STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

Kennebec Sanitary Treatment District **Kennebec County** **Waterville, Maine** **A-273-71-I-R/M**	**Departmental** **Findings of Fact and Order** **Air Emission License** **Renewal / Minor Revision**

FINDINGS OF FACT

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

I. REGISTRATION

A. Introduction

Kennebec Sanitary Treatment District (KSTD) has applied to renew their Air Emission License for the operation of emission sources associated with their wastewater treatment facility. KSTD has also requested a minor revision to specify Oilzum Parts Cleaner as the solvent used in the degreaser, removing the requirements of 06-096 C.M.R. ch. 130 as the solvent has a VOC content below the rule's minimum applicability threshold.

The equipment addressed in this license is located at 401 Water St, Waterville, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

Equipment	Max. Input Capacity (MMBtu/hr)	Fuel Type, % sulfur	Max. Firing Rate (gal/hr)	Date of Manuf.	Date of Install.	Stack #
Boiler #1	2.0	Propane, negligible sulfur	21	2007	2007	#1
Boiler #2	2.0	Propane, negligible sulfur	21	2007	2007	#1
Boiler #3	4.4	Distillate fuel, 0.5% sulfur by weight	31	1975	1975	#2
Vaporizer	0.8	Propane, negligible sulfur	8	2007	2007	#3

Generator

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (kW)	Max. Firing Rate (gal/hr)	Fuel Type, % sulfur	Date of Manuf.	Date of Install.
Generator #1	4.4	450	32	Distillate fuel, 0.0015% sulfur by weight	1975	1975

C. Definitions

Distillate Fuel. For the purposes of this license, *distillate fuel* means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) in ASTM D396;
- Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
- Kerosene, as defined in ASTM D3699;
- Biodiesel, as defined in ASTM D6751; or
- Biodiesel blends, as defined in ASTM D7467.

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the issued date of this license.

The application for KSTD includes does not include the licensing of increased emissions or the installation of new or modified equipment above minimum licensing thresholds. It does, however, include the specification of a parts degreaser solvent used that has a VOC content below the minimum applicability threshold for 06-096 C.M.R. ch. 130 for that degreaser and the subsequent removal the requirements of 06-096 C.M.R ch. 130. Therefore, the license is considered to be a renewal of currently licensed emissions and a minor revision and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (C.M.R.) ch. 115. The facility is licensed below the major source thresholds for criteria air pollutants (CAP) and is considered a minor source for CAP. It also does not have the potential to emit hazardous air pollutants (HAP) above major source thresholds and is considered an area source of HAP.

II. BEST PRACTICAL TREATMENT (BPT)

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 *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

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 emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boilers #1, #2, and #3

KSTD operates Boilers #1, #2, and #3 for building heat and hot water:

Boilers #1 and #2 are each rated at 2 MMBtu/hr, respectively and they exhaust through a common stack. The two boilers fired distillate fuel when they were installed in 2007 and were converted to propane in 2014. They are located in the facility's main building.

Boiler #3 is rated at 4.4 MMBtu/hr and fires distillate fuel. The boiler was installed in 1975, and exhausts through its own stack. It is located in the facility's sludge pump station.

1. BPT Findings

The BPT emission limits for Boilers #1 and #2 are based on the following:

Propane

PM/PM_{10}	0.05 lb/MMBtu based on 06-096 C.M.R. ch. 115, BPT
SO_2	0.018 lb/1000 gal based on AP-42 Table 1.5-1, dated 07/08, and the firing of propane with a sulfur content of 0.18 gr/100 ft^3
NO_x	13 lb/1000 gal based on AP-42 Table 1.5-1, dated 07/08
CO	7.5 lb/1000 gal based on AP-42 Table 1.5-1, dated 07/08
VOC	1.0 lb/1000 gal based on AP-42 Table 1.5-1, dated 07/08

Visible Emissions	06-096 C.M.R. ch. 115, BPT

The BPT emission limits for Boiler #3 are based on the following:

