**ReEnergy Fort Fairfield LLC**
**Aroostook County**
**Fort Fairfield, Maine**
**A-181-70-G-R**

**Departmental**
**Findings of Fact and Order**
**Part 70 Air Emission License**
**Renewal**

## FINDINGS OF FACT

After review of the Part 70 License renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A, §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

## I. REGISTRATION

### A. Introduction

| | |
|---|---|
| FACILITY | ReEnergy Fort Fairfield LLC (REFF) |
| LICENSE TYPE | Part 70 License Renewal |
| NAICS CODES | 22111 |
| NATURE OF BUSINESS | Electric Generating Station |
| FACILITY LOCATION | Cheney Grove Rd<br>Fort Fairfield, Maine |

### B. Emission Equipment

The following emission units are addressed by this Part 70 License:

**Boilers**

| Equipment | Maximum Heat Input Capacity (MMBtu/hr) | Max. Firing Rate | % sulfur | Install. Date |
|---|---|---|---|---|
| Boiler #1 | 523 (biomass)<br>130 (#2 fuel oil) | 58 ton/hr<br>929 gal/hr | Negligible<br>0.5% | 1987 |
| Boiler #2 | 4.3 (#2 fuel oil) | 31 gal/hr | 0.5% | 1988 |

**Generators**

| Equipment | Maximum Heat Input Capacity (MMBtu/hr) | Max. Firing Rate (gal/hr) | Fuel Type, % sulfur | Installation Date |
|---|---|---|---|---|
| Fire Pump #1 | 0.61 | 4.4 | Diesel fuel, 0.0015% | 1987 |
| Generator #2 | 0.51 | 3.7 | Diesel fuel, 0.0015% | 1987 |

ReEnergy Fort Fairfield (REFF) has additional insignificant activities which do not need to be listed in the emission equipment tables above. The list of insignificant activities can be found in the Part 70 license application and in Appendix B of *Part 70 Air Emission License Regulations*, 06-096 CMR 140 (as amended).

## C. Application Classification

The application for REFF does not include the licensing of increased emissions or the installation of new or modified equipment; therefore, the license is considered to be a Part 70 License renewal issued under 06-096 CMR 140 (as amended).

## D. Facility Description

REFF is a wood/biomass-fired electric generating facility capable of generating approximately 30 net megawatts of electricity. The plant consists of one steam generating unit (Boiler #1) which fires primarily sawmill residues, whole tree chips, and other wood fuels. Fuel oil is used during startups, shutdowns, flame stabilization, and emergency situations only. Boiler #1 supplies steam to a steam turbine for the generation of electricity.

There is also a smaller #2 fuel oil-fired boiler (Boiler #2) which provides building heat and auxiliary steam.

REFF has the potential to emit more than 100 tons per year (TPY) of sulfur dioxide ($SO_2$), nitrogen oxides ($NO_X$), and carbon monoxide (CO) and 100,000 tons of carbon dioxide equivalent ($CO_2e$); therefore, the source is a major source for criteria pollutants. REFF does not have the potential to emit more than 10 TPY of a single hazardous air pollutant (HAP) or more than 25 TPY of combined HAP, therefore, the source is an area source for HAP.

## E. General Facility Requirements

REFF is subject to the following state and federal regulations listed below, in addition to the regulations listed for specific units as described further in this license.

| CITATION | REQUIREMENT TITLE |
|---|---|
| 06-096 CMR 101 | Visible Emissions |
| 06-096 CMR 102 | Open Burning |
| 06-096 CMR 103 | Fuel Burning Equipment Particulate Emission Standard |
| 06-096 CMR 106 | Low Sulfur Fuel |
| 06-096 CMR 109 | Emergency Episode Regulation |
| 06-096 CMR 110 | Ambient Air Quality Standard |
| 06-096 CMR 116 | Prohibited Dispersion Techniques |
| 06-096 CMR 117 | Source Surveillance |
| 06-096 CMR 130 | Solvent Degreasers |
| 06-096 CMR 137 | Emission Statements |
| 06-096 CMR 138 | Reasonably Available Control Technology for Facilities that Emit Nitrogen Oxides |
| 06-096 CMR 140 | Part 70 Air Emission License Regulations |
| 06-096 CMR 143 | New Source Performance Standards |
| 06-096 CMR 144 | National Emission Standards for Hazardous Air Pollutants (NESHAP) |
| 40 CFR Part 60, Subpart Db | Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units |
| 40 CFR Part 63, Subpart ZZZZ | National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines |
| 40 CFR Part 63, Subpart JJJJJJ | National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers Area Sources |
| 40 CFR Part 64 | Compliance Assurance Monitoring |
| 40 CFR Part 70 | State Operating Permit Programs |

Note: CMR = Code of Maine Regulations
CFR = Code of Federal Regulations

### F. Units of Measurement

The following units of measurement are used in this license:

| | |
|---|---|
| lb/hr | pounds per hour |
| lb/MMBtu | pounds per million British Thermal Units |
| MMBtu/hr | million British Thermal Units per hour |
| MW | megawatt |
| ppm | parts per million |
| ppmdv | parts per million on a dry volume basis |
| tpy | tons per year |

## II. BEST PRACTICAL TREATMENT (BPT) AND EMISSION STANDARDS

### A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emission from the source being considered; and
- the economic feasibility for the type of establishment involved.

### B. $NO_X$ RACT (Reasonably Available Control Technology)

*Reasonably Available Control Technology for Facilities that Emit Nitrogen Oxides,* 06-096 CMR 138 (as amended) is applicable to sources that have the potential to emit quantities of $NO_X$ equal to or greater than 100 tons/year. Boiler #1 is subject to $NO_x$ emission standards and $NO_x$ CEMS requirements contained in 06-096 CMR 138. The $NO_X$ RACT requirements are incorporated in this renewal.

### C. VOC RACT (Reasonably Available Control Technology)

*Reasonably Available Control Technology for Facilities that Emit Volatile Organic Compounds,* 06-096 CMR 134 (as amended) is applicable to sources that have the potential to emit quantities of VOC equal to or greater than 40 tons/year.

REFF is exempt from these requirements because the facility does not have the potential to emit more than 40 TPY of VOC from non-exempt VOC-emitting equipment and processes. Boiler #1, Boiler #2, and the diesel engines are exempt from VOC RACT requirements because the VOC emissions from this equipment are due to incomplete combustion.

**D. Mandatory Greenhouse Gas (GHG) Reporting**

Federal regulation 40 CFR Part 98, *Mandatory Greenhouse Gas Reporting*, which contains GHG reporting and related monitoring and recordkeeping requirements, is applicable to the owners/operators of any facility which falls into any one of the following three categories, per 40 CFR Part 98, Subpart A, *General Provision*, § 98.2, *Who must report?*

(a)(1) A facility that contains any source category that is listed in Table A–3 of this subpart in any calendar year starting in 2010.

(a)(2) A facility that contains any source category that is listed in Table A–4 of this subpart and that emits 25,000 metric tons $CO_2e$ or more per year in combined emissions from stationary fuel combustion units, miscellaneous uses of carbonate, and all applicable source categories that are listed in Table A–3 and Table A–4 of this subpart.

(a)(3) A facility that in any calendar year starting in 2010 meets all three of the conditions listed in this paragraph (a)(3). For these facilities, the annual GHG report must cover emissions from stationary fuel combustion sources only.

(i) The facility does not meet the requirements of either paragraph (a)(1) or (a)(2) of this section.

(ii) The aggregate maximum rated heat input capacity of the stationary fuel combustion units at the facility is 30 MMBtu/hour or greater.

(iii) The facility emits 25,000 metric tons $CO_2e$ or more per year in combined emissions from all stationary fuel combustion sources.

If REFF exceeds the use of 2,450,000 gallons of #2 fuel oil in a calendar year, the facility will meet all three conditions listed in paragraph (a)(3) above, and will be subject to the recordkeeping and reporting requirements of 40 CFR Part 98.

**E. Compliance Assurance Monitoring (CAM)**

40 CFR Part 64, *Compliance Assurance Monitoring,* is applicable to units at major sources if the unit has emission limits, a control device to meet the limits, pre-control emissions greater than 100 tons/year for any pollutant, and does not use a Continuous Emission Monitoring System (CEMS) to demonstrate compliance with the limit.

REFF is subject to CAM for particulate matter (PM) emissions from Boiler #1. The Department has determined that CAM requirements for PM emission from Boiler #1 include the requirement to monitor opacity to demonstrate compliance with the applicable opacity standard using a Continuous Opacity Monitoring System (COMS), the requirement to perform PM emissions testing every five years to demonstrate compliance with the applicable PM emission limits, and requirements associated with monitoring and recording parameters indicating that the multiclone and ESP, used to capture and control PM emissions from the boiler, all of which are used by the Department in determining whether the boiler is operated in a manner consistent with good pollution control practices for minimizing PM emissions. The CAM requirements are incorporated in this renewal.

**F. Stack Testing for Particulate Matter**

The previous license had a requirement to stack test Boiler #1 for particulate matter once every two years. Since the issuance of the initial Part 70 air emission license, the statutory requirement of 38 M.R.S.A. §589, Sub-section 2 has been revised as follows: "A person is not required to conduct stack tests for particulate matter on a source monitored by a continuous monitoring device for opacity as specified by 40 Code of Federal Regulations, Part 60, Appendix B, specification 1 or appropriate surrogate parameters as required by the commissioner more frequently than once every 5 years unless visible emissions, operating parameters or other information indicates the source may be operating out of compliance with any applicable emission standard or unless there are more stringent federal requirements. If visible emissions, operating parameters or other information indicates potential noncompliance with an air emission standard or if there are more stringent federal requirements, the Department may require additional stack tests." The revised timeframe for PM stack testing is incorporated into this renewal for Boiler #1 since this unit is required to monitor for opacity.

**G. Boiler #1**

Boiler #1 is a wood-fired boiler commissioned for operation in November 1987. It supplies steam to a Mitsubishi steam turbine capable of producing approximately 33 gross megawatts of electrical power.

Boiler #1 was desiged with a heat input capacity of 523 MMBtu/hr while firing wood. The boiler has an auxiliary burner capable of firing #2 fuel oil at a design heat input capacity of 130 MMBtu/hr. Fuel oil is used for start-ups, shutdowns, flame stabilization, and emergency situations. Waste oil generated on-site, including specification waste oil and off-specification waste oil, is also utilized as fuel in Boiler #1.

Wood (biomass) is fed from a fuel chute into six pneumatic fuel distributors where it is blown across a specially designed trajectory plate and into the furnace portion of the boiler. The fuel is distributed on the traveling grate (both front to rear and laterally) via high pressure transport air settings and the trajectory plate angle setting. Heavier particles are spread evenly on the back of the traveling grate surface while fine particles are rapidly burned in suspension.

Undergrate air is evenly distributed through the active grate area to aid the combustion process. Three levels of high pressure overfire air jets provide turbulence and thorough mixing of fuel and air to complete the combustion process.

REFF operates a 130 MMBtu/hr fuel oil-fired auxiliary burner to stabilize combustion during periods of instability which resulted in higher CO emissions. The auxiliary burner is operated on an "as-needed" basis to promote flame stabilization in the boiler, thereby counteracting the effects of severe cold conditions and variable moisture levels that can occur in wood fuels.

The boiler is constructed of water-cooled walls with one refractory wall adjacent to the stoker. The boiler is sized and constructed to provide the time, temperature, and turbulence necessary to provide good combustion of wood fuel. The boiler combustion control system automatically controls the fuel feeder speed and the undergrate and overfire air flow.

