



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Department of Veterans Affairs)
Medical & Regional Office Center)
Kennebec County)
Augusta, Maine)
A-372-71-O-R/A (SM))

Departmental
Findings of Fact and Order
Air Emission License
Renewal

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 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

The Department of Veterans Affairs Medical & Regional Office Center (DVA), located off Route 17 in Augusta, Maine has applied to renew their Air Emission License, permitting the operation of emission sources associated with their medical and regional office center.

DVA has requested an amendment to their License in order to install a biomass gasification and steam boiler system.

B. Emission Equipment

The DVA is authorized to operate the following air emission units:

Fuel Burning Equipment

<u>Equipment</u>	<u>Date of Construction</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type, Sulfur content</u>	<u>Maximum Firing Rate (i.e. gal/hr)</u>	<u>Post Combustion Ctrl Eqpmnt</u>	<u>Stack #</u>
Boiler #1	1997	50.2	#6, 0.5% #2, 0.5%	324	FGR Burner	239
Boiler #2	1997	75.1	#6, 0.5% #2, 0.5%	484	FGR Burner	239
Boiler #3	1997	25.6	#6, 0.5% #2, 0.5%	165	FGR Burner	239
Fire Pump	2002	0.85	Diesel, 15 ppm	6.22	---	F1

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<u>Equipment</u>	<u>Date of Construction</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type, Sulfur</u>	<u>Maximum Firing Rate (ton/hr)</u>	<u>Post Combustion Ctrl Eqpmnt</u>	<u>Stack #</u>
*Biomass System (Boiler 4)	2011	38.0	Biomass @ 37% moisture	3.6	Multiclone, ESP	239

* Indicates new equipment

Emergency Generation Equipment

<u>Equipment</u>	<u>Date of Construction</u>	<u>MMBtu/hr</u>	<u>Firing Rate (gal/hr)</u>	<u>Fuel type, Sulfur content</u>	<u>Stack</u>
Generator #1	1996	1.60	11.7	diesel, 15 ppm	G1
Generator #2	1978	1.85	13.5	diesel, 15 ppm	G2
Generator #3	2004	4.67	36.3	diesel, 15 ppm	G3
Generator #4	1991	6.20	44.9	diesel, 15 ppm	G4
Generator #5	1991	1.30	9.10	diesel, 15 ppm	G5
Generator #6*	1990	0.43	3.10	diesel, 15 ppm	G6
Generator #7	1997	1.20	8.76	diesel, 15 ppm	G7

* Generator #6 is considered an insignificant activity pursuant to 06-096 CMR 115 of the Air Regulations, and will be listed for inventory purposes only.

C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations.

<u>Pollutant</u>	<u>Future License (TPY)</u>	<u>Sig. Level</u>
PM	15.9	100
PM ₁₀	15.9	100
SO ₂	75.0	100
NO _x	95.5	100
CO	47.0	100
VOC	4.3	50

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This application is determined to be a minor modification and renewal and has been processed as such. With the fuel limit on the boilers, and the operating hours restriction on the emergency generators, the facility is licensed below the major source thresholds and is considered a synthetic minor.

II. BEST PRACTICAL TREATMENT

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 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

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

The DVA operates boilers 1, 2, and 3 to supply hot water and heat. Boilers 1, 2, and 3 have a maximum design heat input capacity of 50.2, 75.1, and 25.6 MMBtu/hr respectively. The boilers combust #6 fuel oil as the primary fuel and #2 fuel oil as back-up with a maximum sulfur content not to exceed 0.5% by weight. The emissions are exhausted through a common 125 foot stack.

Only two boilers may operate at any one time for a maximum heat input rate of 87.1 MMBtu/hr and a maximum fuel consumption of 622 gallons of #6 fuel oil per hour. An operational limit of 80,000 lb steam/hour and 1.8 million gallons of oil burned on a 12 month rolling total demonstrate compliance with ambient air quality standards. Compliance with the 622 gal/hr firing rate limit shall be demonstrated through hourly steam production records.