Distillate Fuel

PM/PM_{10}	0.08 lb/MMBtu based on 06-096 C.M.R. ch. 115, BPT
SO_2	0.5 lb/MMBtu based on the firing of distillate fuel with a maximum sulfur content of 0.5% by weight.
NO_x	20 lb/1000 gal based on AP-42 Table 1.3-1, dated 05/10
CO	5 lb/1000 gal based on AP-42 Table 1.3-1, dated 05/10
VOC	0.34 lb/1000 gal based on AP-42 Table 1.3-3, dated 05/10
Visible Emissions	06-096 C.M.R. ch. 115, BPT

The BPT emission limits for the boilers are the following:

Emission Unit	Pollutant	lb/MMBtu
Boiler #3	PM	0.08

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1 Propane	0.10	0.10	Negligible	0.27	0.16	0.02
Boiler #2 Propane	0.10	0.10	Negligible	0.27	0.16	0.02
Boiler #3 Distillate fuel	0.35	0.35	2.20	0.62	0.16	0.01

Visible Emissions Requirements

Visible emissions from Stack #1 shall not exceed 10% opacity on a six-minute block average basis.

Visible emission from Boiler #3 shall not exceed 20% opacity on a six-minute block average basis.

Fuel Limit

KSTD shall not burn more than 100,000 gallons of distillate fuel in Boiler #3 on a calendar year basis.

Fuel Sulfur Content Requirements

Boiler #3 is licensed to fire distillate fuel which, by definition, has a sulfur content of 0.5% or less by weight. Per 38 M.R.S. § 603-A(2)(A)(3), as of July 1, 2018, no person shall import, distribute, or offer for sale any distillate fuel with a sulfur content greater than 0.0015% by weight (15 ppm). Therefore, beginning July 1, 2018, the distillate fuel purchased or otherwise obtained for use in Boiler #3 shall not exceed 0.0015% by weight (15 ppm).

2. Periodic Monitoring

Periodic monitoring for Boiler #3 shall include recordkeeping to document fuel use both on a monthly and calendar year total basis. Documentation shall include the type of fuel used and sulfur content of the fuel.

3. New Source Performance Standards (NSPS): 40 C.F.R. Part 60, Subpart Dc

Due to the size of each boiler, none of the three is subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

4. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart JJJJJJ

Boilers #1 and #2

Boilers #1 and #2 both fire only gaseous fuel and are therefore not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJJ. [40 C.F.R. §§ 63.11193 and 63.11195]

Gas-fired boilers are exempt from 40 C.F.R. Part 63, Subpart JJJJJJ. However, boilers which fire fuel oil are not. A "gas-fired boiler" is defined as any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [40 C.F.R. § 63.11237]

Any boiler designed to burn fuels besides gaseous fuels prior to June 4, 2010, will be considered an existing boiler under this rule. A boiler which currently fires gaseous fuels, but converts back to firing another fuel (such as distillate fuel) in the future would become subject as an existing boiler at the time it is converted back to oil.

Boiler #3

Boiler #3 is subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJJ. The unit is considered an existing oil boiler rated less than 10 MMBtu/hr. [40 C.F.R. §§63.11193 and 63.11195]

A summary of the currently applicable federal 40 C.F.R. Part 63, Subpart JJJJJJ requirements is listed below. At this time, the Department has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule promulgated by EPA; however, KSTD is still subject to the requirements. 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

(1) Initial Notification of Compliance

An Initial Notification submittal to EPA was due no later than January 20, 2014. [40 C.F.R. § 63.11225(a)(2)]

KSTD submitted their Initial Notification to EPA on 08/23/2011.

