 | 0.00 |
| 3-Methylcholanthrene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| 7,12-Dimethylbenz(a)anthracene | 1.6E-05 | 1.6E-08 | --- | 0.000 | 0.000 | 0.00 |
| Acenaphthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Acenaphthylene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Anthracene | 2.4E-06 | 2.4E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benz(a)anthracene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzene | 2.1E-03 | 2.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(a)pyrene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(b)fluoranthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(g,h,i)perylene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(k)fluoranthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Butane | 2.1E+00 | 2.1E-03 | --- | 0.032 | 0.039 | 0.14 |
| Chrysene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Dibenzo(a,h)anthracene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Dichlorobenzene | 1.2E-03 | 1.2E-06 | --- | 0.000 | 0.000 | 0.00 |
| Ethane | 3.1E+00 | 3.0E-03 | --- | 0.047 | 0.057 | 0.21 |
| Fluoranthene | 3.0E-06 | 2.9E-09 | --- | 0.000 | 0.000 | 0.00 |
| Fluorene | 2.8E-06 | 2.7E-09 | --- | 0.000 | 0.000 | 0.00 |
| Formaldehyde | 7.5E-02 | 7.4E-05 | --- | 0.001 | 0.001 | 0.01 |
| Hexane | 1.8E+00 | 1.8E-03 | --- | 0.028 | 0.033 | 0.12 |
| Indeno(1,2,3-cd)pyrene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Naphthalene | 6.1E-04 | 6.0E-07 | --- | 0.000 | 0.000 | 0.00 |
| Pentane | 2.6E+00 | 2.5E-03 | --- | 0.040 | 0.048 | 0.17 |
| Phenanthrene | 1.7E-05 | 1.7E-08 | --- | 0.000 | 0.000 | 0.00 |
| Propane | 1.6E+00 | 1.6E-03 | --- | 0.024 | 0.029 | 0.11 |
| Pyrene | 5.0E-06 | 4.9E-09 | --- | 0.000 | 0.000 | 0.00 |
| Toluene | 3.4E-03 | 3.3E-06 | --- | 0.000 | 0.000 | 0.00 |

(1) Emission factors are from AP42 Table 1.4-3.

(2) Calculated as: Emission Factor (lbs/10⁶ scf) ÷ 1,020 (MMBtu/10⁶ scf)

(3) Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

(4) Calculated as: Average (lbs/hr) X 1.2

(5) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Speciated Metal Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/10 ⁶ scf) | Emission Factor ⁽²⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|------------|---|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| Arsenic | 2.0E-04 | 2.0E-07 | --- | 0.000 | 0.000 | 0.00 |
| Barium | 4.4E-03 | 4.3E-06 | --- | 0.000 | 0.000 | 0.00 |
| Beryllium | 1.2E-05 | 1.2E-08 | --- | 0.000 | 0.000 | 0.00 |
| Cadmium | 1.1E-03 | 1.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Chromium | 1.4E-03 | 1.4E-06 | --- | 0.000 | 0.000 | 0.00 |
| Cobalt | 8.4E-05 | 8.2E-08 | --- | 0.000 | 0.000 | 0.00 |
| Copper | 8.5E-04 | 8.3E-07 | --- | 0.000 | 0.000 | 0.00 |
| Manganese | 3.8E-04 | 3.7E-07 | --- | 0.000 | 0.000 | 0.00 |
| Mercury | 2.6E-04 | 2.5E-07 | --- | 0.000 | 0.000 | 0.00 |
| Molybdenum | 1.1E-03 | 1.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Nickel | 2.1E-03 | 2.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Selenium | 2.4E-05 | 2.4E-08 | --- | 0.000 | 0.000 | 0.00 |
| Vanadium | 2.3E-03 | 2.3E-06 | --- | 0.000 | 0.000 | 0.00 |
| Zinc | 2.9E-02 | 2.8E-05 | --- | 0.000 | 0.001 | 0.00 |

(1) Emission factors are from AP42 Table 1.4-4.

(2) Calculated as: Emission Factor (lbs/10⁶ scf) ÷ 1,020 (MMBtu/10⁶ scf)

(3) Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

(4) Calculated as: Average (lbs/hr) X 1.2

(5) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Description of Source

A thermal oxidizer receives tank farm outbreathing, sour water degasser off-gas, filtration off-gas, vapors recovered from railcar loading activities, and CO₂ streams in case of well injection upsets. A lock hopper vent stream from Gasification area is directed to the Thermal Oxidizer as it will contain trace amounts of syngas. This stream also contains ash. The ash content is assumed to contribute to PM₁₀ and PM_{2.5} emissions. The effluent gases from the Thermal Oxidizer are sent to SO₂ Scrubber before being emitted to atmosphere.

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency ⁽²⁾ | Emissions | | |
|---|--|---|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | 1.231 | --- | --- | 1.231 | 1.477 | 5.39 |
| Particulate Matter (PM _{2.5}) | 1.231 | --- | --- | 1.231 | 1.477 | 5.39 |
| Sulfur dioxide (SO ₂) | 1.409 | --- | 95% | 0.070 | 0.085 | 0.31 |
| Nitrogen oxides (NO _x) | 0.914 | --- | --- | 0.914 | 1.096 | 4.00 |
| Carbon monoxide (CO) | 0.231 | --- | --- | 0.231 | 0.277 | 1.01 |
| Total VOC | 0.015 | --- | --- | 0.015 | 0.018 | 0.07 |
| Ammonia | 0.001 | --- | --- | 0.001 | 0.001 | 0.003 |

⁽¹⁾ Emission factors are the sum of Fuel Gas Combustion Emissions, Lock Hopper Vent PM Emissions, and Sour Water Degasser Off-Gas NO_x Emissions.

⁽²⁾ Control Efficiency is based on vendor specifications.

