



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
ACTING COMMISSIONER

Maine Department of Corrections)	Departmental
Maine Correctional Center)	Findings of Fact and Order
Cumberland County)	Air Emission License
South Windham, Maine)	Renewal
A-129-71-K-R/M)	

After review of the air emissions license 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 Maine Department of Corrections, operating as Maine Correctional Center (MCC) of South Windham, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their correctional facility.

MCC has requested to amend their license in order to add a paint booth and to clarify that the #2 fuel oil listed in this License meets the criteria in ASTM D396.

B. Emission Equipment

MCC is authorized to operate the following equipment:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
Boiler #1	16.7	111.5 gal/hr 16,214 scf/hr	#2 fuel oil Natural Gas	1
Boiler #2	16.7	111.5 gal/hr 16,214 scf/hr	#2 fuel oil Natural Gas	1

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04679-2094
(207) 764-0477 FAX: (207) 760-3143

Emergency Generator Units

<u>Equipment</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Firing Rate (gal/hr)</u>	<u>Power Output</u>
Generator #1	4.1	30 gal/hr	558 kW
Generator #2	4.1	30 gal/hr	558 kW

Process Emission Units

<u>Process</u>	<u>Pollutant</u>	<u>Control Equipment</u>
Woodworking Operations	PM	Baghouse
Solvent Degreaser	VOC	None
*Paint Booth	VOC	Particulate Filters

* Indicates new equipment

C. Application Classification

This amendment will increase emissions by less than 4 ton/year for each single pollutant and less than 8 ton/year for all pollutants combined. The application is classified as a renewal and minor revision of a minor source license and has been processed as such.

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

BPT for 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.

Maine Department of Corrections)
Maine Correctional Center)
Cumberland County)
South Windham, Maine)
A-129-71-K-R/M 3

Departmental
Findings of Fact and Order
Air Emission License
Renewal

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 and #2

Boilers #1 and #2 are each 16.7 MMBtu/hr boilers which burn Natural Gas and #2 fuel oil. Boiler #1 was installed in March 1989, and Boiler #2 was installed in 1969. Therefore the boilers are not subject to New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc for boilers greater than 10 MMBtu/hr and installed after June 9, 1989.

A summary of the BPT analysis for each of the pollutants is discussed below:

1. PM emission factors are based upon *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (as amended). However, a PM emission rate of 0.08 lb/MMBtu is more stringent and shall be considered BPT. PM₁₀ emission rates are derived from PM emission factors.
2. *Low Sulfur Fuel*, 06-096 CMR 106 (as amended) regulates fuel sulfur content. However, the use of #2 Fuel Oil which meets the criteria in ASTM D396 and Natural Gas is more stringent and shall be considered BPT.
3. NO_x, CO and VOC emission rates are based upon AP-42 factors.
4. Visible emissions from Stack #1 (shared by boilers #1 and #2) shall not exceed 20% opacity on a six-minute block average basis, except for no more than one (1), six (6) minute block average in any three-hour period.

C. Back-up Generators

Generators #1 and #2 are utilized primarily to provide back-up power to the facility. They were installed in 1981 and are considered to be existing emergency compression ignition engines located at an area source of Hazardous Air Pollutants (HAP). Generators #1 and #2 are therefore not subject to the requirements found in 40 CFR Part 60, Subpart IIII (*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*) or 40 CFR Part 63, Subpart ZZZZ (*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*).

Due to the potential for tight electricity supplies, ISO New England has taken several precautionary steps to ensure the reliability of the region-wide bulk power system. One of those steps is the implementation of the Demand Response Program. This program offers financial incentives to customers, such as MCC, to

reduce electricity demand during peak periods. This program can significantly improve the reliability of the region-wide bulk power system and allow ISO New England to avoid drastic measures, such as brown outs.