(2) Boiler Tune-Up Program

(i) A boiler tune-up program shall be implemented. [40 C.F.R. § 63.11223]

(ii) Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. Because Boiler #3 is an oil-fired boiler with a heat input capacity less than 5 MMBtu/hr., a tune-up is required every five years under this subpart. [40 C.F.R. § 63.11223(a) and Table 2]

(iii)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 for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour. [40 C.F.R. § 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 C.F.R. § 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 for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour. [40 C.F.R. § 63.11223(b)(3)]
4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 63.11223(b)(7)]

(iv)Tune-Up Report: A tune-up report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information:

1. The concentration of CO in the effluent stream (ppmv) and oxygen (volume percent) measured at high fire or typical operating load both **before** and **after** the boiler tune-up;

2. A description of any corrective actions taken as part of the tune-up of the boiler; and

3. The types and amounts of fuels used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit. [40 C.F.R. § 63.11223(b)(6)]

(v) A Notification of Compliance Status shall be submitted to EPA. [40 C.F.R. § 63.11225(a)(4) and 40 C.F.R. § 63.11214(b)]

(3) Compliance Report

A compliance report shall be prepared by March 1st every fifth year which covers the previous five calendar years. The report shall be maintained by the source and submitted to the Department and to the EPA upon request. The report must include the items contained in §§ 63.11225(b)(1) and (2), including the following: [40 C.F.R. § 63.11225(b)]

(i) Company name and address;

(ii) A statement of whether the source has complied with all the relevant requirements of this Subpart;

(iii) A statement certifying truth, accuracy, and completeness of the notification and signed by a responsible official and containing the official's name, title, phone number, email address, and signature;

(iv) The following certifications, as applicable:

1. "This facility complies with the requirements in 40 C.F.R. § 63.11223 to conduct tune-ups of each boiler in accordance with the frequency specified in this Subpart."
2. "No secondary materials that are solid waste were combusted in any affected unit."
3. "This facility complies with the requirement in §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 C.F.R. Part 63, Subpart JJJJJJ including the following [40 C.F.R. § 63.11225(c)]:

(1) Copies of notifications and reports with supporting compliance documentation;

(2) 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;

(3) Records of the occurrence and duration of each malfunction of each applicable boiler; and

(4) Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler.

Records shall be in a form suitable and readily available for expeditious review. [40 C.F.R. § 63.11225(a)(4)(vi)]

C. Generator #1

KSTD operates one emergency generator, Generator #1. Generator #1 is a generator set consisting of an engine and an electrical generator. Its engine is rated at 4.4 MMBtu/hr and it has an output capacity of 450 kW, firing distillate fuel. Generator #1 was manufactured in 1975.

1. BPT Findings

The BPT emission limits for Generator #1 are based on the following:

Distillate Fuel

PM/PM_{10}	0.12 lb/MMBtu based on 06-096 C.M.R. ch. 103
SO_2	0.0015 lb/MMBtu based on the firing of distillate fuel with a maximum sulfur content of 0.0015% by weight.
NO_x	3.2 lb/MMBtu based on AP-42 Table 3.4-1, dated 10/96
CO	0.85 lb/MMBtu based on AP-42 Table 3.4-1, dated 10/96
VOC	0.09 lb/MMBtu based on AP-42 Table 3.4-1, dated 10/96
Visible Emissions	06-096 C.M.R. ch. 115, BPT

The BPT emission limits for Generator#1 are the following:

Unit	Pollutant	lb/MMBtu
Generator #1	PM	0.12

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1 (4.4 MMBtu/hr) distillate fuel	0.53	0.53	0.01	14.08	3.74	0.40

Visible emissions from Generator #1 shall not exceed 20% opacity on a six-minute block average basis.