⁽³⁾ Calculated as: Emission Factor (lbs/hr) X (1- Control Efficiency)

⁽⁴⁾ Calculated as: Average (lbs/hr) X 1.2

⁽⁵⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Lock Hopper Vent PM Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|---|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | 1.210 | --- | --- | 1.210 | 1.452 | 5.30 |
| Particulate Matter (PM _{2.5}) | 1.210 | --- | --- | 1.210 | 1.452 | 5.30 |

- (1) Emission factors for PM₁₀ and PM_{2.5} are based off of stream ash content. 100% of ash content is assumed as PM_{2.5}.
- (2) Calculated as: Emission Factor (lbs/hr) X (1- Control Efficiency)
- (3) Calculated as: Average (lbs/hr) X 1.2
- (4) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Sour Water Degasser Off-Gas NO_x Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|------------------------------------|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Nitrogen oxides (NO _x) | 0.776 | --- | --- | 0.776 | 0.932 | 3.40 |
| Ammonia | 0.001 | --- | --- | 0.001 | 0.001 | 0.003 |

- (1) Emission factor for NO_x and Ammonia are derived from Sour Water Degasser Off-Gas ammonia content. 99.9% conversion of Ammonia to NO_x is assumed.
- (2) Calculated as: Emission Factor (lbs/hr) X (1- Control Efficiency)
- (3) Calculated as: Average (lbs/hr) X 1.2
- (4) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Annual Operation: 8,760 hrs/yr
Total Fuel Gas Usage: 2.8 MMBtu/hr

Fuel Gas Combustion Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|---|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | --- | 0.0075 | --- | 0.021 | 0.025 | 0.09 |
| Particulate Matter (PM _{2.5}) | --- | 0.0075 | --- | 0.021 | 0.025 | 0.09 |
| Sulfur dioxide (SO ₂) | 1.409 | --- | --- | 1.409 | 1.691 | 6.17 |
| Nitrogen oxides (NO _x) | --- | 0.0490 | --- | 0.137 | 0.165 | 0.60 |
| Carbon monoxide (CO) | --- | 0.0824 | --- | 0.231 | 0.277 | 1.01 |
| Total VOC | --- | 0.0054 | --- | 0.015 | 0.018 | 0.07 |

- (1) Emission factors for PM₁₀, PM_{2.5}, NO_x, CO, and Total VOC are from AP42 Table 1.4-2. Emission factor for SO₂ is based on vendor specifications.
- Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)
- (2) or Emission Factor (lbs/hr) X (1- Control Efficiency)
- (3) Calculated as: Average (lbs/hr) X 1.2
- (4) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Speciated Organic Compound Emissions From Fuel Gas Combustion

| Pollutant | Emission Factor ⁽¹⁾ (lbs/10 ⁶ scf) | Emission Factor ⁽²⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|--------------------------------|---|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| 2-Methylnaphthalene | 2.4E-05 | 2.4E-08 | --- | 0.000 | 0.000 | 0.00 |
| 3-Methylcholanthrene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| 7,12-Dimethylbenz(a)anthracene | 1.6E-05 | 1.6E-08 | --- | 0.000 | 0.000 | 0.00 |
| Acenaphthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Acenaphthylene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Anthracene | 2.4E-06 | 2.4E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(a)anthracene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzene | 2.1E-03 | 2.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(a)pyrene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(b)fluoranthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(g,h,i)perylene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(k)fluoranthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Butane | 2.1E+00 | 2.1E-03 | --- | 0.006 | 0.007 | 0.03 |
| Chrysene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Dibenzo(a,h)anthracene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Dichlorobenzene | 1.2E-03 | 1.2E-06 | --- | 0.000 | 0.000 | 0.00 |
| Ethane | 3.1E+00 | 3.0E-03 | --- | 0.009 | 0.010 | 0.04 |
| Fluoranthene | 3.0E-06 | 2.9E-09 | --- | 0.000 | 0.000 | 0.00 |
| Fluorene | 2.8E-06 | 2.7E-09 | --- | 0.000 | 0.000 | 0.00 |
| Formaldehyde | 7.5E-02 | 7.4E-05 | --- | 0.000 | 0.000 | 0.00 |
| Hexane | 1.8E+00 | 1.8E-03 | --- | 0.005 | 0.006 | 0.02 |
| Indeno(1,2,3-cd)pyrene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Naphthalene | 6.1E-04 | 6.0E-07 | --- | 0.000 | 0.000 | 0.00 |
| Pentane | 2.6E+00 | 2.5E-03 | --- | 0.007 | 0.009 | 0.03 |
| Phenanthrene | 1.7E-05 | 1.7E-08 | --- | 0.000 | 0.000 | 0.00 |
| Propane | 1.6E+00 | 1.6E-03 | --- | 0.004 | 0.005 | 0.02 |
| Pyrene | 5.0E-06 | 4.9E-09 | --- | 0.000 | 0.000 | 0.00 |
| Toluene | 3.4E-03 | 3.3E-06 | --- | 0.000 | 0.000 | 0.00 |

⁽¹⁾ Emission factors are from AP42 Table 1.4-3.

⁽²⁾ Calculated as: Emission Factor (lbs/10⁶ scf) ÷ 1,020 (MMBtu/10⁶ scf)

⁽³⁾ Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

⁽⁴⁾ Calculated as: Average (lbs/hr) X 1.2

⁽⁵⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Speciated Metal Emissions From Fuel Gas Combustion

| Pollutant | Emission Factor ⁽¹⁾ (lbs/10 ⁶ scf) | Emission Factor ⁽²⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|------------|---|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| Arsenic | 2.0E-04 | 2.0E-07 | --- | 0.000 | 0.000 | 0.00 |
| Barium | 4.4E-03 | 4.3E-06 | --- | 0.000 | 0.000 | 0.00 |
| Beryllium | 1.2E-05 | 1.2E-08 | --- | 0.000 | 0.000 | 0.00 |
| Cadmium | 1.1E-03 | 1.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Chromium | 1.4E-03 | 1.4E-06 | --- | 0.000 | 0.000 | 0.00 |
| Cobalt | 8.4E-05 | 8.2E-08 | --- | 0.000 | 0.000 | 0.00 |
| Copper | 8.5E-04 | 8.3E-07 | --- | 0.000 | 0.000 | 0.00 |
| Manganese | 3.8E-04 | 3.7E-07 | --- | 0.000 | 0.000 | 0.00 |
| Mercury | 2.6E-04 | 2.5E-07 | --- | 0.000 | 0.000 | 0.00 |
| Molybdenum | 1.1E-03 | 1.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Nickel | 2.1E-03 | 2.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Selenium | 2.4E-05 | 2.4E-08 | --- | 0.000 | 0.000 | 0.00 |
| Vanadium | 2.3E-03 | 2.3E-06 | --- | 0.000 | 0.000 | 0.00 |
| Zinc | 2.9E-02 | 2.8E-05 | --- | 0.000 | 0.000 | 0.00 |

(1) Emission factors are from AP42 Table 1.4-4.