Emissions exit through Stack #1, which has an above ground level (AGL) height of 216.5 feet.

1. New Source Performance Standards (NSPS)
   Boiler #1 is subject to the New Source Performance Standards (NSPS) titled *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, 40 CFR Part 60, Subpart Db. These standards apply to steam generating units with a heat input capacity of 100 MMBtu/hr or more that are constructed after June 19, 1984.

2. National Emissions Standards for Hazardous Air Pollutants (NESHAP)
   In June 2007 stack testing was conducted at ReEnergy Ashland LLC (a facility of similar size, configuration, and control equipment) for acetaldehyde, acrolein, formaldehyde, hydrogen chloride, antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium. The results were used to estimate total annual potential emissions of these HAPs at REFF. Emission factors for other HAPs were obtained from NCASI Technical Bulletin 858 and ERG Memo dated October 2002 (Development of Average Emission Factors and Baseline Emission Estimates for the Industrial, Commercial, and Institutional Boilers and Process Heaters

NESHAP). Based on this methodology, REFF estimated potential HAP emissions of less than 25 typ for total HAP emissions and less than 10 tpy for any single HAP. Therefore, REFF has been classified as an area source of HAP.

Since REFF is an area source for HAP, Boiler #1 is not subject to *NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters* contained in 40 CFR Part 63, Subpart DDDDD.

Boiler #1 is subject to *NESHAP for Area Sources: Industrial/ Commercial/Institutional Boilers* contained in 40 CFR Part 63, Subpart JJJJJJ. The unit is considered an existing biomass boiler.

Notification forms and additional rule information can be found on the following website: http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

a. Compliance Dates, Notifications, and Work Practice Requirements

i. Initial Notification of Compliance

An Initial Notification submittal to EPA is due no later than January 20, 2014. [40 CFR Part 63.11225(a)(2)]

ii. Boiler Tune-Up Program

(a) A boiler tune-up program shall be implemented to include the initial tune-up of applicable boilers no later than March 21, 2014. [40 CFR Part 63.11196(a)(1)]

(b) The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:

1. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; not to exceed 72 months from the previous inspection for boilers with oxygen trim systems.[40 CFR Part 63.11223(b)(1) & (c)]
2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted; 72 months from the previous inspection

for boilers with oxygen trim systems. [40 CFR Part 63.11223(b)(3) & (c)]

4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
5. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after 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. [40 CFR Part 63.11223(b)(5)]
6. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up. [40 CFR Part 63.11223(b)(7)]

(c) The facility shall implement a boiler tune-up program after the initial tune-up and initial compliance report (called a Notification of Compliance Status) has been submitted.

1. Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

| **Boiler Category** | **Tune-Up Frequency** |
|---|---|
| New or Existing Oil, Biomass and Coal fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below | Every 2 years |
| ***New and Existing Oil, Biomass, and Coal fired Boilers with less frequent tune up requirements*** | |
| Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up | Every 5 years |

[40 CFR Part 63.11223(a) and Table 2]

2. The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and

the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR Part 63.11223(b)(6)]
The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]

iii. Energy Assessment

Boiler #1 is subject to the energy assessment requirement as follows:

(a) A one-time energy assessment shall be performed by a qualified energy assessor on the applicable boilers no later than March 21, 2014. [40 CFR Part 63.11196(a)(3)]

(b) The energy assessment shall include a visual inspection of the boiler system; an evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints; an inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator; a review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage; a list of major energy conservation measures that are within the facility's control; a list of the energy savings potential of the energy conservation measures identified; and a comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.
[40 CFR Part 63, Table 2(16)]

(c) A Notification of Compliance Status shall be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(c)]

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) used monthly

by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. Records shall be in a form suitable and readily available for expeditious review.

3. Control Equipment

PM

PM emissions from Boiler #1 are controlled by a multiple centrifugal cyclone separator (multiclone) followed by an electrostatic precipitator (ESP). REFF shall operate, at a minimum, the number of ESP fields in operation during the most recent stack test demonstrating compliance with licensed PM emission limits. Upon written notification to the Department, and in accordance with the *Bureau of Air Quality's Air Emission Compliance Test Protocol*, REFF may perform additional PM emission testing to demonstrate compliance with alternative operating scenarios, but under no circumstances shall REFF be relieved of its obligation to meet its licensed emission limits.

$NO_x$

In 2005, REFF amended their air emission license to allow the installation and operation of an ECOTUBE system designed to incorporate urea or ammonia ($NH_3$) injection for the control of $NO_x$ emissions.

The ECOTUBE system consists of two liquid cooled, automatically retractable opposing tubes (ECOTUBEs) installed in a specific location in the upper furnace area of the boiler. By using two opposing tubes, it is possible to cover almost all of the horizontal cross-section in the boiler. Ambient air is introduced into the boiler through the ECOTUBEs at high pressure and speed through strategically located nozzles, resulting in a potential increase in combustion efficiency and a reduction in overall criteria pollutant emissions, as well as an increase in thermal efficiency and associated reduction in fuel consumption. When in operation, the ECOTUBE system has the potential to also reduce PM, CO, and VOC emissions.

REFF installed the ECOTUBE system primarily for the purpose of optimizing emissions of $NO_x$, allowing REA an opportunity to participate as a qualifying renewable energy provider in New England's renewable energy markets. While in use, REFF shall maintain a system of inspection, maintenance (I&M) for the ECOTUBE system. At a minimum, the I&M program will include periodic inspection of the system to ensure its integrity and proper function. REFF shall document compliance by means of an inspection and maintenance log (written or electronic) in which REFF shall record all inspection dates and

findings as well as routine and non-routine maintenance required to ensure proper operation.

REFF is not required to operate the ECOTUBE system provided Boiler #1 does not exceed the 0.30 lb/MMBtu $NO_x$ emission limit established in this permit. Whenever the ECOTUBE system is in use, REFF shall maintain records of urea injection operations, including dates urea injection is utilized and amounts of urea reagent used on a daily, monthly, and 12-month rolling total basis.

4. Emission Limits and Streamlining

For Boiler #1, a listing of potentially applicable emission standards, the origin and authority of the standards, notation if streamlining of the standards has been requested, and the applicable emission limits can be found below.

| Pollutant | Applicable Emission Standard(s) | Origin and Authority | Licensed Emission Limit(s) |
|---|---|---|---|
| PM | 0.06 lb/MMBtu | 06-096 CMR 103, §2.B(4)(c) | 0.04 lb/MMBtu * |
| | 0.10 lb/MMBtu | 40 CFR Part 60, Subpart Db, §60.43b(c)(1) | |
| | 0.04 lb/MMBtu | (A-181-72-A-N)<br>06-096 CMR 140, BPT | |
| | 20.9 lb/hr | (A-181-72-A-N)<br>06-096 CMR 140, BPT | 20.9 lb/hr |
| $PM_{10}$ | 0.04 lb/MMBtu | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | 0.04 lb/MMBtu |
| | 20.9 lb/hr | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | 20.9 lb/hr |

| Pollutant | Applicable Emission Standard(s) | Origin and Authority | Licensed Emission Limit(s) |
|---|---|---|---|
| $SO_2$ | 2.0% S | 06-096 CMR 106 | #2 fuel oil, ASTM D396 compliant (0.5% S) *<br><br>0.005% S (50 ppm) beginning the date stated in statute *<br><br>0.0015% S (15 ppm) beginning the date stated in statute * |
| | #2 fuel oil, ASTM D396 compliant (0.5% S) | 06-096 CMR 140, BPT | |
| | 0.005% S (50 ppm) fuel beginning the date stated in statute | 38 MRSA §603-A(2)(A)(3) | |
| | 0.0015% S (15 ppm) fuel beginning the date stated in statue | 38 MRSA §603-A(2)(A)(3) | |
| | 56.4 lb/hr (based on 0.5% S limit, by weight) | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | 56.4 lb/hr |
| $NO_x$ | 0.30 lb/MMBtu (Based on 24-hr block avg.) | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | 0.30 lb/MMBtu (Based on 24-hr block avg.) |
| | 156.9 lb/hr | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | 156.9 lb/hr |
| CO | 235.4 lb/hr | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | 235.4 lb/hr |
| VOC | 1.0 lb/hr | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | 1.0 lb/hr |
| $NH_3$ | 40 ppmdv corrected to 12% $CO_2$ | (A-181-70-D-A)<br>06-096 CMR 140, BPT | 40 ppmdv corrected to 12% $CO_2$ |
| Visible Emissions | 30% opacity on a 6-minute block average basis, except for no more than two 6-minute block avgs in a 3-hr period. | 06-096 CMR 101, §2(B)(1)(e) & (f) | 20% opacity on a 6-minute block average basis, except for one 6-minute period per hour of not more than 27% opacity. * |
| | 20% opacity on a 6-minute block average basis, except for one 6-minute period per hour of not more than 27% opacity. | 40 CFR Part 60, Subpart Db, §60.42b(f) | |

Table Notes: * streamlining requested
% S = percent fuel sulfur, by weight

5. Visible Emissions Cold Start-up Provisions

REFF is required to operate Boiler #1 such that the visible emissions from the boiler do not exceed 20% opacity on a six-minute block average basis, except for one six minute block average per hour of not more than 27% opacity except for periods of startup, shutdown, or malfunction per 40 CFR 60.43b(f) and (g). *Visible Emission Regulation*, 06-096 CRM 101, Section 3(B) allows boilers with a heat input greater than 100 MMBtu/hr to establish specific conditions and allowances for exemption from visible emission limits during periods of cold startup or planned shutdown, provided that operating records are available to demonstrate that the emissions unit was being operated in a manner to minimize emissions. The Department has considered the extent to which REFF has operated their facility consistent with good air pollution control practices to minimize air emissions during periods of cold start-up, pursuant to 40 CFR Part 60.11 (d).

As mentioned previously, Boiler #1 utilizes a multiclone followed by an ESP for control of particulate matter emissions. When bringing the boiler online from a cold startup, REFF utilizes a standard operating procedure that was created in accordance with manufacturer's recommendations to maintain the safety of the boiler operators and the boiler itself and to realize the expected life of the boiler. REFF also operates the ESP in accordance with manufacturer recommendations to maintain the safety of the operators and the ESP.

REFF has demonstrated to the Department that, consistent with best practical treatment requirements and other applicable standards, infrequent opacity limit exceedences were unavoidable during cold start-up periods. The Department has determined that visible emissions from Boiler #1 should be deemed in compliance with visible emissions requirements for the first eight (8) hours of a cold start-up period provided that the following requirements are satisfied:

A. REFF must satisfactorily prove to the Department that the period of time during which the opacity exceedence has occurred is a cold startup; and
B. REFF must satisfactorily prove to the Department that Boiler #1 has been operated in a manner consistent with good air pollution control practices, pursuant to 40 CFR Part 60.11 (d), to minimize air emissions during the cold start-up period.

A cold startup period for the purposes of these provisions begins with initial fire (first-fire) in the boiler and continues for an eight (8) hour period unless fire is removed from the boiler. If the boiler has not combusted fuel for at least four (4) hours and the boiler steam pressure has been reduced to 0 pounds per square inch gauge (psig), then another cold startup period begins with first-

fire. If during any cold startup period REFF experiences periods of time that the Department determines to be unavoidable malfunctions pursuant to 38 M.R.S.A., Section 349, Subsection 9, those periods of time will not be counted as part of the cold startup period.