2. New Source Performance Standards (NSPS)

   Due to the date of manufacture of Generator #1, it is not subject to the New Source Performance Standards (NSPS) *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE),* 40 C.F.R. Part 60, Subpart IIII since the unit was manufactured prior to April 1, 2006. [40 C.F.R. § 60.4200]

3. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart ZZZZ

   National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 C.F.R. Part 63, Subpart ZZZZ is applicable to Generator #1. Generator #1 is considered to be an existing, emergency stationary reciprocating internal combustion engine at an area HAP source and is 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. [40 C.F.R. § 63.6585]

   a. Emergency Engine Designation and Operating Criteria

      Under 40 C.F.R. Part 63, Subpart ZZZZ, a stationary reciprocating internal combustion engine (RICE) is considered an **emergency** stationary RICE (emergency engine) as long as the engine is operated in accordance with the following criteria. Operation of an engine outside of the criteria specified below may cause the engine to no longer be considered an emergency engine under 40 C.F.R. Part 63, Subpart ZZZZ, resulting in the engine being subject to requirements applicable to **non-emergency** engines.

      (1) Emergency Situation Operation (On-Site)

         There is no operating time limit on the use of an emergency engine to provide electrical power or mechanical work during an emergency situation. Examples of use of an emergency engine during emergency situations include the following:

         - Use of an engine to produce power for critical networks or equipment (including power supplied to portions of a facility) because of failure or interruption of electric power from the local utility (or the normal power source, if the facility runs on its own power production);
         - Use of an engine to mitigate an on-site disaster or equipment failure;
         - Use of an engine to pump water in the case of fire, flood, natural disaster, or severe weather conditions; and
         - Similar instances.

(2) Non-Emergency Situation Operation

An emergency engine may be operated up to a maximum of 100 hours per calendar year for Maintenance Checks, Readiness Testing, and other non-emergency situations as described below.

(i) An emergency engine may be operated for a maximum of 100 hours per calendar year for 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 more than 100 hours per calendar year.

(ii) An emergency engine may be operated for up to 50 hours per calendar year for other non-emergency situations. **However, these operating hours are counted as part of the 100 hours per calendar year operating limit described in paragraph (2) and (2) (i) above.**

The 50 hours per calendar year operating limit for other 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.

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

b. 40 C.F.R. Part 63, Subpart ZZZZ Requirements

(1) Operation and Maintenance Requirements

	Operating Limitations
Compression ignition (distillate fuel) units: Generator #1	- Change oil and filter every 500 hours of operation or annually, whichever comes first; - Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary; and - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

The engine shall be operated and maintained according to the manufacturer's emission-related written instructions, or KSTD 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 C.F.R. § 63.6625(e)]

(2) Optional Oil Analysis Program
KSTD 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, KSTD 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 C.F.R. § 63.6625(i)]

(3) Non-Resettable Hour Meter Requirement
A non-resettable hour meter shall be installed and operated on the engine. [40 C.F.R. § 63.6625(f)]

(4) Startup Idle and Startup Time Minimization Requirements
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. [40 C.F.R. § 63.6625(h) and 40 C.F.R. Part 63, Subpart ZZZZ Table 2d]

(5) Annual Time Limit for Maintenance and Testing
As an emergency engine, the unit shall be limited to 100 hours/year for maintenance checks and readiness testing. 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). [40 C.F.R. § 63.6640(f)]

(6) Recordkeeping
KSTD shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, including what classified the operation as emergency, and the number of hours the unit operated for non-emergency purposes. [40 C.F.R. § 63.6655(f)]

D. Material Storage

1. Lime Silo

KSTD's lime silo has a 30 ton capacity and is equipped with a baghouse for particulate control. Lime is used to adjust the sludge pH; however, the facility has a sludge handling contract with New England Organics that does not require them to adjust the sludge pH. KSTD, therefore, is not using the lime silo in its process, and there is not any lime on site. The lime silo is still maintained in a condition which would allow it to be utilized at any time. For this reason, the silo will continue to be included in the licnece. The following are requirements for the lime silo:

- KSTD shall conduct periodic inspections of the silo, blower, and baghouse;
- KSTD shall maintain a log to record inspection dates, inspection findings and subsequent action, routine maintenance of the silo, and silo repairs; and
- Visible emissions from the lime silo baghouse shall not exceed an opacity of 10% on a six-minute block average basis.