(2) Calculated as: Emission Factor (lbs/10⁶ scf) ÷ 1,020 (MMBtu/10⁶ scf)

(3) Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

(4) Calculated as: Average (lbs/hr) X 1.2

(5) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Description of Source

The design of the project has allowed for a facility that avoids continuous flaring. During emergencies or upset conditions, however, flaring will be required for certain process streams for safety purposes. A continuous flow of fuel gas is required for certain process streams for the flare pilots and purge gas.

Annual Operation: 8,760 hrs/yr
 Total Fuel Gas Usage: 6.7 MMBtu/hr

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|---|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | --- | 0.0075 | --- | 0.050 | 0.060 | 0.22 |
| Particulate Matter (PM _{2.5}) | --- | 0.0075 | --- | 0.050 | 0.060 | 0.22 |
| Sulfur dioxide (SO ₂) | --- | 0.0172 | --- | 0.115 | 0.138 | 0.50 |
| Nitrogen oxides (NO _x) | --- | 0.0490 | --- | 0.328 | 0.394 | 1.44 |
| Carbon monoxide (CO) | --- | 0.0824 | --- | 0.552 | 0.662 | 2.42 |
| Total VOC | --- | 0.0054 | --- | 0.036 | 0.043 | 0.16 |

(1) Emission factors for PM₁₀, PM_{2.5}, NO_x, CO, and Total VOC are from AP42 Table 1.4-2.

Emission factor for SO₂ assumes total fuel gas sulfur content is combusted to SO₂.

(2) Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

(3) Calculated as: Average (lbs/hr) X 1.2

(4) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Speciated Organic Compound Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/10 ⁶ scf) | Emission Factor ⁽²⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|--------------------------------|---|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| 2-Methylnaphthalene | 2.4E-05 | 2.4E-08 | --- | 0.000 | 0.000 | 0.00 |
| 3-Methylcholanthrene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| 7,12-Dimethylbenz(a)anthracene | 1.6E-05 | 1.6E-08 | --- | 0.000 | 0.000 | 0.00 |
| Acenaphthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Acenaphthylene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Anthracene | 2.4E-06 | 2.4E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benz(a)anthracene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzene | 2.1E-03 | 2.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(a)pyrene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(b)fluoranthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(g,h,i)perylene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(k)fluoranthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Butane | 2.1E+00 | 2.1E-03 | --- | 0.014 | 0.017 | 0.06 |
| Chrysene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Dibenzo(a,h)anthracene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Dichlorobenzene | 1.2E-03 | 1.2E-06 | --- | 0.000 | 0.000 | 0.00 |
| Ethane | 3.1E+00 | 3.0E-03 | --- | 0.020 | 0.024 | 0.09 |
| Fluoroanthene | 3.0E-06 | 2.9E-09 | --- | 0.000 | 0.000 | 0.00 |
| Fluorene | 2.8E-06 | 2.7E-09 | --- | 0.000 | 0.000 | 0.00 |
| Formaldehyde | 7.5E-02 | 7.4E-05 | --- | 0.000 | 0.001 | 0.00 |
| Hexane | 1.8E+00 | 1.8E-03 | --- | 0.012 | 0.014 | 0.05 |
| Indeno(1,2,3-cd)pyrene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Naphthalene | 6.1E-04 | 6.0E-07 | --- | 0.000 | 0.000 | 0.00 |
| Pentane | 2.6E+00 | 2.5E-03 | --- | 0.017 | 0.020 | 0.07 |
| Phenanthrene | 1.7E-05 | 1.7E-08 | --- | 0.000 | 0.000 | 0.00 |
| Propane | 1.6E+00 | 1.6E-03 | --- | 0.011 | 0.013 | 0.05 |
| Pyrene | 5.0E-06 | 4.9E-09 | --- | 0.000 | 0.000 | 0.00 |
| Toluene | 3.4E-03 | 3.3E-06 | --- | 0.000 | 0.000 | 0.00 |

(1) Emission factors are from AP42 Table 1.4-3.

(2) Calculated as: Emission Factor (lbs/10⁶ scf) ÷ 1,020 (MMBtu/10⁶ scf)

(3) Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

(4) Calculated as: Average (lbs/hr) X 1.2

(5) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Speciated Metal Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/10 ⁶ scf) | Emission Factor ⁽²⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|------------|---|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| Arsenic | 2.0E-04 | 2.0E-07 | --- | 0.000 | 0.000 | 0.00 |
| Barium | 4.4E-03 | 4.3E-06 | --- | 0.000 | 0.000 | 0.00 |
| Beryllium | 1.2E-05 | 1.2E-08 | --- | 0.000 | 0.000 | 0.00 |
| Cadmium | 1.1E-03 | 1.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Chromium | 1.4E-03 | 1.4E-06 | --- | 0.000 | 0.000 | 0.00 |
| Cobalt | 8.4E-05 | 8.2E-08 | --- | 0.000 | 0.000 | 0.00 |
| Copper | 8.5E-04 | 8.3E-07 | --- | 0.000 | 0.000 | 0.00 |
| Manganese | 3.8E-04 | 3.7E-07 | --- | 0.000 | 0.000 | 0.00 |
| Mercury | 2.6E-04 | 2.5E-07 | --- | 0.000 | 0.000 | 0.00 |
| Molybdenum | 1.1E-03 | 1.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Nickel | 2.1E-03 | 2.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Selenium | 2.4E-05 | 2.4E-08 | --- | 0.000 | 0.000 | 0.00 |
| Vanadium | 2.3E-03 | 2.3E-06 | --- | 0.000 | 0.000 | 0.00 |
| Zinc | 2.9E-02 | 2.8E-05 | --- | 0.000 | 0.000 | 0.00 |

- ⁽¹⁾ Emission factors are from AP42 Table 1.4-4.
- ⁽²⁾ Calculated as: Emission Factor (lbs/10⁶ scf) ÷ 1,020 (MMBtu/10⁶ scf)
- ⁽³⁾ Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)
- ⁽⁴⁾ Calculated as: Average (lbs/hr) X 1.2
- ⁽⁵⁾ Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Description of Source

A process-fired heater provides heat for the facility's liquid upgrading unit. The heater utilizes the facility's fuel gas.