6. Emission Limit Compliance Methods
Compliance with the emission limits associated with Boiler #1 shall be demonstrated in accordance with the methods and frequencies indicated in the table below or other methods or frequencies as approved by the Department.

| Pollutant | Applicable Emission Limit | Compliance Method | Frequency |
|---|---|---|---|
| PM | 0.04 lb/MMBtu | 40 CFR Part 60, App. A, Method 5 | Once every five years by 12/31/17 |
| | 20.9 lb/hr | | |
| $PM_{10}$ | 0.04 lb/MMBtu | 40 CFR Part 60, App. A, Method 5 or EPA Test Method 201 or 201A | As requested |
| | 20.9 lb/hr | | |
| $SO_2$ | 56.4 lb/hr | 40 CFR Part 60, App. A, Method 6 | As requested |
| $NO_X$ | 0.30 lb/MMBtu | $NO_x$ CEMS on a 24-hour block average basis; midnight to midnight | Continuous (in accordance with 40 CFR Part 60, App. B) |
| | 156.9 lb/hr | 40 CFR Part 60, App. A, Method 7 | As requested |
| CO | 235.4 lb/hr | 40 CFR Part 60, App. A, Method 10 | Once each year by July 31st |
| VOC | 1.0 lb/hr | 40 CFR Part 60, App. A, Method 25 or 25A | As requested |
| $NH_3$ | 40 ppmdv corrected to 12% $CO_2$ | EPA's Conditional Test Method for Ammonia (CTM-027) | Once every even year by December 31st (see Note 1) |
| Visible Emissions | 20 % opacity on a 6-minute block average basis, except for one 6-minute period per hour of not more than 27% opacity | COMS on a 6-minute block average basis | Continuous (in accordance with 40 CFR Part 60, App. B) |

Note 1: Testing for $NH_3$ is only required if urea or $NH_3$ is used in the boiler within the previous year.

7. Compliance Assurance Monitoring (CAM)
   For Boiler #1, CAM is applicable to PM emissions. The CAM monitoring requirements are included in the monitoring sections below.

8. Periodic/Parameter Monitoring
   REFF shall monitor and record parameters for Boiler #1 and its associated air pollution control equipment as indicated in the following tables whenever the equipment is operating. Periodic monitoring requirements that are required for CAM are indicated as such.

| **Boiler #1** | | | | |
|---|---|---|---|---|
| **CAM? (Y/N)** | **Parameter** | **Units of Measure** | **Monitoring Tool/Method** | **Frequency** |
| N | Wood fuel use | Tons | Conveyor belt scales | Daily, monthly, and 12-month rolling total |
| N | #2 fuel oil use | Gallons | Fuel flow meter | Daily, monthly, and 12-month rolling total |
| N | #2 fuel oil sulfur content | Percent, by weight | Fuel receipts from supplier | As fuel is purchased |
| N | Waste oil use (spec & off-spec) | Gallons | Estimation of amount collected and burned | Daily, monthly, and 12-month rolling total |
| N | Operating time | Hours | Boiler control system | Daily, monthly, and calendar year |
| N | Steam production | Pounds per hour | Steam flow meter | Continuously (See Note 1) |
| N | Maintenance activity records | Each | Record in logbook | Maintain records documenting maintenance activities performed on Boiler #1 and associated air pollution control equipment |

Note 1: The term "Continuously" as used here means at least three (3) data points in each full operating hour with at least one (1) data point in each half-hour period.

| ECOTUBE System on Boiler #1 | | | | |
|---|---|---|---|---|
| **CAM? (Y/N)** | **Parameter** | **Units of Measure** | **Monitoring Tool/Method** | **Frequency** |
| N | Urea injection system use | Dates when operated | Record in logbook or electronically | As operated |
| N | Urea Usage | Gallons | Flow meter | Daily, monthly, and calendar year |

| Multiclone on Boiler #1 | | | | |
|---|---|---|---|---|
| **CAM? (Y/N)** | **Parameter** | **Units of Measure** | **Monitoring Tool/Method** | **Frequency** |
| Y | Gas pressure drop across Multiclone | Pounds per square inch (gauge) | Pressure gauges | Once per shift |
| Y | Inlet gas temperature | Degrees Fahrenheit | Thermocouple | Once per shift |
| Y | Outlet gas temperature | Degrees Fahrenheit | Thermocouple | Once per shift |

| ESP on Boiler #1 | | | | |
|---|---|---|---|---|
| **CAM? (Y/N)** | **Parameter** | **Units of Measure** | **Monitoring Tool/Method** | **Frequency** |
| Y | Primary Voltage | Volts or kilovolts | Volt meter on Controller | Once per shift |
| Y | Secondary Voltage | Volts or kilovolts | Volt meter on Controller | Once per shift |
| Y | Primary Current | Amps | Amp meter on Controller | Once per shift |
| Y | Secondary Current | Amps | Amp meter on Controller | Once per shift |
| Y | Spark rate | Sparks/min | ESP control system | Once per shift |
| Y | Gas pressure drop across ESP | Pounds per square inch (gauge) | Pressure gauges | Once per shift |
| Y | Inlet gas temperature | Degrees Fahrenheit | Thermocouple | Continuously |
| Y | Outlet gas temperature | Degrees Fahrenheit | Thermocouple | Continuously |

9. CEMS and COMS
For Boiler #1, the table below lists the required continuous emission monitoring systems (CEMS) and the continuous opacity monitoring systems (COMS).

| Pollutant and Continuous Monitor | Unit of Measurement | Origin and Authority |
|---|---|---|
| $NO_X$ CEMS | lb/MMBtu | 06-096 CMR 117 and 06-096 CMR 138 |
| $O_2$ CEMS | % | 06-096 CMR 117 |
| Opacity COMS | % | 06-096 CMR 117 |

## H. Boiler #2

Boiler #2 is a Unilux model 700 LS, five pass water tube boiler installed in April of 1988. The boiler primarily provides building heat during spring and fall maintenance outages and can be used to provide auxiliary steam. Boiler #2 was designed with a heat input capacity of 7.0 MMBtu/hr. Due to frequency of cycling, the original 50 gph fuel oil nozzle was replace with three, 30° fuel oil nozzles rated at 10 gph each. This modification resulted in a reduction in the heat input capacity from 7.0 MMBtu/hr to 4.3 MMBtu/hr.

Boiler #2 combusts #2 fuel oil with a maximum sulfur content of 0.5% by weight as defined by ASTM D396 standards for #2 fuel oil.

Regulated pollutants emitted from Boiler #2 include PM, $PM_{10}$, $SO_2$, $NO_x$, CO and VOC. Emissions exit the boiler through stack #2 which has an inside diameter of 18" and AGL height of 120 feet.

1. New Source Performance Standards (NSPS)
Boiler #2 is not subject to the New Source Performance Standards (NSPS) titled *Standards of Performance for Small Industrial/Commercial/Institutional Steam Generating Units,* 40 CFR Part 60, Subpart Dc. These standards apply to steam generating units with a heat input capacity of 10 MMBtu/hr or more that are constructed after June 9, 1989.

2. National Emissions Standards for Hazardous Air Pollutants (NESHAP)
Boiler #2 is subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJJ). The unit is considered an existing oil boiler rated less than 10 MMBtu/hr.

Notification forms and additional rule information can be found on the following website: http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

a. Compliance Dates, Notifications, and Work Practice Requirements

i. Initial Notification of Compliance

An Initial Notification submittal to EPA is due no later than January 20, 2014. [40 CFR Part 63.11225(a)(2)]

ii. Boiler Tune-Up Program

(a) A boiler tune-up program shall be implemented to include the initial tune-up of applicable boilers no later than March 21, 2014. [40 CFR Part 63.11196(a)(1)]

(b) The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:

1. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; not to exceed 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr. [40 CFR Part 63.11223(b)(1)]
2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted; not to exceed 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr. [40 CFR Part 63.11223(b)(3)]
4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
5. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after 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. [40 CFR Part 63.11223(b)(5)]
6. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up. [40 CFR Part 63.11223(b)(7)]

(c) After conducting the initial boiler tune-up, a Notification of Compliance Status shall be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]

(d) The facility shall implement a boiler tune-up program after the initial tune-up and initial compliance report (called a Notification of Compliance Status) has been submitted.

1. Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

| **Boiler Category** | **Tune-Up Frequency** |
|---|---|
| New or Existing Oil, Biomass and Coal fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below | Every 2 years |
| ***New and Existing Oil, Biomass, and Coal fired Boilers with less frequent tune up requirements*** With a heat input capacity of <5MMBtu/hr | Every 5 years |

[40 CFR Part 63.11223(a) and Table 2]

2. The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR Part 63.11223(b)(6)]
The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]

b. Recordkeeping
Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; identification of each boiler, the date of tune-up,

procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. Records shall be in a form suitable and readily available for expeditious review.

3. Emission Limits and Streamlining

For Boiler #2, a listing of potentially applicable emission standards, the origin and authority of the standards, notation if streamlining of the standards has been requested, and the applicable emission limits can be found below.

| Pollutant | Applicable Emission Standard(s) | Origin and Authority | Licensed Emission Limit(s) |
|---|---|---|---|
| PM | 0.12 lb/MMBtu | 06-096 CMR 103, §2.B(1)(a) | 0.12 lb/MMBtu |
| | 0.52 lb/hr | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | 0.52 lb/hr |
| $PM_{10}$ | 0.12 lb/MMBtu | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | 0.12 lb/MMBtu |
| | 0.52 lb/hr | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | 0.52 lb/hr |
| $SO_2$ | 2.0% S | 06-096 CMR 106 | #2 fuel oil, ASTM D396 compliant (0.5% S) *<br><br>0.005% S (50 ppm) beginning the date stated in statute *<br><br>0.0015% S (15 ppm) beginning the date stated in statute * |
| | #2 fuel oil, ASTM D396 compliant (0.5% S) | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | |
| | 0.005%S (50 ppm) fuel beginning the date stated in statute | 38 MRSA §603-A(2)(A)(3) | |
| | 0.0015% (15 ppm) fuel beginning the date stated in statute | 38 MRSA §603-A(2)(A)(3) | |
| | 2.17 lb/hr | 06-096 CMR 140, BPT | 2.17 lb/hr |
| $NO_X$ | 0.61 lb/hr | 06-096 CMR 140, BPT | 0.61 lb/hr |
| CO | 0.15 lb/hr | 06-096 CMR 140, BPT | 0.15 lb/hr |
| VOC | 0.01 lb/hr | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | 0.01 lb/hr |
| Visible Emissions | 20% opacity on a 6-minute block average basis, except for no more than one 6-minute block average in a 3-hour period. | 06-096 CMR 101 | 20% opacity on a 6-minute block average basis, except for no more than one 6-minute block average in a 3-hour period. |

Table Notes: * streamlining requested; % S = percent fuel sulfur, by weight

4. Emission Limit Compliance Methods
Compliance with the emission limits associated with Boiler # shall be demonstrated in accordance with the methods and frequencies indicated in the table below or other methods or frequencies as approved by the Department.

| Pollutant | Applicable Emission Limit | Compliance Method | Frequency |
|---|---|---|---|
| PM | 0.12 lb/MMBtu | 40 CFR Part 60, App. A, Method 5 | As requested |
| | 0.52 lb/hr | | |
| $PM_{10}$ | 0.12 lb/MMBtu | 40 CFR Part 60, App. A, Method 5 or 40 CFR Part 51, App. M, Method 201/201A | As requested |
| | 0.52 lb/hr | | |
| $SO_2$ | 2.17 lb/hr | 40 CFR Part 60, App. A, Method 6 | As requested |
| $NO_X$ | 0.61 lb/hr | 40 CFR Part 60, App. A, Method 7 | As requested |
| CO | 0.15 lb/hr | 40 CFR Part 60, App. A, Method 10 | As requested |
| VOC | 0.01 lb/hr | 40 CFR Part 60, App. A, Method 25 or 25A | As requested |
| Visible Emissions | 20% opacity on a 6-minute block average basis, except for no more than one 6-minute block average in a 3-hour period. | 40 CFR Part 60, App. A, Method 9 | As requested |

5. Compliance Assurance Monitoring
Boiler #2 is exempt from the *Compliance Assurance Monitoring Provisions* contained in 40 CFR Part 64 because it does not have potential pre-control device emissions for any regulated pollutant that are greater than or equal to major source threshold levels.