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Boilers 1, 2, and 3 were manufactured in 1997 and are subject to EPA New Source Performance Standards (NSPS) 40 CFR, Part 60, Subpart Dc, for boilers with a heat input of 10 MMBtu/hr or greater and manufactured after June 9, 1989.

A BPT summary for the boilers follows:

1. The boilers shall be limited to firing 1,800,000 gallons of #6 fuel oil or #2 fuel oil on a 12 month rolling total.
2. *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (last amended November 3, 1990) regulates PM emission limits. However a PM emission limit of 0.08 lb/MMBtu is more stringent and shall be considered BPT. The PM₁₀ limits are derived from the PM limits.
3. *Low Sulfur Fuel*, 06-096 CMR 106 (last amended June 9, 1999) regulates fuel sulfur content. However, the use of #6 fuel oil with a sulfur content not to exceed 0.5%, or #2 fuel oil that meets the criteria in ASTM D396 is more stringent and shall be considered BPT. The use of fuel oil with a maximum sulfur content of 0.5% also meets the requirements in 40 CFR, Part 60, Subpart Dc.
4. A NOx emission limit of 0.30 lb/MMBtu and the use of Flue Gas Recirculation (FGR) for NOx control shall be considered BPT for each boiler.
5. CO and VOC emission limits are based on AP-42 data dated 9/98.

Opacity

Subpart Dc sets an opacity limit of 20%, to be measured on a continuous basis with an opacity monitor (COMS) meeting the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1. The common stack serving the boilers is limited to 20% opacity, based on six minute averages, except for one six minute period per hour, which may not exceed an opacity of 27%. The Department of Environmental Protection may exempt the opacity standards during periods of start-up, shutdown, or malfunction such that, at all times, including periods of start-up, shutdown, and malfunction, DVA shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Department of Environmental Protection which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

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C. Biomass Gasification/Steam Boiler System

DVA is proposing to install a biomass fueled gasification/boiler system (Boiler 4) in 2011, rated at 38.0 MMBtu/hr. Boiler 4 is subject to NSPS 40 CFR, Part 60, Subpart Dc, for boilers with a heat input of 10 MMBtu/hr or greater and manufactured after June 9, 1989. Boiler 4 is also subject to the National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 63, Subpart JJJJJ for area source Commercial, Industrial and Institutional Boilers. Boiler 4 shall not exceed 311,570 MMBtu of biomass fuel (equivalent of 29,600 tons at 37% moisture) on a 12 month rolling total.

BACT for Boiler 4 shall consist of the following:

PM

DVA shall control PM emissions through the use of a multi-clone followed by an Electrostatic Precipitator controlling PM before the flue gasses enter Stack 239 which is shared by all the boilers. A PM emission limit of 0.03 lb/MMBtu is more stringent than the applicable requirements found in Subpart Dc or 06-096 CMR 103, and shall be considered BACT. The PM₁₀ limits are derived from the PM limits.

SO₂

BACT for SO₂ shall be the use of Biomass fuel which has an inherently low sulfur content and thus also meets the requirements found in 06-096 CMR 106. An SO₂ emission rate of 0.025 lb/MMBtu shall be considered BACT.

NO_x, CO, and VOC

A BACT analysis for NO_x, CO and VOC had determined that add-on controls for these pollutants are not economically justified. Therefore BACT for NO_x, CO and VOC shall be the use of good combustion practices. The BACT emission rates for NO_x, CO and VOC shall be 0.25, 0.25, and 0.017 lb/MMBtu respectively.

Opacity

Subpart Dc sets an opacity limit of 20%, to be measured on a continuous basis with an opacity monitor (COMS) meeting the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1. The common stack serving the boilers is limited to 20% opacity, based on six minute averages, except for one six minute period per hour, which may not exceed an opacity of 27%. The Department of Environmental Protection may exempt the opacity standards during periods of start-up, shutdown, or malfunction such that, at all times, including periods of start-up, shutdown, and malfunction, DVA shall, to the extent practicable, maintain and operate any affected facility including associated air

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pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Department of Environmental Protection which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

NSPS Requirements

DVA is subject to the following notification and recordkeeping requirements of Subpart Dc.