Annual Operation: 8,760 hrs/yr
 Total Fuel Gas Usage: 3.8 MMBtu/hr

Summary of Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/hr) | Emission Factor ⁽¹⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|---|--|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽²⁾ (lbs/hr) | Maximum ⁽³⁾ (lbs/hr) | Annual ⁽⁴⁾ (tons/yr) |
| Particulate Matter (PM ₁₀) | --- | 0.0075 | --- | 0.029 | 0.034 | 0.12 |
| Particulate Matter (PM _{2.5}) | --- | 0.0075 | --- | 0.029 | 0.034 | 0.12 |
| Sulfur dioxide (SO ₂) | --- | 0.0172 | --- | 0.065 | 0.078 | 0.29 |
| Nitrogen oxides (NO _x) | --- | 0.0490 | --- | 0.186 | 0.223 | 0.82 |
| Carbon monoxide (CO) | --- | 0.0824 | --- | 0.313 | 0.376 | 1.37 |
| Total VOC | --- | 0.0054 | --- | 0.021 | 0.025 | 0.09 |

(1) Emission factors for PM₁₀, PM_{2.5}, NO_x, CO, and Total VOC are from AP42 Table 1.4-2.

Emission factor for SO₂ assumes total fuel gas sulfur content is combusted to SO₂.

(2) Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

(3) Calculated as: Average (lbs/hr) X 1.2

(4) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Speciated Organic Compound Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/10 ⁶ scf) | Emission Factor ⁽²⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|--------------------------------|---|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| 2-Methylnaphthalene | 2.4E-05 | 2.4E-08 | --- | 0.000 | 0.000 | 0.00 |
| 3-Methylcholanthrene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| 7,12-Dimethylbenz(a)anthracene | 1.6E-05 | 1.6E-08 | --- | 0.000 | 0.000 | 0.00 |
| Acenaphthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Acenaphthylene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Anthracene | 2.4E-06 | 2.4E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benz(a)anthracene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzene | 2.1E-03 | 2.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(a)pyrene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(b)fluoranthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(g,h,i)perylene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Benzo(k)fluoranthene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Butane | 2.1E+00 | 2.1E-03 | --- | 0.008 | 0.009 | 0.03 |
| Chrysene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Dibenzo(a,h)anthracene | 1.2E-06 | 1.2E-09 | --- | 0.000 | 0.000 | 0.00 |
| Dichlorobenzene | 1.2E-03 | 1.2E-06 | --- | 0.000 | 0.000 | 0.00 |
| Ethane | 3.1E+00 | 3.0E-03 | --- | 0.012 | 0.014 | 0.05 |
| Fluoranthene | 3.0E-06 | 2.9E-09 | --- | 0.000 | 0.000 | 0.00 |
| Fluorene | 2.8E-06 | 2.7E-09 | --- | 0.000 | 0.000 | 0.00 |
| Formaldehyde | 7.5E-02 | 7.4E-05 | --- | 0.000 | 0.000 | 0.00 |
| Hexane | 1.8E+00 | 1.8E-03 | --- | 0.007 | 0.008 | 0.03 |
| Indeno(1,2,3-cd)pyrene | 1.8E-06 | 1.8E-09 | --- | 0.000 | 0.000 | 0.00 |
| Naphthalene | 6.1E-04 | 6.0E-07 | --- | 0.000 | 0.000 | 0.00 |
| Pentane | 2.6E+00 | 2.5E-03 | --- | 0.010 | 0.012 | 0.04 |
| Phenanthrene | 1.7E-05 | 1.7E-08 | --- | 0.000 | 0.000 | 0.00 |
| Propane | 1.6E+00 | 1.6E-03 | --- | 0.006 | 0.007 | 0.03 |
| Pyrene | 5.0E-06 | 4.9E-09 | --- | 0.000 | 0.000 | 0.00 |
| Toluene | 3.4E-03 | 3.3E-06 | --- | 0.000 | 0.000 | 0.00 |

(1) Emission factors are from AP42 Table 1.4-3.

(2) Calculated as: Emission Factor (lbs/10⁶ scf) ÷ 1,020 (MMBtu/10⁶ scf)

(3) Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

(4) Calculated as: Average (lbs/hr) X 1.2

(5) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

Speciated Metal Emissions

| Pollutant | Emission Factor ⁽¹⁾ (lbs/10 ⁶ scf) | Emission Factor ⁽²⁾ (lbs/MMBtu) | Control Efficiency | Emissions | | |
|------------|---|---|--------------------|------------------------------------|------------------------------------|------------------------------------|
| | | | | Average ⁽³⁾ (lbs/hr) | Maximum ⁽⁴⁾ (lbs/hr) | Annual ⁽⁵⁾ (tons/yr) |
| Arsenic | 2.0E-04 | 2.0E-07 | --- | 0.000 | 0.000 | 0.00 |
| Barium | 4.4E-03 | 4.3E-06 | --- | 0.000 | 0.000 | 0.00 |
| Beryllium | 1.2E-05 | 1.2E-08 | --- | 0.000 | 0.000 | 0.00 |
| Cadmium | 1.1E-03 | 1.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Chromium | 1.4E-03 | 1.4E-06 | --- | 0.000 | 0.000 | 0.00 |
| Cobalt | 8.4E-05 | 8.2E-08 | --- | 0.000 | 0.000 | 0.00 |
| Copper | 8.5E-04 | 8.3E-07 | --- | 0.000 | 0.000 | 0.00 |
| Manganese | 3.8E-04 | 3.7E-07 | --- | 0.000 | 0.000 | 0.00 |
| Mercury | 2.6E-04 | 2.5E-07 | --- | 0.000 | 0.000 | 0.00 |
| Molybdenum | 1.1E-03 | 1.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Nickel | 2.1E-03 | 2.1E-06 | --- | 0.000 | 0.000 | 0.00 |
| Selenium | 2.4E-05 | 2.4E-08 | --- | 0.000 | 0.000 | 0.00 |
| Vanadium | 2.3E-03 | 2.3E-06 | --- | 0.000 | 0.000 | 0.00 |
| Zinc | 2.9E-02 | 2.8E-05 | --- | 0.000 | 0.000 | 0.00 |

(1) Emission factors are from AP42 Table 1.4-4.