6. Periodic/Parameter Monitoring
REFF shall monitor and record parameters for Boiler #2 as indicated in the following table whenever the equipment is operating.

| Boiler #2 | | | |
|---|---|---|---|
| **Parameter** | **Units of Measure** | **Monitoring Tool/Method** | **Frequency** |
| #2 Fuel Oil Use | Gallons | Fuel receipts from supplier | As fuel is purchased |
| #2 Fuel Oil Sulfur Content | Percent by weight | Fuel receipts from supplier | As fuel is purchased |
| Maintenance activity records | Each | Record in logbook | Maintain records documenting maintenance activities performed on Boiler #2 |

7. CEMS and COMS
   There are currently no requirements for CEMS or COMS in association with Boiler #2.

**I. Fire Pump #1 and Generator #2**

REFF operates two emergency engines. Fire Pump #1 is rated at 0.61 MMBtu/hr and Generator #2 is rated at 0.51 MMBtu/hr. Each engine fires diesel fuel and was installed in 1987. The engines are each limited to 500 hours/yr operation.

1. New Source Performance Standards (NSPS)
   The federal regulation 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)* is applicable to diesel engines ordered after July 11, 2005 and manufactured after April 1, 2006. Since REFF's engines were installed in 1987, they are not subject to this subpart.

2. National Emissions Standards for Hazardous Air Pollutants (NESHAP)
   The federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines* is applicable to Fire Pump #1 and Generator #2. The units are considered existing, emergency stationary reciprocating internal combustion engines at an area HAP source and are not subject to New Source Performance Standards regulations. EPA's August 9, 2010 memo (*Guidance Regarding Definition of Residential, Commercial, and Institutional Emergency Stationary RICE in the NESHAP for Stationary RICE*) specifically does not exempt these units from the federal requirements.

   a. Emergency Definition:

      Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the following criteria:

      (1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.

      (2) Paragraph (1) above notwithstanding, the emergency stationary RICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year:

(i) Maintenance checks and readiness testing, provided that the tests are recommended by 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. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Paragraphs (1) and (2) above notwithstanding, emergency stationary RICE may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours are counted as part of the 100 hours per calendar year for maintenance checks and readiness testing, emergency demand response, and periods of voltage deviation or low frequency, as provided in paragraph (2) above.

The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity, except provided in the following paragraphs:

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution center.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
(a)The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
(a) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
(b) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
(c) The power is provided only to the facility itself or to support the local transmission and distribution system.
(d) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

Fire Pump #1 and Generator #2 shall be limited to the usage outlined in §63.6640(f) and therefore may be classified as existing emergency stationary RICE as defined in 40 CFR Part 63, Subpart ZZZZ. Failure to comply with all of the requirements listed in §63.6640(f) may cause these engines to not be considered emergency engines and therefore subject to all the requirements for non-emergency engines.

b. 40 CFR Part 63, Subpart ZZZZ Requirements:

| | **Compliance Dates** | **Operating Limitations* (40 CFR §63.6603(a) and Table 2(d))** |
|---|---|---|
| Fire Pump #1 & Generator #2 | No later than May 3, 2013 | - Change oil and filter every 500 hours of operation or annually, whichever comes first;<br>- Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary; and<br>- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. |

* Note: Due to the 500 hour operation limit on each generator, the inspections and oil/filter changes shall be performed annually to meet the requirements of 40 CFR Part 63, Subpart ZZZZ.

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions or REFF shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

REFF has the option of utilizing an oil analysis program which complies with the requirements of §63.6625(i) in order to extend the specified oil change requirement. If this option is used, REFF must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR§63.6625(i)]

A non-resettable hour meter shall be installed and operated on each engine. [40 CFR §63.6625(f)]

During periods of startup the facility must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR §63.6625(h) & 40 CFR Part 63, Subpart ZZZZ Table 2d]

The engines shall each be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §63.6640(f)(4)(ii) are met). [40 CFR §63.6640(f)]

REFF shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the engines are operated during a period of demand response or deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity

as specified in §63.6640(f)(4)(ii), REFF must keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [40 CFR §63.6655(e) and (f)]

If REFF operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), beginning January 1, 2015, the diesel fuel fired in the engines shall not exceed 15 ppm sulfur (0.0015%). Any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. [40 CFR §63.6604(b)]

If REFF operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in §63.6650(h)(1)(i) through (ix). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report 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 is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection
U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, MA 02109-3912

[40 CFR §63.6650(h)]

3. Emission Limits and Streamlining

For Fire Pump #1, a listing of potentially applicable emission standards, the origin and authority of the standards, notation if streamlining of the standards has been requested, and the applicable emission limits can be found below.

| Pollutant | Applicable Emission Standard(s) | Origin and Authority | Licensed Emission Limit(s) |
|---|---|---|---|
| PM | 0.07 lb/hr | 06-096 CMR 140, BPT | 0.07 lb/hr |
| $PM_{10}$ | 0.07 lb/hr | 06-096 CMR 140, BPT | 0.07 lb/hr |
| $SO_2$ | Based on a sulfur content limit of 0.0015%, emissions of $SO_2$ are determined to be negligible. | | |
| $NO_X$ | 2.69 lb/hr | AP-42 Table 3.3-1 dated 10/96 (4.41 lb/MMBtu) & 06-096 CMR 140, BPT | 2.69 lb/hr |
| CO | 0.58 lb/hr | AP-42 Table 3.3-1 dated 10/96 (0.95 lb/MMBtu) & 06-096 CMR 140, BPT | 0.58 lb/hr |
| VOC | 0.21 lb/hr | AP-42 Table 3.3-1 dated 10/96 (0.36 lb/MMBtu) & 06-096 CMR 140, BPT | 0.21 lb/hr |
| Visible Emissions | No greater than 20% opacity on a 6-min block avg., except for no more than two 6-min block avg. in a 3-hr period | 06-096 CMR 101 | No greater than 20% opacity on a 6-min block avg., except for no more than two 6-min block avg. in a 3-hr period |

Table Notes: % S = percent fuel sulfur, by weight

Fire Pump #1 shall be limited to 500 hours of operation a year, based on a 12-month rolling total.

For Generator #2, a listing of potentially applicable emission standards, the origin and authority of the standards, notation if streamlining of the standards has been requested, and the applicable emission limits can be found below.

| Pollutant | Applicable Emission Standard(s) | Origin and Authority | Licensed Emission Limit(s) |
|---|---|---|---|
| PM | 0.06 lb/hr | 06-096 CMR 140, BPT | 0.06 lb/hr |
| $PM_{10}$ | 0.06 lb/hr | 06-096 CMR 140, BPT | 0.06 lb/hr |
| $SO_2$ | Based on a sulfur content limit of 0.0015%, emissions of $SO_2$ are determined to be negligible. | | |
| $NO_X$ | 2.25 lb/hr | AP-42 Table 3.3-1 dated 10/96 (4.41 lb/MMBtu) & 06-096 CMR 140, BPT | 2.25 lb/hr |
| CO | 0.48 lb/hr | AP-42 Table 3.3-1 dated 10/96 (0.95 lb/MMBtu) & 06-096 CMR 140, BPT | 0.48 lb/hr |
| VOC | 0.18 lb/hr | AP-42 Table 3.3-1 dated 10/96 (0.36 lb/MMBtu) & 06-096 CMR 140, BPT | 0.18 lb/hr |
| Visible Emissions | No greater than 20% opacity on a 6-min block avg., except for no more than two 6-min block avg. in a 3-hr period | 06-096 CMR 101 | No greater than 20% opacity on a 6-min block avg., except for no more than two 6-min block avg. in a 3-hr period |

Table Notes: % S = percent fuel sulfur, by weight

Generator #2 shall be limited to 500 hours of operation a year, based on a 12-month rolling total.

4. Emission Limit Compliance Methods
Compliance with the emission limits associated with Fire Pump #1 and Generator #2 shall be demonstrated in accordance with the appropriate test methods upon request of the Department.

5. Compliance Assurance Monitoring
CAM is not applicable to Fire Pump #1 or Generator #2.

6. Periodic/Parameter Monitoring
REFF shall monitor and record parameters for both Fire Pump #1 and Generator #2 as indicated in the following table whenever the equipment is operating.

| Parameter | Units of Measure | Monitoring Tool/Method | Frequency |
|---|---|---|---|
| fuel oil sulfur content | Percent, by weight | Fuel receipts from supplier | As fuel is purchased |
| Operating time | Hours | Hour Meter | Monthly and 12-month rolling total |

7. CEMS and COMS
There are no CEMS or COMS required for Fire Pump #1 or Generator #2.

## J. Facility Annual Emissions

1. Total Annual Emissions
REFF is licensed for the following annual emissions, based on a 12 month rolling total. The tons per year limits were calculated based on the following:

- In Boiler #1, firing 512,000 tpy of wood with a moisture content of 50%.
- In Boiler #1, firing 3,300,000 gal of fuel oil with a sulfur content of 0.5% by weight.
- In Boiler #2, firing 150,000 gal of fuel oil with a sulfur content of 0.5% by weight.
- Operation of Fire Pump #1 and Generator #2 for 500 hours per year.

**Total Licensed Annual Emissions for the Facility**
**Tons/year**
(used to calculate the annual license fee)

| | PM | $PM_{10}$ | $SO_2$ | $NO_x$ | CO | VOC |
|---|---|---|---|---|---|---|
| Boiler #1 | 91.6 | 91.6 | 174.8 | 687.2 | 1,030.8 | 4.6 |
| Boiler #2 | 1.3 | 1.3 | 5.3 | 1.5 | 0.4 | 0.1 |
| Fire Pump #1 | 0.1 | 0.1 | Neg | 0.7 | 0.1 | 0.1 |
| Generator #2 | 0.1 | 0.1 | Neg | 0.6 | 0.1 | 0.1 |
| **Total TPY** | **93.1** | **93.1** | **180.1** | **690.0** | **1,031.4** | **4.9** |

| Pollutant | Tons/year |
|---|---|
| Single HAP | 9.9 |
| Total HAP | 24.9 |

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans,* 40 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents ($CO_2e$).

Based on the facility's fuel use limits, the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, REFF is above the major source threshold of 100,000 tons of $CO_2e$ per year. However, tons of $CO_2$ generated from the combustion of biomass is currently excluded from the total $CO_{2e}$ calculation pending EPA guidance following completion of a study of biogenic $CO_2$ related emissions.