1. DVA shall submit notification to EPA and the Department of the date of construction, anticipated start-up, and actual start-up of the boiler. This notification shall include the design heat input capacity of the boiler and the type of fuel to be combusted.
2. DVA shall perform and submit to EPA and the Department an initial performance test within 30 days after achieving the maximum production rate at which the facility will be operated but not later than 180 days after the initial start-up of the facility.
3. DVA shall record and maintain records of the amounts of biomass combusted in the boiler during each day.

D. Emergency Generation Equipment

DVA operates Emergency Generators #1-#5 and #7 for emergency power generation (generator #6 is considered insignificant). These generators were all installed before 2005 and are therefore considered to be existing emergency generators at an area source of Hazardous Air Pollutants. The generators are therefore not subject to 40 CFR Part 63, Subpart ZZZZ, or New Source Performance Standards, 40 CFR Part 60, Subpart III.

Emergency generators are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Back-up generators are not to be used for prime power when reliable offsite power is available, nor shall they be used for any third party demand response program.

A summary of the BPT analysis for the Emergency Generators is the following:

1. The Emergency Generators shall fire only diesel fuel with a maximum sulfur content not to exceed 15 ppm by weight.
2. Emergency Generators #1 and #2 shall be limited to a combined total of 500 hours of operation based on a 12 month rolling total. Emergency Generators #3 and #4 shall be limited to a combined total of 500 hours of operation based

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- on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.
3. Emergency Generators #5 and #7 shall each be limited to a 500 hours of operation based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.
 4. 06-096 CMR 106 regulates fuel sulfur content, however in this case a BPT analysis for SO₂ determined a more stringent limit of 0.05% was appropriate and shall be used.
 5. 06-096 CMR 103 regulates PM emission limits for Emergency Generators #3 and #4 (0.12 lb/MMBtu). A PM emission limit of 0.12 lb/MMBtu shall be considered BPT for Generators #1, #2, #5, and #7. The PM₁₀ limits are derived from the PM limits.
 6. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
 7. Visible emissions from the Emergency Generators shall each not exceed 20% opacity on a six (6) minute block average, except for no more than two (2), six (6) minute block averages in a continuous 3-hour period.

E. Annual Emissions

1. Emissions for Boilers 1, 2, and 3 are calculated based on the worst-case scenario of firing 1,800,000 gallons per year of #6 fuel oil with a sulfur content not to exceed 0.5% by weight.
2. Boiler 4 shall not exceed 311,570 MMBtu of biomass fuel (equivalent of 29,600 tons of biomass at 37% moisture) on a 12 month rolling total.
3. Emergency Generators #1 and #2 shall not exceed 500 hours of combined operation on a 12 month rolling total. Emissions are calculated based on the worst-case scenario of Generator #2 operating for 500 hours.
4. Emergency Generators #3 and #4 shall not exceed 500 hours of combined operation on a 12 month rolling total. Emissions are calculated based on the worst-case scenario of Generator #4 operating for 500 hours.
5. Emergency Generators #5 and #7 shall each not exceed 500 hours operation on a 12 month rolling total.

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6. DVA shall be restricted to the following annual emissions, based on a 12 month rolling total.

Total Annual Emissions for the Facility
 (used to calculate the annual license fee)

Tons/Year

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Boilers 1, 2, 3	10.8	10.8	70.9	40.5	4.5	0.3
Boiler 4	4.7	4.7	3.9	39.0	39.0	2.7
Generators #1 & #2	0.10	0.10	0.02	2.04	0.44	0.16
Generators #3 & #4	0.20	0.20	0.08	11.27	2.47	0.92
Generator #5	0.04	0.04	0.02	1.37	0.30	0.11
Generator #7	0.04	0.04	0.02	1.32	0.29	0.11
Total	15.9	15.9	75.0	95.5	47.0	4.3

III. Ambient Air Quality Analysis

A. Overview

A refined modeling analysis was performed to show that emissions from DVA, in conjunction with other sources, will not cause or contribute to violations of Maine and National Ambient Air Quality Standards (MAAQS, NAAQS) for SO₂, PM₁₀, NO₂ or CO or to Class II increments for SO₂, PM₁₀ or NO₂.