(2) Calculated as: Emission Factor (lbs/10⁶ scf) ÷ 1,020 (MMBtu/10⁶ scf)

(3) Calculated as: Emission Factor (lbs/MMBtu) X Total Fuel Gas Usage (MMBtu/hr) X (1- Control Efficiency)

(4) Calculated as: Average (lbs/hr) X 1.2

(5) Calculated as: Average hourly emissions (lbs/hr) X Annual Operation (hrs/yr) ÷ (2,000 lbs/ton)

10. Proposed Project Emissions [LAC 33:III.517.D.3]

List the total emissions following the proposed project for this facility or process unit (for process unit-specific permits). Speciate all criteria pollutants, TAP, and HAP for the proposed project.

| Pollutant | Proposed Emission Rate (tons/yr) |
|---------------------------------------|----------------------------------|
| Particulate Matter (PM10) | 80.74 |
| Particulate Matter (PM2.5) | 79.56 |
| Sulfur dioxide (SO2) | 38.07 |
| Nitrogen oxides (NOx) | 75.70 |
| Carbon monoxide (CO) | 69.86 |
| Total VOC | 91.49 |
| Acetaldehyde | 0.07 |
| Acrolein | 2.30 |
| Benzene | 0.42 |
| Benzyl chloride | 0.08 |
| Bromoform | 0.04 |
| Carbon disulfide | 0.04 |
| Dichloromethane | 0.04 |
| Ethylbenzene | 0.05 |
| Formaldehyde | 0.46 |
| Hexane | 2.84 |
| Methanol | 0.56 |
| Methyl chloride | 0.15 |
| Methyl Chloroform | 0.01 |
| Methyl ethyl ketone | 0.04 |
| Methyl isobutyl ketone (MIBK) | 0.04 |
| Naphthalene | 0.03 |
| Polycyclic Aromatic Hydrocarbon (PAH) | 1.51 |
| Styrene | 0.48 |
| Toluene | 0.11 |
| Xylenes | 3.52 |
| Ammonia | 9.41 |
| Barium | 0.01 |
| Chromium VI | 0.01 |
| Hydrochloric Acid | 0.35 |
| Hydrofluoric Acid | 0.35 |
| Lead | 0.01 |
| Manganese | 0.02 |
| Mercury | 0.01 |
| Phosphorus | 0.11 |
| Sulfuric Acid | 0.89 |
| Zinc | 0.03 |

State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal
 Jun | 2022

| | | | | | | | |
|---|---|---|--------------------------------|------------|--------------|----------|---------------|
| Emission Point ID No. (Designation) 22-01 | Descriptive Name of the Emissions Source (Alt. Name) Biomass Boiler Stack | Approximate Location of Stack or Vent (see instructions) | | | | | |
| Tempo Subject Item ID No. TBD | | Method | 20,"Interpolation - Satellite" | | Datum | WGS84 | |
| | | UTM Zone | 15 | Horizontal | 584001.54 mE | Vertical | 3561874.15 mN |
| | | Latitude | 32 ° | | 11 " | | 24 " |
| | | Longitude | -92 ° | | 6 " | | 31 " |
| | | | | | | | 98 hundredths |
| | | | | | | | 84 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 3 ft 7.07 ft ² | 200 ft | 665.74 ft/sec | 282,350 ft ³ /min | 186 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | |
|-------|---|-----------------------|
| | Type of Fuel | Heat Input (MMBTU/hr) |
| | a | Biomass 1168 |
| | b | |
| c | | |
| Notes | | |

| Operating Parameters (include units) | | |
|--|-------------------------------------|--|
| Parameter | Description | |
| Normal Operating Rate/Throughput | 1,168 | MMBTU/hr |
| Maximum Operating Rate/Throughput | 1,168 | MMBTU/hr |
| Design Capacity/Volume/Cylinder Displacement | 1,168 | MMBTU/hr |
| Shell Height (ft) | N/A | |
| Tank Diameter (ft) | N/A | |
| Tanks: | <input type="checkbox"/> Fixed Roof | <input type="checkbox"/> Floating Roof |
| | <input type="checkbox"/> External | <input type="checkbox"/> Internal |
| Date Engine Ordered | | Engine Model Year |
| Date Engine Was Built by Manufacturer | | |
| SI Engines: | <input type="checkbox"/> Rich Burn | <input type="checkbox"/> Lean Burn |
| | <input type="checkbox"/> 2 Stroke | <input type="checkbox"/> 4 Stroke |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-01 | | | | | | | | | | |
| Pollutant | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Particulate matter (PM ₁₀) | 008 | 90% | | 14.543 | 17.452 | 63.70 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 008 | 90% | | 14.543 | 17.452 | 63.70 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 013 | 80% | | 7.479 | 8.975 | 32.76 | --- | A | | ppm by vol |
| Nitrogen oxides | 032 | 85% | | 13.139 | 15.767 | 57.55 | --- | A | | ppm by vol |
| Carbon monoxide | 019 | 85% | | 12.970 | 15.564 | 56.81 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 8.178 | 9.814 | 35.82 | --- | A | | ppm by vol |
| Ammonia | 000 | | 07664-41-7 | 1.838 | 2.205 | 8.05 | --- | A | | ppm by vol |