## III. AMBIENT AIR QUALITY ANALYSIS

REFF previously submitted an ambient air quality analysis demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards (see license A-181-72-F-A/R issued on 3/24/97). An additional ambient air quality analysis is not required for this Part 70 License.

## ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that emissions from this source:

- will receive Best Practical Treatment;
- will not violate applicable emissions standards; and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants the Part 70 License A-181-70-G-R pursuant to 06-096 CMR 140 and the preconstruction permitting requirements of 06-096 CMR 115 and subject to the standard and specific conditions below.

All federally enforceable and State-only enforceable conditions in existing air licenses previously issued to REFF pursuant to the Department's preconstruction permitting

requirements in 06-096 CMR 108 or 115 have been incorporated into this Part 70 license, except for such conditions that the Department has determined are obsolete, extraneous or otherwise environmentally insignificant, as explained in the findings of fact accompanying this permit. As such, the conditions in this license supersede all previously issued air license conditions.

Federally enforceable conditions in this Part 70 license must be changed pursuant to the applicable requirements in 06-096 CMR 115 for making such changes and pursuant to the applicable requirements in 06-096 CMR 140.

For each standard and specific condition which is state enforceable only, state-only enforceability is designated with the following statement: **Enforceable by State-only**.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

**STANDARD STATEMENTS**

(1) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both; [06-096 CMR 140]

(2) The Part 70 license does not convey any property rights of any sort, or any exclusive privilege; [06-096 CMR 140]

(3) All terms and conditions are enforceable by EPA and citizens under the CAA unless specifically designated as state enforceable. [06-096 CMR 140]

(4) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license; [06-096 CMR 140]

(5) Notwithstanding any other provision in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 140]

(6) Compliance with the conditions of this Part 70 license shall be deemed compliance with any Applicable requirement as of the date of license issuance and is deemed a permit shield, provided that:

A. Such Applicable and state requirements are included and are specifically identified in the Part 70 license, except where the Part 70 license term or condition is specifically identified as not having a permit shield; or

B. The Department, in acting on the Part 70 license application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the Part 70 license includes the determination or a concise summary, thereof.

Nothing in this section or any Part 70 license shall alter or affect the provisions of Section 303 of the CAA (emergency orders), including the authority of EPA under Section 303; the liability of an owner or operator of a source for any violation of Applicable requirements prior to or at the time of permit issuance; or the ability of EPA to obtain information from a source pursuant to Section 114 of the CAA.

The following requirements have been specifically identified as not applicable based upon information submitted by the licensee in an application dated January 22, 2007.

| Source | Citation | Description | Basis for Determination |
|---|---|---|---|
| Fire Pump #1 & Generator #2 | 06-096 CMR 103 | Fuel Burning Equipment Particulate Emission Standard | Both engines have a heat input less than 3.0 MMBtu/hr. |
| Facility | 06-096 CMR 134 | VOC RACT | Potential emissions from non-exempt equipment and processes do not exceed 40 tpy. |
| Boiler #1 | 06-096 CMR 145 | $NO_x$ Control Program | The combustion of fossil fuel comprises less than 51% of the annual heat input to Boiler #1. |
| Fire Pump #1 & Generator #2 | 06-096 CMR 148 | Emissions from Smaller-Scale Electric Generating Resources | These engines are subject to new source review requirements. |
| Boiler #1 | 40 CFR Part 60, Subpart Db, §60.44b(c) | NSPS $NO_x$ emission standard | Boiler #1 is subject to a federally enforceable requirement that limits its annual capacity factor to 10% or less for oil. |

| Source | Citation | Description | Basis for Determination |
|---|---|---|---|
| Fire Pump #1 & Generator #2 | 40 CFR Part 60, Subpart IIII | NSPS for Compression Ignition Internal Combustion Engines | These units were manufactured and installed prior to 2005. |
| Boiler #1 | 40 CFR Part 63, Subpart DDDDD | NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters | REFF is not a major source of HAP. |

[06-096 CMR 140]

(7) The Part 70 license shall be reopened for cause by the Department or EPA, prior to the expiration of the Part 70 license, if:

A. Additional Applicable requirements under the CAA become applicable to a Part 70 major source with a remaining Part 70 license term of 3 or more years. However, no opening is required if the effective date of the requirement is later than the date on which the Part 70 license is due to expire, unless the original Part 70 license or any of its terms and conditions has been extended pursuant to 06-096 CMR 140;

B. Additional requirements (including excess emissions requirements) become applicable to a Title IV source under the acid rain program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the Part 70 license;

C. The Department or EPA determines that the Part 70 license contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Part 70 license; or

D. The Department or EPA determines that the Part 70 license must be revised or revoked to assure compliance with the Applicable requirements.

The licensee shall furnish to the Department within a reasonable time any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the Part 70 license or to determine compliance with the Part 70 license.

[06-096 CMR 140]

(8) No license revision or amendment shall be required, under any approved economic incentives, marketable licenses, emissions trading and other similar programs or processes for changes that are provided for in the Part 70 license. [06-096 CMR 140]

## STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions and this license (38 M.R.S.A. §347-C).

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 140. [06-096 CMR 140]

(3) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 140]
**Enforceable by State-only**

(4) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to 38 M.R.S.A. §353-A.

(5) The licensee shall maintain and operate all emission units and air pollution control systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 140]
**Enforceable by State-only**

(6) The licensee shall retain records of all required monitoring data and support information for a period of at least six (6) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the Part 70 license. The records shall be submitted to the Department upon written request or in accordance with other provisions of this license. [06-096 CMR 140]

(7) The licensee shall comply with all terms and conditions of the air emission license. The submission of notice of intent to reopen for cause by the Department, the filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for the renewal of a Part 70 license or amendment shall not stay any condition of the Part 70 license. [06-096 CMR 140]

(8) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

A. perform stack testing under circumstances representative of the facility's normal process and operating conditions:

1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions;

2. to demonstrate compliance with the applicable emission standards; or

3. pursuant to any other requirement of this license to perform stack testing.

B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

C. submit a written report to the Department within thirty (30) days from date of test completion.

[06-096 CMR 140]
**Enforceable by State-only**

(9) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicates emissions in excess of the applicable standards, then:

A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 140]**Enforceable by State-only**

(10) The licensee shall maintain records of all deviations from license requirements. Such deviations shall include, but are not limited to malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emission unit itself that is not consistent with the terms and conditions of the air emission license.

A. The licensee shall notify the Commissioner within 48 hours of a violation of any emission standard and/or a malfunction or breakdown in any component part that causes a violation of any emission standard, and shall report the probable cause, corrective action, and any excess emissions in the units of the applicable emission limitation;

B. The licensee shall submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component part causes a violation of any emission standard, together with any exemption requests.

Pursuant to 38 M.R.S.A. § 349(9), the Commissioner may exempt from civil penalty an air emission in excess of license limitations if the emission occurs during start-up or shutdown or results exclusively from an unavoidable malfunction entirely beyond the control of the licensee and the licensee has taken all reasonable steps to minimize or prevent any emission and takes corrective action as soon as possible. There may be no exemption if the malfunction is caused, entirely or in part, by poor maintenance, careless operation, poor design or any other reasonably preventable condition or preventable equipment breakdown. The burden of proof is on the licensee seeking the exemption under this subsection.

C. All other deviations shall be reported to the Department in the facility's semiannual report.

[06-096 CMR 140]

(11) Upon the written request of the Department, the licensee shall establish and maintain such records, make such reports, install, use, and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 140]

(12) The licensee shall submit semiannual reports of any required periodic monitoring. All instances of deviations from Part 70 license requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. [06-096 CMR 140]

(13) The licensee shall submit a compliance certification to the Department and EPA at least annually, or more frequently if specified in the applicable requirement or by the Department. The compliance certification shall include the following:

A. The identification of each term or condition of the Part 70 license that is the basis of the certification;
B. The compliance status;
C. Whether compliance was continuous or intermittent;
D. The method(s) used for determining the compliance status of the source, currently and over the reporting period; and
E. Such other facts as the Department may require to determine the compliance status of the source.

[06-096 CMR 140]

**SPECIFIC CONDITIONS**

(14) **Boiler #1**

A. Fuels

1. Boiler #1 is licensed to fire wood fuels, including sawmill residues, whole tree chips, and other wood fuels. The total amount of wood fired in Boiler #1 shall not exceed the heat input equivalent of 512,000 tons of wood per year on a 12-moth rolling total basis. This fuel use limit was derived based on a typical moisture content for the wood of 50% by weight and an associated heat value for the wood of 4,500 Btu/lb. Compliance shall be demonstrated by monitoring and recording the total amount of wood fired in Boiler #1 on a daily, monthly, and 12-month rolling total basis. [A-181-70-A-I, 06-096 CMR 140, BPT]
2. REFF is also licensed to fire fuel oil including #2 fuel oil and waste oil. Only waste oil generated on-site and meeting the criteria of "specification waste oil" or "off-specification waste oil" (as defined by the Bureau of Remediation and Waste Management) shall be fired in Boiler #1. REFF shall maintain records of a representative sample of the waste oil utilized demonstrating that the waste oil meets the allowable levels for the constituents and properties in accordance with 06-096 CMR 860 (as amended). [A-181-72-E-A, 06-096 CMR 140, BPT and 06-096 CMR 860] **Enforceable by State-only**

3. REFF shall not fire more than 3,300,000 gallons per year of fuel oil (#2 fuel oil and waste oil combined) on a 12-month rolling total basis. (This is <10% of the annual capacity factor. Reference 40 CFR Parts 60.42b(d) and 60.44b(c).) The combined amount of off-specification and specification waste oil fired in Boiler #1 shall not exceed 10,000 gallons of the 3,300,000 gallon per year limit. [A-181-72-E-A & A-181-70-A-I, 06-096 CMR 140 BPT]
4. Compliance with the fuel oil use limit shall be demonstrated by monitoring and recording the total amount of fuel oil fired in Boiler #1 on a daily, monthly, and 12-month rolling total basis. REFF shall maintain records of the quantity of all fuel fired (by fuel type) in Boiler #1 on a monthly and 12-month rolling total basis. [06-096 CMR 140, BPT]
5. Until December 31, 2015 (or the date otherwise stated in 38 MRSA §603-A(2)(A)(3)), the #2 fuel oil fired shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight).
[A-181-70-A-I, 06-096 CMR 140, BPT]
6. Beginning January 1, 2016 (or the date otherwise stated in 38 MRSA §603-A(2)(A)(3)), the #2 fuel oil fired shall not exceed a maximum sulfur content limit of 0.005% by weight (50 ppm) [38 MRSA §603-A(2)(A)(3)].
7. Beginning January 1, 2018 (or the date otherwise stated in 38 MRSA §603-A(2)(A)(3)), #2 fuel oil fired shall not exceed a maximum sulfur content limit of 0.0015% by weight (15 ppm).
[38 MRSA §603-A(2)(A)(3)]
8. Sulfur content compliance shall be demonstrated by fuel delivery receipts indicating the maximum sulfur content delivered is at or below the sulfur content limits listed above. [A-181-70-A-I, 06-096 CMR 140, BPT & 40 CFR Part 60, Subpart Db]

B. Annual Capacity Factor

REFF shall determine annual capacity factors for fuel oil and wood on a 12-month rolling average basis with new annual capacity factors determined at the end of each calendar month. REFF shall not exceed an annual capacity factor of 10% for the fuel oil fired in Boiler #1. Records documenting the annual capacity factor determinations and compliance with the fuel oil annual capacity factor limit shall be submitted to the Department in the semiannual report. [40 CFR Part 60, Subpart Db and 06-096 CMR 140, BPT]