2. Liquid Storage Tanks

KSTD makes use of several liquid chemical storage tanks including three 3,000 gallon liquid sodium hypochlorite tanks, a 2,500 gallon storage tank for polymer, and a 2566 gallon storage tank for ferric sulfate. The sodium hypochlorite, better known as bleach, is utilized to disinfect the facility's effluent stream (pathogen reduction) before the effluent is re-introduced into the Kennebec River. The polymer and the ferric sulfate are added to the waste liquid as gravity thickeners (coagulants and flocculants) for settling sludge out of the waste liquid before the waste liquid is introduced to the facility's clarifiers. The sodium hypochlorite is used regularly in the process; however, ferric sulfate has not been used in the process since 2004, and the polymer has never been used.

There is little, if any, off-gassing associated with these chemicals, and none of them are classified as volatile organic compound (VOC) or hazardous air pollutants (HAP); therefore, the Department has determined that no add-on controls are necessary for these storage tanks and that the storage tanks are considered an insignificant activity pursuant to 06-096 C.M.R. ch. 115.

E. Other Process Equipment

In addition to the chemical storage tanks, KSTD operates within its process a welding booth and a sandblast cabinet, and utilizes a laboratory with a fume hood. Each of these activities is considered insignificant pursuant to 06-096 C.M.R. ch. 115, Appendix A. and has been included for completeness purposes only.

F. Parts Washer

KSTD makes use of a 35-gallon capacity cold cleaning parts washer in the facility's metal shop. The solvent used within the parts washer, Oilzum Parts Cleaner, has a VOC content of less than 5%. The parts washer is therefore not subject to *Solvent Cleaners*, 06-096 C.M.R. ch. 130.

KSTD previously was subject to 06-096 C.M.R. ch. 130; however, with the new solvent, the facility is no longer subject. If KSTD changes solvents to use one with a VOC content above 5%, it will again be subject to this rule.

G. Fugitive Emissions

Visible emissions from any fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity. [06-096 C.M.R. ch. 115, BPT]

H. Annual Emissions

1. Total Annual Emissions

KSTD shall be restricted to the annual emissions expressed in the following table, based on a calendar year total. The tons per year limits were calculated based on the following:

- 8,760 hours of operation of Boilers #1 and #2;
- 100,000 gallons of distillate fuel fired in Boiler #3; and
- 100 hours of operation of Generator #1.

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	0.4	0.4	Negligible	1.2	0.7	0.1
Boiler #2	0.4	0.4	Negligible	1.2	0.7	0.1
Boiler #3	0.6	0.6	3.5	1.0	0.3	Negligible
Generator #1	0.1	0.1	Negligible	0.7	0.2	Negligible
Total TPY	**1.5**	**1.5**	**3.5**	**4.1**	**1.9**	**0.2**

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 C.F.R. Part 52, Subpart A, § 52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 C.M.R. ch. 100, 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).

The quantity of CO_2e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility's fuel use limit;
- worst case emission factors from the following sources: U.S. EPA's AP-42, the Intergovernmental Panel on Climate Change (IPCC), and *Mandatory Greenhouse Gas Reporting,* 40 C.F.R. Part 98; and
- global warming potentials contained in 40 C.F.R. Part 98.

No additional licensing actions to address GHG emissions are required at this time.

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with 06-096 C.M.R. ch. 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM_{10}	25
SO_2	50
NO_x	50
CO	250

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

ORDER

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

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

The Department hereby grants Air Emission License A-273-71-I-R/M subject to the following conditions.