| Emission Point ID No. (Designation) 22-01 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Acetaldehyde | 000 | | 00075-07-0 | 0.014 | 0.017 | 0.06 | --- | A | ppm by vol | |
| Acrolein | 000 | | 00107-02-8 | 0.524 | 0.629 | 2.30 | --- | A | ppm by vol | |
| Benzene | 000 | | 00071-43-2 | 0.086 | 0.103 | 0.38 | --- | A | ppm by vol | |
| Chromium VI (and compounds) | 000 | | 0 | 0.001 | 0.001 | < 0.01 | --- | A | ppm by vol | |
| Ethyl Benzene | 000 | | 00100-41-4 | 0.002 | 0.002 | 0.01 | --- | A | ppm by vol | |
| Formaldehyde | 000 | | 00050-00-0 | 0.078 | 0.094 | 0.34 | --- | A | ppm by vol | |
| Hydrochloric Acid | 000 | | 07647-01-0 | 0.080 | 0.096 | 0.35 | --- | A | ppm by vol | |
| Hydrofluoric Acid | 000 | | 07664-39-3 | 0.080 | 0.096 | 0.35 | --- | A | ppm by vol | |
| Lead compounds | 000 | | 0 | < 0.001 | < 0.001 | < 0.01 | --- | A | ppm by vol | |
| Manganese (and compounds) | 000 | | 0 | 0.004 | 0.005 | 0.02 | --- | A | ppm by vol | |
| Mercury (and compounds) | 000 | | 0 | 0.002 | 0.002 | 0.01 | --- | A | ppm by vol | |
| Methyl chloride | 000 | | 00074-87-3 | 0.006 | 0.007 | 0.03 | --- | A | ppm by vol | |
| 1,1,1-Trichloroethane | 000 | | 00071-55-6 | 0.001 | 0.001 | < 0.01 | --- | A | ppm by vol | |
| Polynuclear Aromatic Hydrocarbons | 000 | | 0 | 0.338 | 0.406 | 1.48 | --- | A | ppm by vol | |
| Phosphorus | 000 | | 07723-14-0 | 0.026 | 0.031 | 0.11 | --- | A | ppm by vol | |
| Sulfuric Acid | 000 | | 07664-93-9 | 0.200 | 0.240 | 0.88 | --- | A | ppm by vol | |
| Toluene | 000 | | 00108-88-3 | 0.004 | 0.005 | 0.02 | --- | A | ppm by vol | |
| Xylene (mixed isomers) | 000 | | #N/A | 0.002 | 0.002 | 0.01 | --- | A | ppm by vol | |

| State of Louisiana Emissions Inventory Questionnaire (EIQ) for Air Pollutants | | | | | | | | | | Date of submittal | | | | | | | | | | | | | |
|--|----------------------|--|------------------------------|----------------------------------|-------------------------|--|------------------|---|-----------------------------------|--|--|--|----------------|--------------------------------------|-----|--|---------|---------|---------|--|--|--|--|
| | | | | | | | | | | Jun | 2022 | | | | | | | | | | | | |
| Emission Point ID No. (Designation) 22-07 | | Descriptive Name of the Emissions Source (Alt. Name) Gasification Heater Common Stack | | | | Approximate Location of Stack or Vent (see instructions) | | | | | | | | | | | | | | | | | |
| Tempo Subject Item ID No. TBD | | | | | | Method 20,"Interpolation - Satellite" | | Datum WGS84 | | | | | | | | | | | | | | | |
| | | | | | | UTM Zone 15 | | Horizontal 584383.67 mE | | Vertical 3561516.58 mN | | | | | | | | | | | | | |
| | | | | | | Latitude 32 ° | | 11 " | | 13 " | | | | | | | | | | | | | |
| | | | | | | Longitude -92 ° | | 6 " | | 17 " | | | | | | | | | | | | | |
| Stack and Discharge Physical Characteristics Change? (yes or no) | | Diameter (ft) or Stack Discharge Area (ft ²) | | Height of Stack Above Grade (ft) | | Stack Gas Exit Velocity | | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | | Stack Gas Exit Temperature (°F) | | Normal Operating Time (hours per year) | | Date of Construction or Modification | | Percent of Annual Throughput Through This Emission Point | | | | | | | |
| yes | | 6 ft 28.27 ft ² | | 30 ft | | 64.65 ft/sec | | 109,672 ft ³ /min | | 785 °F | | 8760 hr/yr | | 2022 | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec | | | | |
| | | | | | | | | | | | | | | 25% | 25% | 25% | 25% | | | | | | |
| Type of Fuel Used and Heat Input (see instructions) | | | | | | | | | | Operating Parameters (include units) | | | | | | | | | | | | | |
| Fuel | Type of Fuel | | Heat Input (MMBTU/hr) | | | | | | | | Parameter | | Description | | | | | | | | | | |
| | Fuel Gas/Natural Gas | | 188.3 | | | | | | | | Normal Operating Rate/Throughput | | 188.3 MMBtu/hr | | | | | | | | | | |
| | | | | | | | | | | | Maximum Operating Rate/Throughput | | 226.0 MMBtu/hr | | | | | | | | | | |
| | | | | | | | | | | | Design Capacity/Volume/Cylinder Displacement | | | | | | | | | | | | |
| Notes | | | | | | | | | | Shell Height (ft) | | N/A | | | | | | | | | | | |
| | | | | | | | | | | Tank Diameter (ft) | | N/A | | | | | | | | | | | |
| | | | | | | | | | | Tanks: <input type="checkbox"/> Fixed Roof | | <input type="checkbox"/> Floating Roof | | <input type="checkbox"/> External | | <input type="checkbox"/> Internal | | | | | | | |
| | | | | | | | | | | Date Engine Ordered | | | | Engine Model Year | | | | | | | | | |
| | | | | | | | | | | Date Engine Was Built by Manufacturer | | | | | | | | | | | | | |
| | | | | | | | | | | SI Engines: <input type="checkbox"/> Rich Burn | | <input type="checkbox"/> Lean Burn | | <input type="checkbox"/> 2 Stroke | | <input type="checkbox"/> 4 Stroke | | | | | | | |
| Emission Point ID No. (Designation) 22-07 | | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack | | | | | | | | | | | | |
| Pollutant | | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | | | | | | | | | | | | | |
| Particulate matter (PM ₁₀) | | 000 | | | 1.412 | 1.695 | 6.19 | --- | A | | gr/std ft ³ | | | | | | | | | | | | |
| Particulate matter (PM _{2.5}) | | 000 | | | 1.412 | 1.695 | 6.19 | --- | A | | gr/std ft ³ | | | | | | | | | | | | |
| Sulfur dioxide | | 000 | | | 0.480 | 0.576 | 2.10 | --- | A | | ppm by vol | | | | | | | | | | | | |
| Nitrogen oxides | | 032 | 90% | | 1.210 | 1.452 | 5.30 | --- | A | | ppm by vol | | | | | | | | | | | | |
| Carbon monoxide | | 019 | 90% | | 0.405 | 0.486 | 1.77 | --- | A | | ppm by vol | | | | | | | | | | | | |
| Total VOC (including those listed below) | | 000 | | | 1.017 | 1.220 | 4.45 | --- | A | | ppm by vol | | | | | | | | | | | | |
| Ammonia | | 000 | | 07664-41-7 | 0.307 | 0.369 | 1.35 | --- | A | | ppm by vol | | | | | | | | | | | | |