C. Steam production from Boiler #1 shall be limited to 374,000 lb/hr at 1,500 psig. [A-181-72-F-A/R, 06-096 CMR 140, BPT]

D. New Source Performance Standards (NSPS)

Boiler #1 is subject to NSPS *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units* contained in 40 CFR Part

60, Subpart Db. REFF shall comply with all applicable requirements contained in 40 CFR Part 60, Subpart Db. [40 CFR Part 60, Subpart Db]

E. National Emission Standards for Hazardous Air Pollutants (NESHAP)
Boiler #1 is subject to NESAHP *for Industrial/Commercial/Institutional Boilers* contained in 40 CFR Part 63, Subpart JJJJJJ. REFF shall comply with all applicable requirements contained in 40 CFR Part 63, Subpart JJJJJJ including, but not limited to, the following:

1. REFF shall submit an Initial Notification to EPA no later than January 20, 2014. [40 CFR Part 63.11225(a)(2)]
2. REFF shall implement a boiler tune-up program, to include the initial tune-up of Boiler #1, no later than March 21, 2014. [40 CFR Part 63.11196(a)(1)]
3. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
   a. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; not to exceed 72 months from the previous inspection for boilers with oxygen trim systems. [40 CFR Part 63.11223(b)(1) & (c)]
   b. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
   c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted; 72 months from the previous inspection for boilers with oxygen trim systems. [40 CFR Part 63.11223(b)(3) & (c)]
   d. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
   e. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after 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. [40 CFR Part 63.11223(b)(5)]
   f. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up. [40 CFR Part 63.11223(b)(7)]
4. REFF shall maintain the tune-up compliance report onsite and, if requested, submit to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler

tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions.
[40 CFR Part 63.11223(b)(6) and 40 CFR Part 63.11225(b)]

5. REFF shall have a one-time energy assessment performed by a qualified energy assessor on Boiler #1 no later than March 21, 2014.
[40 CFR Part 63.11196(a)(3)]
6. The energy assessment shall include a visual inspection of the boiler system; an evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints; an inventory of major energy use systems consuming energy from Boiler #1 and which are under control of REFF; a review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage; a list of major energy conservation measures that are within the facility's control; a list of the energy savings potential of the energy conservation measures identified; and a comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.[40 CFR Part 63, Table 2(16)]
7. REFF shall submit a Notification of Compliance Status to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]

F. Air Pollution Control Equipment

REFF shall operate and maintain air pollution control equipment to control emissions from Boiler #1 in accordance with the following requirements:

1. REFF shall operate and maintain a multiple centrifugal cyclone separator (multiclone) followed by an electrostatic precipitator (ESP) for control of PM emissions. [A-181-72-F-A/R, 06-096 CMR 140, BPT]
2. The ESP shall be operated with at least the same number of ESP chambers and the same number of fields per chamber that operated during the most recent emissions test which demonstrated compliance with the PM emission limit. [A-181-70-A-I, 06-096 CMR 140]
**Enforceable by State-only**

3. Upon written notification to the Department, and in accordance with the Bureau of Air Quality's *Air Emission Compliance Test Protocol*, REFF may perform additional emissions testing demonstrating that compliance with the PM emission limit can be maintained under alternative ESP operating scenarios, but under no circumstances shall REFF be relieved of its obligation to meet its licensed emission limits.
[A-181-70-A-I, 06-096 CMR 140] **Enforceable by State-only**
4. REFF has installed and has the capability to operate a urea injection system, referred to as the ECOTUBE system, for control of $NO_x$ emissions from Boiler #1. REFF is not required to operate the ECOTUBE system, provided Boiler #1 does not exceed the $NO_x$ limits established in this permit. REFF shall maintain a system of maintenance, inspection and repair for the ECOTUBE system, which includes periodic inspection of the system to ensure the system's proper function and operation. REFF shall document compliance by means of a maintenance, inspection and repair log (written or electronic), in which REFF shall record all routine maintenance as well as all inspection dates, findings, and subsequent corrective actions.
[A-181-70-D-A, 06-096 CMR 115] **Enforceable by State-only**
5. Whenever the ECOTUBE system is in use, REFF shall maintain records of urea injection operations, including dates urea injection is utilized and amounts of urea reagent used on a daily, monthly, and 12-month rolling total basis. [06-096 CMR 140, BPT] **Enforceable by State-only**

G. Boiler #1 Emission Limits

1. Emissions from Boiler #1 shall not exceed the following limits:

| Pollutant | lb/MMBtu | Origin and Authority | Enforceability |
|---|---|---|---|
| PM | 0.04 | (A-181-72-A-N)<br>06-096 CMR 140, BPT | **Federally Enforceable** |
| $PM_{10}$ | 0.04 | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | **Federally Enforceable** |
| $NO_x$ | 0.30<br>(See Note 1) | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | **Federally Enforceable** |

Note 1: Emission limit is applicable at all times during plant operation based on a 24-hour block average. A 24-hour block average shall be defined as midnight to midnight.

2. Emissions from Boiler #1 shall not exceed the following limits:

| Pollutant | lb/hr | Origin and Authority | Enforceability |
|---|---|---|---|
| PM | 20.9 | (A-181-72-A-N)<br>06-096 CMR 140, BPT | **Federally Enforceable** |
| $PM_{10}$ | 20.9 | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | **Federally Enforceable** |
| $SO_2$ | 56.4 | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | **Federally Enforceable** |
| $NO_x$ | 156.9 | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | **Federally Enforceable** |
| CO | 235.4 | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | **Federally Enforceable** |
| VOC | 1.0 | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | **Federally Enforceable** |

3. REFF shall be limited to an $NH_3$ emission limit of no greater than 40 ppmdv on a one-hour average (corrected to 12% $CO_2$).
[A-181-70-D-A, 06-096 CMR 140, BPT]

4. Visible emissions from Boiler #1 shall not exceed 20% opacity on a 6-minute block average basis except for one 6-minute period per hour of no more than 27% opacity. This opacity limit applies at all times, except during periods of cold startup. Compliance with the opacity limit shall be demonstrated by means of a continuous opacity monitoring system (COMS) in accordance with the applicable requirements contained in 40 CFR Part 60, Appendix B and in 06-096 CMR 117 (as amended). [40 CFR Part 60, Subpart Db, 40 CFR Part 60, Appendix B and 06-096 CMR 140 and 117]

H. Visible Emission Provisions During Cold Startup Periods
The following provisions and requirements apply during cold startup periods associated with Boiler #1 [A-181-70-B-M, 06-096 CMR 140, BPT]:

1. Visible emissions from Boiler #1 shall be deemed in compliance with the opacity limit for the first eight (8) hours of a cold start-up period providing that the following requirements are satisfied:
   a. REFF must satisfactorily prove to the Department that the period of time during which the opacity exceedence has occurred is a cold start-up; and
   b. REFF must satisfactorily prove to the Department that Boiler #1 and its associated air pollution control equipment has been operated in a manner consistent with good air pollution control practices, pursuant

to 40 CFR Part 60.11(d), in an effort to minimize air emissions during cold start-up periods.

2. REFF shall maintain a cold start-up record that shall include opacity readings that exceed 20% on a six-minute block average basis. The record shall include the time at the beginning of the cold start-up (first fire), the time when one field of the ESP has been energized to a level of 10% and the time when the ESP has been energized to normal operating levels. The record shall also include a record of the results of pre-light-off inspections of the mechanical dust collection system, the ESP, the fuel oil burners, and the biomass feeder system.

3. The following shall constitute a cold start-up:
   a. The boiler shall not have combusted fuel or produced measurable steam pressure for at least four hours; and
   b. The boiler steam pressure in the steam drum has been raised at a controlled rate from 0 psig.
   c. The beginning of a cold start-up period shall be defined as that time when the initial fire is in the boiler (first-fire). The 8-hour cold start-up period shall begin upon first-fire and shall continue regardless if the fire is removed from the boiler. If during the 8-hour period, REFF experiences periods of time that are determined by the Department to be unavoidable malfunctions pursuant to 38 M.R.S.A., Section 349, Subsection 9, those periods of time may not be counted as part of the 8-hour period.

4. The following shall constitute good air pollution control practices:
   a. Adherence to the manufacturer's suggested standard operating procedures when lighting off the boiler from a cold condition;
   b. Inspection, before light-off, of the mechanical dust collection system flues, hopper dust valves, and hopper inlet and outlet tubes to ensure that the equipment is free of foreign matter and testing of the dust valves prior to light-off to ensure their proper function;
   c. Proper operation of the mechanical dust collection system, which shall include hourly inspection of the system hopper dust valves during cold start-up to ensure the valves are free of foreign matter and operate freely;
   d. Inspection, before light-off, of the ESP and ESP dust collection system equipment to ensure that the equipment is free of foreign matter and testing of the ESP hopper dust valves and dust distribution conveyor belts prior to light-off to ensure their proper function;
   e. Proper operation of the ESP, which shall include hourly inspection of the system hopper dust valves and dust distribution conveyor belts

during cold start-up to ensure the valves and belts are free of foreign matter and operate freely;

f. Inspection, before light-off, of the boiler fuel oil burners to ensure the burners are operating with the proper tip and that the tip is clean and able to operate properly;
g. Inspection, before light-off, of the boiler biomass fuel feeders to ensure that the feeders are free from obstruction and are able to operate in a manner that proper grate distribution can be achieved; and
h. Proper operation of the biomass feeder system to ensure that the system is achieving proper grate distribution to ensure efficient and complete combustion.

5. REFF shall continuously monitor, record once every hour, and include in the cold start-up record the following surrogate parameter values during each cold start-up event:
   a. The skin temperature of Boiler #1's steam drum;
   b. The steam pressure;
   c. The furnace gas temperature;
   d. The gas temperature in the ESP;
   e. The gas oxygen content in the ESP;
   f. The primary and secondary voltages on each field of the ESP;
   g. The primary and secondary currents on each field of the ESP;
   h. The condition of the mechanical dust collection system hopper dust valve; and
   i. The condition of the ESP hopper dust valve.

6. REFF shall submit a copy of all cold start-up records to the Department within its Quarterly Report.

I. Compliance Methods

Compliance with the emission limits listed above shall be demonstrated in accordance with the following methods and frequencies, or other methods and frequencies as approved by the Department [06-096 CMR 140]:

| Pollutant | Applicable Emission Limit | Compliance Method | Frequency |
|---|---|---|---|
| PM | 0.04 lb/MMBtu | 40 CFR Part 60, App. A, Method 5 | Once every five years by 12/31/17 |
| | 20.9 lb/hr | | |
| $PM_{10}$ | 0.04 lb/MMBtu | 40 CFR Part 60, App. A, Method 5 or EPA Test Method 201 or 201A | As requested |
| | 20.9 lb/hr | | |
| $SO_2$ | 56.4 lb/hr | 40 CFR Part 60, App. A, Method 6 | As requested |
| $NO_X$ | 0.30 lb/MMBtu | $NO_x$ CEMS on a 24-hour block average basis; midnight to midnight | Continuous (in accordance with 40 CFR Part 60, App. B) |
| | 156.9 lb/hr | 40 CFR Part 60, App. A, Method 7 | As requested |
| CO | 235.4 lb/hr | 40 CFR Part 60, App. A, Method 10 | Once each year by July 31st |
| VOC | 1.0 lb/hr | 40 CFR Part 60, App. A, Method 25 or 25A | As requested |
| $NH_3$ | 40 ppmdv corrected to 12% $CO_2$ | EPA's Conditional Test Method for Ammonia (CTM-027) | Once every even year by December 31st (see Note 1) |
| Visible Emissions | 20 % opacity on a 6-minute block average basis, except for one 6-minute period per hour of not more than 27% opacity | COMS on a 6-minute block average basis | Continuous (in accordance with 40 CFR Part 60, App. B) |

Note 1: Testing for $NH_3$ is only required if urea or $NH_3$ is used in the boiler within the previous year.