Since the current licensing action for DVA represents a minor modification to an existing minor source, it has been determined by MEDEP-BAQ that an assessment of Class I Air Quality Related Values (AQRVs) is not required.

B. Model Inputs

The AERMOD-PRIME refined model was used to address standards and increments in all areas. If applicable, the modeling analysis accounted for the potential of building wake and cavity effects on emissions from all modeled stacks that are below their calculated formula GEP stack heights.

All modeling was performed in accordance with all applicable requirements of the Maine Department of Environmental Protection, Bureau of Air Quality (MEDEP-BAQ) and the United States Environmental Protection Agency (USEPA).

A valid 5-year hourly off-site meteorological database was used in the AERMOD-PRIME refined modeling analysis. Five years of wind data (1997-2001) was

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collected at a height of 15 meters at the Maine DEP meteorological monitoring site located at the Augusta State Airport. Surface data, collected at the Augusta State Airport FAA ASOS site, were substituted for missing surface data. All other missing data were interpolated or coded as missing, per USEPA guidance.

In addition, hourly Augusta FAA ASOS data, from the same time period, were used to supplement the primary surface dataset for the required variables that were not explicitly collected for the primary meteorological dataset.

The surface meteorological data was combined with concurrent hourly cloud cover and upper-air data obtained from the Gray National Weather Service (NWS). Missing cloud cover and/or upper-air data values were interpolated or coded as missing, per USEPA guidance.

All necessary representative micrometeorological surface variables for inclusion into AERMET (surface roughness, Bowen ratio and albedo) were calculated using AERSURFACE from procedures recommended by USEPA.

Point-source parameters, used in the modeling for DVA are listed in Table III-1.

TABLE III-1 : Point Source Stack Parameters

Facility/Stack	Stack Base Elevation (m)	Stack Height (m)	GEP Stack Height (m)	Stack Diameter(m)	UTM Easting NAD83 (km)	UTM Northing NAD83 (km)
CURRENT/PROPOSED						
DVA - Togus						
• Main Stack (Stack #239)	48.80	38.10	36.34	1.22	443.736	4902.992

Emission parameters for MAAQS, NAAQS and increment modeling are listed in Table III-2. For the purposes of determining PM₁₀ and NO₂ impacts, all PM and NO_x emissions were conservatively assumed to convert to PM₁₀ and NO₂, respectively.

TABLE III-2 : Stack Emission Parameters

Facility/Stack	Averaging Periods	SO ₂ (g/s)	PM ₁₀ (g/s)	NO ₂ (g/s)	CO (g/s)	Stack Temp (K)	Stack Velocity (m/s)
MAXIMUM LICENSE ALLOWED							
DVA - Togus							
• Main Stack (#239) – Maximum	All	8.17	1.41	5.93	1.70	422.04	19.96
• Main Stack (#239) – Alternative	All	6.47	1.02	3.81	0.41	449.82	12.32
• Main Stack (#239) – Minimum	All	0.06	0.07	0.60	0.60	422.04	2.79
BASELINE – 1987							
DVA - Togus							
• DVA conservatively assumed no credit for sources existing in the 1987 baseline year.							
BASELINE – 1977							
DVA - Togus							
• DVA conservatively assumed no credit for sources existing in the 1977 baseline year.							

C. Single Source Modeling Impacts

AERMOD-PRIME refined modeling was performed for a total of four operating scenarios that represent a range of maximum, typical and minimum operations.

The modeling results for DVA alone are shown in Tables III-3. Maximum predicted impacts that exceed their respective significance level are indicated in boldface type. No further modeling was required for pollutant/terrain combinations that did not exceed their respective significance levels.