Severability. The invalidity or unenforceability of any provision of this License or part thereof 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 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 (38 M.R.S. § 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 115. [06-096 C.M.R. ch. 115]

(3) 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 C.M.R. ch. 115]

(4) 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 C.M.R. ch. 115]

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115]

(6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 115]

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 C.M.R. ch. 115]

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 C.M.R. ch. 115]

(9) The licensee shall comply with all terms and conditions of the air emission license. 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 a renewal of a license or amendment shall not stay any condition of the license. [06-096 C.M.R. ch. 115]

(10) 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 C.M.R. ch. 115]

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

A. Perform stack testing to demonstrate compliance with the applicable emission standards 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; or
   2. 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 C.F.R. 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 C.M.R. ch. 115]

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate 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 C.F.R. 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 C.M.R. ch. 115]

(13) Notwithstanding any other provisions 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 C.M.R. ch. 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 C.M.R. ch. 115]

(15) Upon written request from 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 a 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 C.M.R. ch. 115]

SPECIFIC CONDITIONS

(16) **Boilers #1, #2 and #3**

A. Fuel for Boilers #1 and #2

KSTD shall only fire propane in Boilers #1 and #2. [06-096 C.M.R. ch. 115, BPT]

B. Fuel for Boiler #3

1. KSTD shall only fire distillate fuel in Boiler #3. [06-096 C.M.R. ch. 115, BPT]
2. Total fuel use for Boiler #3 shall not exceed 100,000 gal/yr of distillate fuel on a calendar year total basis. [06-096 C.M.R. ch. 115, BPT]
3. Prior to July 1, 2018, the facility shall fire distillate fuel with a maximum sulfur content not to exceed 0.5% by weight. [06-096 C.M.R. ch. 115, BPT/BACT]
4. Beginning July 1, 2018, the facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [06-096 C.M.R. ch. 115, BPT/BACT]
5. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered. Records of annual fuel use shall be kept on a monthly and a calendar year total basis. [06-096 C.M.R. ch. 115, BPT]

C. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #3	PM	0.08	06-096 C.M.R. ch. 115, BPT

D. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.10	0.10	N/A	0.27	0.16	0.02
Boiler #2	0.10	0.10	N/A	0.27	0.16	0.02
Boiler #3	0.35	0.35	2.20	0.62	0.16	0.01

E. Visible Emissions

a. Visible emissions from Stack #1 shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

b. Visible emission from Boiler #3 shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

F. Boiler MACT (40 C.F.R. Part 63, Subpart JJJJJJ) Requirements for Boiler #3 [incorporated under 06-096 C.M.R. ch. 115, BPT]

1. The facility shall implement a boiler tune-up program. [40 C.F.R. § 63.11223]

a. Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. Because Boiler #3 is an oil-fired boiler with a heat input capacity less than 5 MMBtu/hr., its tune-ups shall be at least once every five years under this subpart. [40 C.F.R. § 63.11223(a) and Table 2]

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 for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour. [40 C.F.R. § 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 C.F..R § 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 for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour. [40 C.F.R. § 63.11223(b)(3)]
(4) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 63.11223(b)(7)]

c. Tune-Up Report: A tune-up report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information:

(1) The concentration of CO in the effluent stream (ppmv) and oxygen (volume percent) measured at high fire or typical operating load both **before** and **after** the boiler tune-up;
(2) A description of any corrective actions taken as part of the tune-up of the boiler; and
(3) The types and amounts of fuels used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit. [40 C.F.R. § 63.11223(b)(6)]

d. A Notification of Compliance Status shall be submitted to EPA. [40 C.F.R. § 63.11225(a)(4) and 40 C.F.R. § 63.11214(b)]

2. Compliance Report

A compliance report shall be prepared by March 1st every fifth year which covers the previous five calendar years. The report shall be maintained by the source and submitted to the Department and to the EPA upon request. The report must include the items contained in §§ 63.11225(b)(1) and (2), including the following: [40 C.F.R. § 63.11225(b)]

a. Company name and address;
b. A statement of whether the source has complied with all the relevant requirements of this Subpart;
c. A statement certifying truth, accuracy, and completeness of the notification and signed by a responsible official and containing the official's name, title, phone number, email address, and signature;
d. The following certifications, as applicable:
(1) "This facility complies with the requirements in 40 C.F.R. § 63.11223 to conduct tune-ups of each boiler in accordance with the frequency specified in this Subpart."
(2) "No secondary materials that are solid waste were combusted in any affected unit."
(3) "This facility complies with the requirement in §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

3. Records shall be maintained consistent with the requirements of 40 C.F.R. Part 63, Subpart JJJJJJ including the following [40 C.F.R. § 63.11225(c)]:

a. Copies of notifications and reports with supporting compliance documentation;

b. 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;
c. Records of the occurrence and duration of each malfunction of each applicable boiler; and
d. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler.