| Emission Point ID No. (Designation) 22-07 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Formaldehyde | 000 | | 00050-00-0 | 0.014 | 0.017 | 0.06 | --- | A | | ppm by vol |
| n-Hexane | 000 | | 00110-54-3 | 0.332 | 0.399 | 1.46 | --- | A | | ppm by vol |
| Toluene | 000 | | 00108-88-3 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Barium (and compounds) | 000 | | 0 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |
| Zinc (and compounds) | 000 | | #N/A | 0.005 | 0.006 | 0.02 | --- | A | | ppm by vol |

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| | | | | | | | | |
|---|--|---|--------------------------------|------------|-----------|-------------|------------|---------------|
| Emission Point ID No. (Designation) 22-08 | Descriptive Name of the Emissions Source (Alt. Name) Reactor Charge Heater | Approximate Location of Stack or Vent (see instructions) | | | | | | |
| Tempo Subject Item ID No. TBD | | Method | 20,"Interpolation - Satellite" | | Datum | WGS84 | | |
| | | UTM Zone | 15 | Horizontal | 584522.09 | mE Vertical | 3561513.64 | mN |
| | | Latitude | 32 ° | | 11' | | 13" | 13 hundredths |
| | | Longitude | -92 ° | | 6' | | 12" | 8 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.3 ft 0.07 ft ² | 20 ft | 4.95 ft/sec | 21 ft ³ /min | 785 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|--|----------------------------------|-------------------|----------|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| | a | Fuel Gas/Natural Gas | 15.6 | Normal Operating Rate/Throughput | 15.6 | MMBTU/hr |
| b | | | Maximum Operating Rate/Throughput | 18.7 | MMBTU/hr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-08 | | | | | | | | | | |
| Pollutant | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Particulate matter (PM ₁₀) | 000 | | | 0.117 | 0.140 | 0.51 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 0.117 | 0.140 | 0.51 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 000 | | | 0.268 | 0.322 | 1.17 | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | 0.764 | 0.917 | 3.35 | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | 1.285 | 1.543 | 5.63 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 0.084 | 0.101 | 0.37 | --- | A | | ppm by vol |
| Formaldehyde | 000 | | 00050-00-0 | 0.001 | 0.001 | 0.01 | --- | A | | ppm by vol |

| Emission Point ID No. (Designation) 22-08 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Pollutant | | | | | | | | | | |
| n-Hexane | 000 | | 00110-54-3 | 0.028 | 0.033 | 0.12 | --- | A | | ppm by vol |
| Zinc (and compounds) | 000 | | #N/A | < 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |

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| | | | | | | | |
|---|---|---|---------------------------------|------------|--------------|----------|---------------|
| Emission Point ID No. (Designation) 22-09 | Descriptive Name of the Emissions Source (Alt. Name) SO ₂ Scrubber | Approximate Location of Stack or Vent (see instructions) | | | | | |
| Tempo Subject Item ID No. TBD | | Method | 20, "Interpolation - Satellite" | | Datum | WGS84 | |
| | | UTM Zone | 15 | Horizontal | 584471.57 mE | Vertical | 3561388.28 mN |
| | | Latitude | 32 ° | | 11 ' 9 " | | 7 hundredths |
| | | Longitude | -92 ° | | 6 ' 14 " | | 5 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.5 ft 0.20 ft ² | 30 ft | 405.31 ft/sec | 4,775 ft ³ /min | 785 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|--|---|--|-------------------|--|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| | a | | Normal Operating Rate/Throughput | | | |
| | b | | Maximum Operating Rate/Throughput | | | |
| c | | Design Capacity/Volume/Cylinder Displacement | | | | |
| Notes | | | Shell Height (ft) | | N/A | |
| | | | Tank Diameter (ft) | | N/A | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-09 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| Particulate matter (PM ₁₀) | 000 | | | 1.231 | 1.477 | 5.39 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 1.231 | 1.477 | 5.39 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 002 | 95% | | 0.070 | 0.085 | 0.31 | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | 0.914 | 1.096 | 4.00 | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | 0.231 | 0.277 | 1.01 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 0.015 | 0.018 | 0.07 | --- | A | | ppm by vol |
| Ammonia | 000 | | 07664-41-7 | 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |

| Emission Point ID No. (Designation) 22-09 | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Pollutant | | | | | | | | | | |
| n-Hexane | 000 | | 00110-54-3 | 0.005 | 0.006 | 0.02 | --- | A | | ppm by vol |