TABLE III-3 : Maximum AERMOD-PRIME Impacts from DVA Alone

Pollutant	Averaging Period	Max Impact ($\mu\text{g}/\text{m}^3$)	Receptor UTM E (km)	Receptor UTM N (km)	Receptor Elevation (m)	Max Impact Scenario	Class II Significance Level ($\mu\text{g}/\text{m}^3$)
SO ₂	1-hour	137.28¹	443.466	4903.033	84.35	Maximum	10²
	3-hour	98.09	443.466	4903.043	84.87	Maximum	25
	24-hour	37.31	443.926	4902.513	49.26	Alternative	5
	Annual	2.49	443.716	4903.383	75.77	Alternative	1
PM ₁₀	24-hour	6.42	443.986	4902.393	53.09	Maximum	5
	Annual	0.43	443.716	4903.383	75.77	Maximum	1
NO ₂	1-hour	99.64¹	443.466	4903.033	84.35	Maximum	10³
	Annual	1.79	443.716	4903.383	75.77	Maximum	1
CO	1-hour	94.66	443.496	4903.353	97.04	Minimum	2000
	8-hour	28.83	443.496	4903.353	97.04	Minimum	500

¹ Value based on the H1H (high-1st-high) concentration from five years of meteorological data

² Interim Significant Impact Level (SIL) adopted by Maine

³ Interim Significant Impact Level (SIL) adopted by NESCAUM states

D. Combined Source Modeling Impacts

For predicted modeled impacts from DVA alone that exceeded significance levels, as indicated in boldface type in Table III-3, other sources not explicitly included in the modeling analysis must be accounted for by using representative background concentrations for the area.

Background concentrations, listed in Table III-4, are derived from representative rural background data for use in the Central Maine region.

TABLE III-4 : Background Concentrations

Pollutant	Averaging Period	Background Concentration ($\mu\text{g}/\text{m}^3$)
SO ₂	1-hour	47 ¹
	3-hour	18 ²
	24-hour	11 ²
	Annual	1 ²
PM ₁₀	24-hour	42 ³
NO ₂	1-hour	47 ⁴
	Annual	3 ⁴

Notes:

- ¹ Village Green Site - Rumford
² MacFarland Hill Site - Acadia National Park
³ Background site - Baileyville
⁴ MicMac Site - Presque Isle

MEDEP examined other area sources whose impacts would be significant in or near DVA's significant impact area. Due to the applicant's location, extent of the significant impact area and other nearby source emissions, MEDEP has determined that no other sources would be considered for combined source modeling.

For pollutant averaging periods that exceeded significance levels, the maximum modeled impacts for all sources were added with conservative rural background concentrations to demonstrate compliance with MAAQS and NAAQS, as shown in Table III-5. Because impacts for all pollutants using this method meet all MAAQS and NAAQS, no further modeling analyses need to be performed.

TABLE III-5 : Maximum Combined Source Impacts

Pollutant	Averaging Period	Max Impact ($\mu\text{g}/\text{m}^3$)	Receptor UTM E (km)	Receptor UTM N (km)	Receptor Elevation (m)	Back-Ground ($\mu\text{g}/\text{m}^3$)	Max Total Impact ($\mu\text{g}/\text{m}^3$)	MAAQS/NAAQS ($\mu\text{g}/\text{m}^3$)
SO ₂	1-hour	67.41	443.696	4903.283	67.75	47	114.41	196
	3-hour	72.02	443.666	4903.373	81.02	18	90.02	1150
	24-hour	25.91	443.636	4902.513	50.69	11	36.91	230
	Annual	2.49	443.716	4903.383	75.77	1	3.49	57
PM ₁₀	24-hour	4.55	443.636	4902.503	50.80	42	46.55	150
NO ₂	1-hour	44.38	443.706	4903.343	74.06	47	91.38	188
	Annual	1.79	443.716	4903.383	75.77	3	4.79	100

E. Increment

AERMOD-PRIME refined modeling was performed to predict DVA's maximum Class II increment impacts. DVA conservatively assumed no credit would be taken for any sources that existed in the 1977 and 1987 baseline years.