Records shall be in a form suitable and readily available for expeditious review. EPA requires submission of Notification of Compliance Status reports for tune-ups and energy assessments through their electronic reporting system. [40 C.F.R. § 63.11225(a)(4)(vi)]

(17) **Generator #1**

A. Generator #1 shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 C.M.R. ch. 115, BPT]

B. The fuel sulfur content for Generator #1 shall be limited to 0.0015% sulfur by weight. Compliance shall be demonstrated by fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 C.M.R. ch. 115, BPT]

C. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #1	PM	0.12	06-096 C.M.R. ch. 103, § (2)(B)(1)(a)

D. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1 (4.4 MMBtu/hr) distillate fuel	0.53	0.53	0.01	14.08	3.74	0.40

E. Visible emissions from Generator #1 shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101]

F. Generator #1 shall meet the applicable requirements of 40 C.F.R. Part 63, Subpart ZZZZ, including the following:

1. KSTD shall meet the following operational limitations for the compression ignition emergency engine:

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

   Records shall be maintained documenting compliance with the operational limitations.
   [40 C.F.R. § 63.6603(a) and Table 2(d); and 06-096 C.M.R. ch. 115]

2. Oil Analysis Program Option
   KSTD 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, KSTD 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 C.F.R. § 63.6625(i)]

3. Non-Resettable Hour Meter
   A non-resettable hour meter shall be installed and operated on the engine. [40 C.F.R. § 63.6625(f)]

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

   a. As an emergency engine, Generator #1 shall be limited to 100 hours/year for maintenance checks and readiness testing. 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 to supply power as part of a financial arrangement with another entity. These limits are based on a calendar year. Compliance shall be demonstrated by records (electronic or written) of all engine operating hours. [40 C.F.R. § 63.6640(f) and 06-096 C.M.R. ch. 115]

   b. KSTD shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, including what classified the operation as emergency, and the number of hours the unit operated for non-emergency purposes. [40 C.F.R. §§ 63.6655(e) and (f)]

5. Operation and Maintenance
   The engine shall be operated and maintained according to the manufacturer's emission-related written instructions, or KSTD shall develop a maintenance plan which provides 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 C.F.R. § 63.6625(e)]

6. Startup Idle and Startup Time Minimization
   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. [40 C.F.R. § 63.6625(h) & 40 C.F.R. Part 63, Subpart ZZZZ Table 2d]

(18) **Lime Silo**

The following are requirements for the lime silo:

1. KSTD shall conduct periodic inspections of the silo, blower, and baghouse;

2. KSTD shall maintain a log to record inspection dates, inspection findings and subsequent action, routine maintenance of the silo, and silo repairs; and

3. Visible emissions from the lime silo baghouse shall not exceed an opacity of 10% on a six-minute block average basis.

(19) **Fugitive Emissions**

Visible emissions from any fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity. [06-096 C.M.R. ch. 115]

(20) KSTD shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S. § 605).

DONE AND DATED IN AUGUSTA, MAINE THIS 20 DAY OF January , 2017.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PAUL MERCER, COMMISSIONER

The term of this license shall be ten (10) years from the signature date above.

[Note: If a renewal application, determined as complete by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 M.R.S. § 10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 09/23/2016
Date of application acceptance: 09/29/2016

Date filed with the Board of Environmental Protection:

This Order prepared by Colby Fortier-Brown, Bureau of Air Quality.

Filed
JAN 23 2017
State of Maine
Board of Environmental Protection