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| | | | | | | | |
|---|--|---|--------------------------------|------------|--------------|----------|---------------|
| Emission Point ID No. (Designation) 22-10 | Descriptive Name of the Emissions Source (Alt. Name) Flare | Approximate Location of Stack or Vent (see instructions) | | | | | |
| Tempo Subject Item ID No. TBD | | Method | 20,"Interpolation - Satellite" | | Datum | WGS84 | |
| | | UTM Zone | 15 | Horizontal | 584374.16 mE | Vertical | 3561685.01 mN |
| | | Latitude | 32 ° | | 11 " | | 18 " |
| | | Longitude | -92 ° | | 6 " | | 17 " |
| | | | | | | | 73 hundredths |
| | | | | | | | 67 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, <u>not</u> at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|---|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 4 ft 12.57 ft ² | 270 ft | 0.01 ft/sec | 10 ft ³ /min | 785 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | |
|-------|---|--------------------------|
| | Type of Fuel | Heat Input (MMBTU/hr) |
| | a | Fuel Gas/Natural Gas 6.7 |
| | b | |
| c | | |
| Notes | | |

| Operating Parameters (include units) | |
|---|-------------------|
| Parameter | Description |
| Normal Operating Rate/Throughput | 6.7 MMBtu/hr |
| Maximum Operating Rate/Throughput | 8.0 MMBtu/hr |
| Design Capacity/Volume/Cylinder Displacement | |
| Shell Height (ft) | N/A |
| Tank Diameter (ft) | N/A |
| Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | |
| Date Engine Ordered | Engine Model Year |
| Date Engine Was Built by Manufacturer | |
| SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-10 | | | | | | | | | | |
| Pollutant | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Particulate matter (PM ₁₀) | 000 | | | 0.050 | 0.060 | 0.22 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 0.050 | 0.060 | 0.22 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 000 | | | 0.115 | 0.138 | 0.50 | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | 0.328 | 0.394 | 1.44 | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | 0.552 | 0.662 | 2.42 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 0.036 | 0.043 | 0.16 | --- | A | | ppm by vol |
| Formaldehyde | 000 | | 00050-00-0 | < 0.001 | 0.001 | < 0.01 | --- | A | | ppm by vol |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|-------------------------------------|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| 22-10 | | | | | | | | | | |
| Pollutant | | | | | | | | | | |
| n-Hexane | 000 | | 00110-54-3 | 0.012 | 0.014 | 0.05 | --- | A | | ppm by vol |

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| | | | | | | | | |
|---|---|---|---------------------------------|------------|-----------|-------------|------------|---------------|
| Emission Point ID No. (Designation) 22-16 | Descriptive Name of the Emissions Source (Alt. Name) Fractionator Feed Heater | Approximate Location of Stack or Vent (see instructions) | | | | | | |
| Tempo Subject Item ID No. TBD | | Method | 20, "Interpolation - Satellite" | | Datum | WGS84 | | |
| | | UTM Zone | 15 | Horizontal | 584522.09 | mE Vertical | 3561513.64 | mN |
| | | Latitude | 32 ° | | 11' | | 13" | 13 hundredths |
| | | Longitude | -92 ° | | 6' | | 12" | 8 hundredths |

| Stack and Discharge Physical Characteristics Change? (yes or no) | Diameter (ft) or Stack Discharge Area (ft ²) | Height of Stack Above Grade (ft) | Stack Gas Exit Velocity | Stack Gas Flow at Conditions, not at Standard (ft ³ /min) | Stack Gas Exit Temperature (°F) | Normal Operating Time (hours per year) | Date of Construction or Modification | Percent of Annual Throughput Through This Emission Point | | | |
|--|--|----------------------------------|-------------------------|--|---------------------------------|--|--------------------------------------|--|---------|---------|---------|
| | | | | | | | | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |
| yes | 0.3 ft 0.07 ft ² | 20 ft | 4.95 ft/sec | 21 ft ³ /min | 785 °F | 8760 hr/yr | 2022 | 25% | 25% | 25% | 25% |

| Fuel | Type of Fuel Used and Heat Input (see instructions) | | Operating Parameters (include units) | | | |
|-------|---|-----------------------|---|----------------------------------|-------------------|----------|
| | Type of Fuel | Heat Input (MMBTU/hr) | Parameter | | Description | |
| | a | Fuel Gas/Natural Gas | 3.8 | Normal Operating Rate/Throughput | 3.8 | MMBTu/hr |
| b | | | Maximum Operating Rate/Throughput | 4.6 | MMBTu/hr | |
| c | | | Design Capacity/Volume/Cylinder Displacement | | | |
| Notes | | | Shell Height (ft) | N/A | | |
| | | | Tank Diameter (ft) | N/A | | |
| | | | Tanks: <input type="checkbox"/> Fixed Roof <input type="checkbox"/> Floating Roof <input type="checkbox"/> External <input type="checkbox"/> Internal | | | |
| | | | Date Engine Ordered | | Engine Model Year | |
| | | | Date Engine Was Built by Manufacturer | | | |
| | | | SI Engines: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke | | | |

| Emission Point ID No. (Designation) | Control Equipment Code | Control Equipment Efficiency | HAP / TAP CAS Number | Proposed Emission Rates | | | Permitted Emission Rate (Current) | Add, Change, Delete, or Unchanged | Continuous Compliance Method | Concentration in Gases Exiting at Stack |
|--|------------------------|------------------------------|----------------------|-------------------------|------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|---|
| | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | | | | |
| 22-16 | | | | | | | | | | |
| Pollutant | | | | Average (lb/hr) | Maximum (lbs/hr) | Annual (tons/yr) | Annual (tons/yr) | | | |
| Particulate matter (PM ₁₀) | 000 | | | 0.029 | 0.034 | 0.12 | --- | A | | gr/std ft ³ |
| Particulate matter (PM _{2.5}) | 000 | | | 0.029 | 0.034 | 0.12 | --- | A | | gr/std ft ³ |
| Sulfur dioxide | 000 | | | 0.065 | 0.078 | 0.29 | --- | A | | ppm by vol |
| Nitrogen oxides | 000 | | | 0.186 | 0.223 | 0.82 | --- | A | | ppm by vol |
| Carbon monoxide | 000 | | | 0.313 | 0.376 | 1.37 | --- | A | | ppm by vol |
| Total VOC (including those listed below) | 000 | | | 0.021 | 0.025 | 0.09 | --- | A | | ppm by vol |
| n-Hexane | 000 | | 00110-54-3 | 0.007 | 0.008 | 0.03 | --- | A | | ppm by vol |