Results of the Class II increment analysis are shown in Tables III-6. All modeled maximum increment impacts were below all increment standards. Because all predicted increment impacts meet increment standards, no further Class II SO₂, PM₁₀ and NO₂ increment modeling for DVA needed to be performed.

TABLE III-6 : Class II Increment Consumption

Pollutant	Averaging Period	Max Impact (µg/m ³)	Receptor UTM E (km)	Receptor UTM N (km)	Receptor Elevation (m)	Class II Increment (µg/m ³)
SO ₂	3-hour	72.02	443.666	4903.373	81.02	512
	24-hour	25.91	443.636	4902.513	50.69	91
	Annual	2.49	443.716	4903.383	75.77	20
PM ₁₀	24-hour	4.55	443.636	4902.503	50.80	30
	Annual	0.43	443.716	4903.383	75.77	17
NO ₂	Annual	1.79	443.716	4903.383	75.77	25

Federal guidance and 06-096 CMR 115 require that any major new source or major source undergoing a major modification provide additional analyses of impacts that would occur as a direct result of the general, commercial, residential, industrial and mobile-source growth associated with the construction and operation of that source. Since this licensing action represents a minor modification to an existing minor source, no additional analyses were required.

F. Class I Impacts

Since the current licensing action for DVA represents a minor modification to an existing minor source, it has been determined by MEDEP-BAQ that an assessment of Class I Air Quality Related Values (AQRVs) is not required.

G. Summary

In summary, it has been demonstrated that DVA in its proposed configuration will not cause or contribute to a violation of any MAAQS or NAAQS for SO₂, PM₁₀, NO₂ or CO; or any SO₂, PM₁₀ or NO₂ averaging period Class II increment standards.

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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,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-372-71-O-R/A, subject to the following conditions:

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 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.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 115. [06-096 CMR 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 CMR 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

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dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]

- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 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 CMR 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 CMR 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 CMR 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 CMR 115]
- (11) 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 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 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.

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- (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 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.

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- (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 CMR 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 emission 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.

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- (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 CMR 115]

SPECIFIC CONDITIONS

- (16) Boiler 1, 2, and 3
- A. The boilers shall fire only #6 fuel oil with a sulfur content not to exceed 0.5% or #2 fuel oil which meet the criteria in ASTM D396. Records from the supplier documenting the type of fuel delivered and, in the case of #6 fuel oil, the sulfur content of the fuel shall be kept for compliance purposes. [06-096 CMR 115, 40 CFR 60.42, BPT]
 - B. The boilers shall be limited to firing a total of 1,800,000 gallons of #6 fuel oil or #2 fuel oil on a 12 month rolling total. [06-096 CMR 115, BPT]
 - C. Boiler 1, 2, and 3 shall not exceed the following emission limits: [06-096 CMR 115, 06-096 CMR 103, 40 CFR 60.42, BPT]

Equipment		PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Boiler 1	lb/MMbtu	0.08	-	-	0.3	-	-
	lb/hour	4.02	4.02	26.37	15.06	1.67	0.54
Boiler 2	lb/MMbtu	0.08	-	-	0.3	-	-
	lb/hour	6.01	6.01	39.45	22.53	2.50	0.80
Boiler 3	lb/MMbtu	0.08	-	-	0.3	-	-
	lb/hour	2.05	2.05	13.45	7.68	0.85	0.27

- D. DVA shall utilize FGR to control NO_x emissions from the boilers. [06-096 CMR 115, BPT]
- E. The visible emissions from stack 239 serving Boilers 1, 2, 3, and 4 shall be limited to 20% opacity, based on a six minute average, except for one six minute period per hour, which shall not exceed 27%. The Bureau of Air Quality may exempt the opacity standards during periods of start-up, shutdown, or malfunction such that, at all times, including periods of start-up, shutdown, and malfunction, the DVA shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available