J. Boiler #1 shall be equipped with an oxygen ($O_2$) CEM that meets the criteria of 40 CFR Part 60, Appendix B, Performance Specification 3. The Department will allow the REA to flag periods of high $O_2$ (greater than 16% $O_2$) as a startup, shutdown, or malfunction and exclude this data from being used in emission rate compliance calculations. [06-096 CMR 140, BPT] **Enforceable by State-only**

K. Periodic/Parameter Monitoring

REFF shall monitor and record parameters for Boiler #1 and its associated air pollution control equipment as indicated in the following tables whenever the equipment is operating. Periodic monitoring requirements that are required for CAM are indicated as such. [06-096 CMR 140, BPT]

| **Boiler #1** | | | | |
|---|---|---|---|---|
| **CAM? (Y/N)** | **Parameter** | **Units of Measure** | **Monitoring Tool/Method** | **Frequency** |
| N | Wood fuel use | Tons | Conveyor belt scales | Daily, monthly, and 12-month rolling total |
| N | RWF & CDD fuel use | Tons | Records of fuel received and burned | Daily, monthly, and 12-month rolling total |
| N | #2 fuel oil use | Gallons | Fuel flow meter | Daily, monthly, and 12-month rolling total |
| N | #2 fuel oil sulfur content | Percent, by weight | Fuel receipts from supplier | As fuel is purchased |
| N | Waste oil use (spec & off-spec) | Gallons | Estimation of amount collected and burned | Daily, monthly, and 12-month rolling total |
| N | Operating time | Hours | Boiler control system | Daily, monthly, and calendar year |
| N | Steam production | Pounds per hour | Steam flow meter | Continuously (See Note 1) |
| N | Maintenance activity records | Each | Record in logbook | Maintain records documenting maintenance activities performed on Boiler #1 and associated air pollution control equipment |

Note 1: The term "Continuously" as used here means at least three (3) data points in each full operating hour with at least one (1) data point in each half-hour period.

| ECOTUBE System on Boiler #1 | | | | |
|---|---|---|---|---|
| **CAM? (Y/N)** | **Parameter** | **Units of Measure** | **Monitoring Tool/Method** | **Frequency** |
| N | Urea injection system use | Dates when operated | Record in logbook | As operated |
| N | Urea Usage | Gallons | Flow meter | Daily, monthly, and calendar year |

| Multiclone on Boiler #1 | | | | |
|---|---|---|---|---|
| **CAM? (Y/N)** | **Parameter** | **Units of Measure** | **Monitoring Tool/Method** | **Frequency** |
| Y | Gas pressure drop across Multiclone | Pounds per square inch (gauge) | Pressure gauges | Once per shift |
| Y | Inlet gas temperature | Degrees Fahrenheit | Thermocouple | Once per shift |
| Y | Outlet gas temperature | Degrees Fahrenheit | Thermocouple | Once per shift |

| ESP on Boiler #1 | | | | |
|---|---|---|---|---|
| **CAM? (Y/N)** | **Parameter** | **Units of Measure** | **Monitoring Tool/Method** | **Frequency** |
| Y | Primary Voltage | Volts or kilovolts | Volt meter | Once per shift |
| Y | Secondary Voltage | Volts or kilovolts | Volt meter | Once per shift |
| Y | Primary Current | Amps | Amp meter | Once per shift |
| Y | Secondary Current | Amps | Amp meter | Once per shift |
| Y | Spark rate | Sparks/min | ESP control system | Once per shift |
| Y | Gas pressure drop across ESP | Pounds per square inch (gauge) | Pressure gauges | Once per shift |
| Y | Inlet gas temperature | Degrees Fahrenheit | Thermocouple | Continuously |
| Y | Outlet gas temperature | Degrees Fahrenheit | Thermocouple | Continuously |

L. CEMS and COMS

REFF shall operate and maintain the following continuous emission monitoring systems (CEMS) and the continuous opacity monitoring systems (COMS) for Boiler #1:

| Pollutant and Continuous Monitor | Unit of Measurement | Origin and Authority |
|---|---|---|
| $NO_X$ CEMS | lb/MMBtu | 06-096 CMR 117 and 06-096 CMR 138<br>A-181-72-F-A/R |
| $O_2$ CEMS | ppm | 06-096 CMR 117 |
| Opacity COMS | % | 06-096 CMR 117<br>A-181-72-A-N |

M. Ash Disposal and Handling

Ash from Boiler #1 (grate and fly ash) shall be disposed of in accordance with applicable requirements contained in rules administered by the Bureau of Remediation and Waste Management (BRWM). All ash shall be sufficiently conditioned with water or transported in covered containers so as to prevent fugitive emissions. [A-181-72-A-N, 06-096 CMR 140, BPT] **Enforceable by State-only**

N. Stack Height Requirement

Emissions from Boiler #1 shall be vented to Stack #1 which shall be maintained at a height of at least 216.5 feet above ground level (AGL). [A-181-70-A-I, 06-096 CMR 140, BPT]

(15) **Boiler #2**

A. Fuels

1. REFF is licensed to fire #2 fuel oil in Boiler #2. [A-181-72-E-A, 06-096 CMR 140, BPT] **Enforceable by State-only**
2. REFF shall not fire more than 150,000 gallons per year of #2 fuel oil in Boiler #2 on a 12-month rolling total basis. [A-181-72-F-A/R, 06-096 CMR 140 BPT]
3. Compliance with the fuel oil use limit shall be demonstrated by monitoring and recording the total amount of fuel oil fired in Boiler #2 on a monthly and 12-month rolling total basis. [06-096 CMR 140, BPT]
4. Until December 31, 2015 (or the date otherwise stated in 38 MRSA §603-A(2)(A)(3)), the #2 fuel oil fired shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight). [A-181-72-F-A/R, 06-096 CMR 140, BPT]
5. Beginning January 1, 2016 (or the date otherwise stated in 38 MRSA §603-A(2)(A)(3)), the #2 fuel oil fired shall not exceed a maximum sulfur content limit of 0.005% by weight (50 ppm) [38 MRSA §603-A(2)(A)(3)].

6. Beginning January 1, 2018 (or the date otherwise stated in 38 MRSA §603-A(2)(A)(3)), #2 fuel oil fired shall not exceed a maximum sulfur content limit of 0.0015% by weight (15 ppm). [38 MRSA §603-A(2)(A)(3)]
7. Sulfur content compliance shall be demonstrated by fuel delivery receipts indicating the maximum sulfur content delivered is at or below the sulfur content limits listed above. [06-096 CMR 140, BPT]

B. National Emission Standards for Hazardous Air Pollutants (NESHAP)
Boiler #2 is subject to NESAHP *for Industrial/Commercial/Institutional Boilers* contained in 40 CFR Part 63, Subpart JJJJJJ. REFF shall comply with all applicable requirements contained in 40 CFR Part 63, Subpart JJJJJJ including, but not limited to, the following:

1. REFF shall submit an Initial Notification to EPA no later than January 20, 2014. [40 CFR Part 63.11225(a)(2)]
2. REFF shall implement a boiler tune-up program, to include the initial tune-up of Boiler #1, no later than March 21, 2014. [40 CFR Part 63.11196(a)(1)]
3. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
   a. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; not to exceed 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr. [40 CFR Part 63.11223(b)(1) & (c)]
   b. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
   c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted; 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr. [40 CFR Part 63.11223(b)(3) & (c)]
   d. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
   e. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after 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. [40 CFR Part 63.11223(b)(5)]
   f. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up. [40 CFR Part 63.11223(b)(7)]

4. REFF shall maintain the tune-up compliance report onsite and, if requested, submit to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions.
[40 CFR Part 63.11223(b)(6) and 40 CFR Part 63.11225(b)]
5. REFF shall submit a Notification of Compliance Status to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]

C. Boiler #2 Emission Limits

1. Emissions from Boiler #2 shall not exceed the following limits:

| Pollutant | lb/MMBtu | Origin and Authority | Enforceability |
|---|---|---|---|
| PM | 0.12 | 06-096 CMR 103, §2.B(1)(a) | **Federally Enforceable** |
| $PM_{10}$ | 0.12 | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | **Federally Enforceable** |

2. Emissions from Boiler #2 shall not exceed the following limits:

| Pollutant | lb/hr | Origin and Authority | Enforceability |
|---|---|---|---|
| PM | 0.52 | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | **Federally Enforceable** |
| $PM_{10}$ | 0.52 | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | **Federally Enforceable** |
| $SO_2$ | 2.17 | 06-096 CMR 140, BPT | **Enforceable by State-only** |
| $NO_x$ | 0.61 | 06-096 CMR 140, BPT | **Enforceable by State-only** |
| CO | 0.15 | 06-096 CMR 140, BPT | **Enforceable by State-only** |
| VOC | 0.01 | (A-181-72-F-A/R)<br>06-096 CMR 140, BPT | **Federally Enforceable** |

3. Visible emissions from Boiler #2 shall not exceed 20% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 3-hour period. [06-096 CMR 101]

D. Compliance Methods

Compliance with the emission limits listed above shall be demonstrated in accordance with the following methods and frequencies, or other methods and frequencies as approved by the Department [06-096 CMR 140]:

| Pollutant | Applicable Emission Limit | Compliance Method | Frequency |
|---|---|---|---|
| PM | 0.12 lb/MMBtu<br>0.52 lb/hr | 40 CFR Part 60, App. A, Method 5 | As requested |
| $PM_{10}$ | 0.12 lb/MMBtu<br>0.52 lb/hr | 40 CFR Part 60, App. A, Method 5<br>or<br>40 CFR Part 51, App. M, Method 201/201A | As requested |
| $SO_2$ | 2.17 lb/hr | 40 CFR Part 60, App. A, Method 6 | As requested |
| $NO_X$ | 0.61 lb/hr | 40 CFR Part 60, App. A, Method 7 | As requested |
| CO | 0.15 lb/hr | 40 CFR Part 60, App. A, Method 10 | As requested |
| VOC | 0.01 lb/hr | 40 CFR Part 60, App. A, Method 25 or 25A | As requested |
| Visible Emissions | 20% opacity on a 6-minute block average basis, except for no more than one 6-minute block average in a 3-hour period. | 40 CFR Part 60, App. A, Method 9 | As requested |

E. Periodic/Parameter Monitoring

REFF shall monitor and record parameters for Boiler #2 as indicated in the following table whenever the equipment is operating. [06-096 CMR 140, BPT]

| Boiler #2 | | | |
|---|---|---|---|
| **Parameter** | **Units of Measure** | **Monitoring Tool/Method** | **Frequency** |
| #2 Fuel Oil Use | Gallons | Fuel receipts from supplier | As fuel is purchased |
| #2 Fuel Oil Sulfur Content | Percent by weight | Fuel receipts from supplier | As fuel is purchased |
| Maintenance activity records | Each | Record in logbook | Maintain records documenting maintenance activities performed on Boiler #2 |