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to the Bureau of Air Quality which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [06-096 CMR 115, 40 CFR 60.42, BPT]

- F. The DVA shall be limited to firing only two of the boilers (1, 2, or 3) at any one time such that total boiler usage does not exceed a combined fuel firing rate of 622 gallons per hour. Daily tank level measurement shall be used to demonstrate fuel consumption compliance. DVA shall not exceed an operational limit of 80,000 lb steam/hour demonstrated by a steam flow meter, continuously recorded. [06-096 CMR 115, BPT]
- G. The DVA shall maintain records of monthly #6 and #2 fuel use. The fuel consumption shall be based on daily tank measurements. [06-096 CMR 115, 40 CFR Part 60, BPT]
- H. The DVA shall operate and maintain an opacity monitor which complies with 40 CFR Part 60, Appendix B, Performance Specification 1, and 06-096 CMR 117 (as amended), in the main boiler stack. [06-096 CMR 115, 40 CFR 60.43, BPT]
- I. The DVA shall comply with all requirements in Federal Rule 40 CFR Part 60, Subpart Dc, and 06-096 CMR 117 (as amended), relevant to calibration, maintenance, operation, performance testing, record keeping, and reporting of boilers 1, 2, and 3 and the required opacity monitor.

(17) Boiler 4

- A. Boiler 4 shall be limited to firing biomass fuel only. Boiler 4 shall not exceed 311,570 MMBtu of biomass fuel (equivalent to 29,600 tons at 37% moisture) on a 12 month rolling total. DVA shall record and maintain records of the amounts and type of fuel combusted in the boiler during each day. [06-096 CMR 115, 40 CFR 60.48c(g), BACT]
- B. Emissions from Boiler 4 shall not exceed the following: [06-096 CMR 115, BACT]

<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>
PM	0.03	1.20
PM₁₀	-	1.20
SO₂	-	0.95
NO_x	-	9.50
CO	-	9.50
VOC	-	0.65

- C. The visible emissions from stack 239 serving Boilers 1, 2, 3, and 4 shall be limited to 20% opacity, based on a six minute average, except for one six minute period per hour, which shall not exceed 27%. The Bureau of Air

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Quality may exempt the opacity standards during periods of start-up, shutdown, or malfunction such that, at all times, including periods of start-up, shutdown, and malfunction, the DVA shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Bureau of Air Quality which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [06-096 CMR 115, 40 CFR 60.42, BACT]

- D. DVA shall submit notification to EPA and the Department of the date of construction, anticipated start-up, and actual start-up of Boiler 4. This notification shall include the design heat input capacity of the boilers and the type of fuel to be combusted. [40 CFR 60.48c(a)]
- E. DVA shall perform an initial performance test for Boiler 4 to demonstrate compliance with the PM, NO_x, CO and VOC emission limits specified in Condition 17(B) using approved EPA test methods. DVA shall also test for PM_{2.5} emissions. Tests shall be conducted within 30 days after achieving the normal steam production rate at which the boiler will be operated but not later than 180 days after the initial start-up of the boiler. [06-096 CMR 115, BACT]

(18) Emergency Generation Equipment

- A. Generators #1 and #2 shall be limited to a combined total usage of 500 hours of operation on a 12 month rolling total. Generators #3 and #4 shall be limited to a combined total usage of 500 hours of operation on a 12 month rolling total. Generators #5 and #7 shall each be limited to a total usage of 500 hours of operation on a 12 month rolling total. To document compliance the DVA shall maintain hour meters on the emergency generation equipment and shall keep a written log of all operating hours. [06-096 CMR 115, BPT]
- B. The Emergency Generators shall fire only Diesel fuel with a maximum sulfur content of 15 ppm. [06-096 CMR 115, BPT]
- C. Emissions from the emergency generation equipment shall each not exceed the following: [06-096 CMR 115, 06-096 CMR 103, BPT]

Equipment		PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Generator 1	lb/hour	0.19	0.19	0.08	7.06	1.52	0.56
Generator 2	lb/hour	0.22	0.22	0.10	8.16	1.76	0.65
Generator 3	lb/MMBtu	0.12	-	-	-	-	-
	lb/hour	0.55	0.55	0.24	20.59	4.44	1.63
Generator 4	lb/MMBtu	0.12	-	-	-	-	-
	lb/hour	0.74	0.74	0.32	27.34	5.89	2.17
Generator 5	lb/hour	0.16	0.16	0.07	5.73	1.24	0.46
Generator 7	lb/hour	0.14	0.14	0.06	5.29	1.14	0.42

- D. The visible emissions from each emergency generator shall not exceed an opacity of 20 percent on a six (6) minute block average basis, except for no more than two (2), six (6) minute block averages in a 3-hour period. [06-096 CMR 101]

(19) For Compliance Assurance, the DVA shall comply with the following: [A-372-71-M-M/R, 40 CFR Part 60, BPT]

A. Quarterly Reporting

- 1. 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, and Continuous Opacity Monitoring Systems (COMS) required by this license:
 - a. All control equipment downtimes and malfunctions;
 - b. All COMS downtimes and malfunctions;
 - c. All downtimes of the specified parameter monitors;
 - d. All excess events of emission and operational limitations set by this Order, statute, state or federal regulation, as appropriate; and

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- e. A report certifying there were no excess emissions, if that is the case.
2. The following information shall be reported for each excess event:
 - a. Standard exceeded;
 - b. Date, time, and duration of excess event;
 - c. Maximum and average values of the excess event, reported in the units of the applicable standard, and copies of pertinent strip charts and print-outs when requested;
 - d. A description of what caused the excess event;
 - e. The strategy employed to minimize the excess event; and
 - f. The strategy employed to prevent reoccurrence.
- B. Record-Keeping
1. For all of the equipment parameter monitoring and recording, required by this license, the licensee shall maintain records of the most current six year period and the records shall include:
 - a. Documentation which shows monitor operational status during all source operating time, including specifics for calibration and audits; and
 - b. A complete data set of all monitored parameters as specified in this license. All parameter records shall be made available to the Bureau of Air Quality upon request.
 2. The COMS required by this license shall be the primary means of demonstrating compliance with emission standards set by this Order, statute, state or federal regulation, as applicable. For the COMS, the licensee shall maintain records of the most current six year period and the records shall include:
 - a. Documentation that the COMS is continuously accurate, reliable and operated in accordance with 06-096 CMR 117 (as amended); and
 - b. Documentation of performance evaluations, calibration checks, and adjustments and maintenance performance on the monitoring system; and
 - c. Upon the written request by the Department, a report or other data indicative of compliance with the applicable emission standard for those periods when the COMS was not in operation or produced invalid data. In the event the Bureau of Air Quality does not concur with the licensee's compliance determination, the licensee shall, upon the Bureau of Air Quality's request, provide additional data, and shall have the burden of demonstrating that the data is indicative of compliance with the applicable standard.

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C. Stack Testing

1. The licensee shall conduct emission testing, and demonstrate compliance with the applicable standard, on any of the following sources within 60 days after receipt of notice from the BAQ:
 - a. Boiler #1
 - b. Boiler #2
 - c. Boiler #3
 - d. Emergency Generation Equipment
2. All testing performed shall comply with all the requirements of the DEP BAQ Air Emission Compliance Test Protocol and with 40 CFR Part 60, as appropriate, or other methods approved by the BAQ.

(20) Annual Emission Statement

In accordance with *Emission Statements*, 06-096 CMR 137 (last amended November 8, 2008), the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of:

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

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

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(21) DVA 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.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 25th DAY OF April, 2011.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *James P. Bradley*
DARRYL N. BROWN, COMMISSIONER

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

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 6/12/2008

Date of application acceptance: 7/9/2008

Date filed with the Board of Environmental Protection:

This Order prepared by Jonathan Voisine, Bureau of Air Quality.