(16) **Fire Pump #1 & Generator #2**

A. Allowable Operation and Fuels

1. Fire Pump #1 and Generator #2 are licensed to fire diesel fuel. [06-096 CMR 140, BPT]
2. Fire Pump #1 and Generator #2 are each limited to 500 hours per year total operation, based on a 12-month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [06-096 CMR 115]

B. Fuel Sulfur Content

1. The fuel oil sulfur content for Fire Pump #1 and Generator #2 shall be limited to 0.0015% sulfur. [06-096 CMR 140, BPT]
2. Fuel sulfur content compliance shall be demonstrated by fuel delivery receipts from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 CMR 140, BPT]

C. Emissions shall not exceed the following limits [06-096 CMR 140, BPT]:

| Unit | PM (lb/hr) | $PM_{10}$ (lb/hr) | $SO_2$ (lb/hr) | $NO_x$ (lb/hr) | CO (lb/hr) | VOC (lb/hr) |
|---|---|---|---|---|---|---|
| Fire Pump #1 (0.61 MMBtu/hr) diesel | 0.07 | 0.07 | neg | 2.69 | 0.58 | 0.21 |
| Generator #2 (0.51 MMBtu/hr) diesel | 0.06 | 0.06 | neg | 2.25 | 0.48 | 0.18 |

D. Visible Emissions

Visible emissions from Fire Pump #1 and Generator #2 shall each not exceed 20% opacity on a 6-minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period. [06-096 CMR 101]

E. Fire Pump #1 and Generator #2 shall meet the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, including the following:

1. No later than May 3, 2013, REFF shall meet the following operational limitations for Fire Pump #1 and Generator #2:

   a. Change the oil and filter annually,
   b. Inspect the air cleaner annually, and
   c. Inspect the hoses and belts annually and replace as necessary.

   A log shall be maintained documenting compliance with the operational limitations.[40 CFR §63.6603(a) and Table 2(d); and 06-096 CMR 140]

2. REFF has the option of utilizing an oil analysis program which complies with the requirements of §63.6625(i) in order to extend the specified oil change requirement. If this option is used, REFF must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR§63.6625(i)]

3. A non-resettable hour meter shall be installed and operated on each engine. [40 CFR §63.6625(f)]

4. Maintenance, Testing, and Non-Emergency Operating Situations

   a. Fire Pump #1 and Generator #2 shall each be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §63.6640(f)(4)(ii) are met). These limits are based on a calendar year. Compliance shall be demonstrated by a written log of all engine operating hours. [40 CFR §63.6640(f) and 06-096 CMR 115]

   b. REFF shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the engine is operated during a period of demand response or deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), REFF must keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [40 CFR §63.6655(e) and (f)]

5. Fire Pump #1 and Generator #2 shall be operated and maintained according to the manufacturer's emission-related written instructions, or REFF shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

6. During periods of startup the facility must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR §63.6625(h) & 40 CFR Part 63, Subpart ZZZZ Table 2d]

7. If REFF operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), beginning January 1, 2015, the diesel fuel fired in the generator(s) shall not exceed 15 ppm sulfur (0.0015%). Any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. [40 CFR §63.6604(b)]

8. If REFF operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in §63.6650(h)(1)(i) through (ix). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report 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 is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection
U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, MA 02109-3912

[40 CFR §63.6650(h)]

(17) REFF shall notify the regional Air Bureau inspector and Air Bureau Licensing section of any fuel pile fires by the next business day. [06-096 CMR 140, BPT]
**Enforceable by State-only**

(18) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20 percent, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20 percent in any one (1) hour. [06-096 CMR 101]

(19) **General Process Sources**

All wood conveyors and transfer points shall be covered or enclosed. Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 101]

(20) **Parameter Monitor General Requirements** [06-096 CMR 140 and 117]

A. Parameter monitors required by this license shall be installed, operated, maintained, and calibrated in accordance with manufacturer recommendations or as otherwise required by the Department.
B. Parameter monitors required by this license shall continuously monitor data at all times the associated emissions unit is in operation. "Continuously" with respect to the operation of parameter monitors required by this license means providing equally spaced data points with at least one valid data point in each successive 15-minute period. A minimum of three valid 15-minute periods constitute a valid hour.
C. Each parameter monitor must record accurate and reliable data. If the parameter monitor is recording accurate and reliable data less than 98% of the associated emissions unit operating time within any quarter of the calendar year, the Department may initiate enforcement action and may include in that enforcement action any period of time that the parameter monitor was not recording accurate and reliable data during that quarter unless the licensee can demonstrate to the satisfaction of the Department that the failure of the system to record accurate and reliable data was due to the performance of established quality assurance and quality control procedures or unavoidable malfunctions.

**Enforceable by State-only**

(21) **CEMS Recordkeeping**

A. The licensee shall maintain records documenting that all CEMS and COMS are continuously accurate, reliable and operated in accordance with 06-096 CMR 117 (as amended), 40 CFR Part 51, Appendix P, and 40 CFR Part 60, Appendices B and F;
B. The licensee shall maintain records of all measurements, performance evaluations, calibration checks, and maintenance or adjustments for each CEMS and COMS as required by 40 CFR Part 51 Appendix P; and
C. The licensee shall maintain records of other data indicative of compliance with the applicable emission standards for those periods when the CEMS or COMS were not in operation or produced invalid data. In the event the Department does not concur with the licensee's compliance determination, the licensee shall, upon the Department's request, provide additional data, and shall have the burden of demonstrating that the data is indicative of compliance with the applicable standard.
[06-096 CMR 140]

**Enforceable by State-only**

(22) **Compliance Assurance Monitoring (CAM) – General Requirements**

A. The licensee shall operate and monitor all emission units and their associated control equipment in accordance with the approved CAM Plan.
[40 CFR Part 64]
B. Any excursion shall be reported in semiannual reports. If excursions occur, the licensee must also certify intermittent compliance with the emission limits for the control device monitored in the annual compliance certification. [40 CFR Part 64]
C. Upon detecting an excursion, the licensee shall restore normal operation of the control equipment as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. [40 CFR 64.7(d)]
D. Prior to making any changes to the approved CAM plan, the licensee shall notify the Department and, if necessary, submit a proposed license modification application to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. [40 CFR 64.7(e)]
E. Any change of the target level shall be submitted in a letter to the Department for written approval. [06-096 CMR 140, BPT]

(23) **Quarterly Reporting**

The licensee shall submit a Quarterly Report to the Bureau of Air Quality within 30 days after the end of each calendar quarter, detailing the following, for the control equipment, parameter monitors, Continuous Emission Monitoring Systems (CEMS), and Continuous Opacity Monitoring Systems (COMS) required by this license. [06-096 CMR 117]

A. All control equipment downtimes and malfunctions;
B. All CEMS or COMS downtimes and malfunctions;
C. All parameter monitor downtimes and malfunctions;
D. All excess events of emission and operational limitations set by this Order, Statute, state or federal regulations, as appropriate. The following information shall be reported for each excess event;
   1. Standard exceeded;
   2. Date, time, and duration of excess event;
   3. Amount of air contaminant emitted in excess of the applicable emission standard expressed in the units of the standard;
   4. A description of what caused the excess event;
   5. The strategy employed to minimize the excess event; and
   6. The strategy employed to prevent reoccurrence.
E. A report certifying there were no excess emissions, if that is the case.

(24) **Semiannual Reporting** [06-096 CMR 140]

A. The licensee shall submit to the Bureau of Air Quality semiannual reports which are due on **January 31st** and **July 31st** of each year. The facility's designated responsible official must sign this report.
B. The semiannual report shall be considered on-time if the postmark of the submittal is before the due date or if the report is received by the DEP within seven calendar days of the due date.
C. Each semiannual report shall include a summary of the periodic and CAM monitoring required by this license.
D. Each semiannual report shall include the annual capacity factor of Unit for each fuel fired in Boiler #1.
E. All instances of deviations from license requirements and the corrective action taken must be clearly identified and provided to the Department in summary form for each six-month interval.

(25) **Annual Compliance Certification**

REFF shall submit an annual compliance certification to the Department in accordance with Standard Condition (13) of this license. The annual compliance certification is due January 31 of each year. The facility's designated responsible official must sign this report.

The annual compliance certification shall be considered on-time if the postmark of the submittal is before the due date or if the report is received by the Department within seven calendar days of the due date. Certification of compliance is to be based on the stack testing or monitoring data required by this license. Where the license does not require such data, or the license requires such data upon request of the Department and the Department has not requested the testing or monitoring, compliance may be certified based upon other reasonably available information such as the design of the equipment or applicable emission factors. [06-096 CMR 140]

(26) **Annual Emission Statement**

In accordance with *Emission Statements*, 06-096 CMR 137 (as amended), the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of either:

A. A computer program and accompanying instructions supplied by the Department; or
B. A written emission statement containing the information required in 06-096 CMR 137.

The emission statement must be submitted by the date as specified in 06-096 CMR 137.

[06-096 CMR 137]

(27) **General Applicable State Regulations**

The licensee is subject to the State regulations listed below.

| Origin and Authority | Requirement Summary | Enforceability |
|---|---|---|
| 06-096 CMR 102 | Open Burning | - |
| 06-096 CMR 109 | Emergency Episode Regulation | - |
| 06-096 CMR 110 | Ambient Air Quality Standard | - |
| 06-096 CMR 116 | Prohibited Dispersion Techniques | - |
| 38 M.R.S.A. §585-B, §§5 | Mercury Emission Limit | Enforceable by State-only |

(28) **Units Containing Ozone Depleting Substances**

When repairing or disposing of units containing ozone depleting substances, the licensee shall comply with the standards for recycling and emission reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioning units in Subpart B. Examples of such units include refrigerators and any size air conditioners that contain CFCs.
[40 CFR, Part 82, Subpart F]

(29) **Asbestos Abatement**
When undertaking Asbestos abatement activities, REFF shall comply with the Standard for Asbestos Demolition and Renovation 40 CFR Part 61, Subpart M.

(30) **Expiration of a Part 70 license**

A. REFF shall submit a complete Part 70 renewal application at least 6 months prior, but no more than 18 months prior, to the expiration of this air license.
B. Pursuant to Title 5 MRSA §10002, and 06-096 CMR 140, the Part 70 license shall not expire and all terms and conditions shall remain in effect until the Department takes final action on the renewal application of the Part 70 license. An existing source submitting a complete renewal application under 06-096 CMR 140 prior to the expiration of the Part 70 license will not be in violation of operating without a Part 70 license. **Enforceable by State-only**

(31) **New Source Review**
REFF is subject to all previous New Source Review (NSR) requirements summarized in this Part 70 air emissions license and the NSR requirements remain in effect even if this 06-096 CMR 140 Air Emissions License, A-181-70-G-R, expires.

DONE AND DATED IN AUGUSTA, MAINE THIS 9 DAY OF July , 2013.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PATRICIA W. AHO, COMMISSIONER

**The term of this license shall be five (5) years from the signature date above.**

[Note: If a complete renewal application as determined by the Department, is submitted at least 6 months prior to expiration but no earlier than 18 months, then pursuant to Title 5 MRSA §10002, all terms and conditions of the Part 70 license shall remain in effect until the Department takes final action on the renewal of the Part 70 license.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 1/24/07
Date of application acceptance: 1/30/07

Date filed with the Board of Environmental Protection:

This Order prepared by Lynn Poland, Bureau of Air Quality.

Filed
JUL 10 2013
State of Maine
Board of Environmental Protection