In order for MCC to participate in the Demand Response Program, they need to start their generators and run them prior to, or in lieu of, loss of off-site power. MCC will only operate in this manner if there is a documented request from ISO New England under their emergency OP-4 procedures. ISO New England's OP-4 is a procedure which establishes criteria and guidelines for actions during capacity deficiencies. OP-4 is implemented when there is determined to be a serious threat to the integrity of the bulk power system. Therefore, the Department has agreed to redefine the term "emergency" as it applies to MCC generators to include ISO New England OP-4 emergencies.

Therefore "Emergency Generator", as it applies to MCC, is defined as any stationary internal combustion engine whose operation is limited to emergency situations, required testing and maintenance, and ISO New England OP-4 emergencies. Examples include stationary engines used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary engines used to pump water in the case of fire or flood.

A summary of the BPT analysis for Generator #1 and Generator #2 is the following:

1. MCC shall only be permitted to operate their generators in response to an OP-4 emergency for a total of no more than 50 hours each calendar year. MCC shall keep records for OP-4 emergencies which include the date, which generators were operated, start time and stop time for each generator, and documentation that MCC was contacted by ISO New England and asked to reduce consumption as part of an OP-4 event.
2. The back-up generators shall fire only diesel fuel with a maximum sulfur content not to exceed 0.05% by weight. SO₂ emission factors are based on a mass balance.
3. The back-up generators shall each be limited to 500 hr/yr of operation based on a calendar year. An hour meter shall continue to be maintained and operated, and an operating log shall be kept for compliance purposes.
4. 06-096 CMR 103 regulates PM emission limits for the back-up generators. The PM₁₀ limits are derived from the PM limits.
5. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96.

Maine Department of Corrections)
Maine Correctional Center)
Cumberland County)
South Windham, Maine)
A-129-71-K-R/M 5

Departmental
Findings of Fact and Order
Air Emission License
Renewal

6. Visible emissions from the back-up 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.

D. Woodworking Operations

MCC has a woodworking shop with milling equipment. The milling equipment is ducted to a baghouse on the exterior of the building. BPT for particulate emissions from the woodworking process shall be a fugitive opacity limit from the baghouse of 10% on a six (6) minute block average basis, except for no more than 1 six minute block average in a one hour period. Preventative maintenance shall be conducted on the baghouse once per quarter to ensure efficient operation. A maintenance log shall be kept for compliance purposes.

E. Solvent Degreaser

The solvent degreaser in the maintenance building has a design capacity of 30 gallons and is currently using Safety Kleen 105 as a solvent. Records shall be kept of solvent added and removed. MCC shall comply with the applicable requirements of 06-096 CMR 130 of the Department's regulations.

F. Paint Booth

MCC operates a paint booth in order to paint the miscellaneous wood products from the Woodworking Operations. The surface coating operations at MCC do not fall under any of the surface coating categories listed in *Surface Coating Facilities*. 06-096 CMR 129 (as amended) and are therefore not subject to the requirements of 06-096 CMR 129. BPT for the paint booth shall be a limit of 1.0 ton of VOC emissions on a 12 month rolling total and the use of particulate filters to control overspray. VOCs shall be calculated based on the quantity of coating used and the VOC content of that coating. The particulate filters shall be replaced once per quarter and a maintenance log shall be kept for the paint booth.

Maine Department of Corrections)
Maine Correctional Center)
Cumberland County)
South Windham, Maine)
A-129-71-K-R/M)
6

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

G. Licensed Emission Restrictions

1. Boiler #1 and #2 shall be limited to firing 250,000 gal of #2 fuel oil combined with 50,000,000 scf of natural gas on a calendar year basis.
2. Back-up Generators #1 and #2 shall each be limited to 500 hours of operation on a calendar year basis.
3. The Paint Booth shall be limited to 1.0 ton of VOC on a calendar year basis.
4. MCC shall be restricted to the following annual emissions, based on a calendar year basis:

Total Allowable Annual Emission for the Facility

(used to calculate the annual license fee)

Tons/Year

Emission Unit	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boilers #1 and #2 #2 Fuel Oil	1.40	1.40	8.75	2.50	0.63	0.04
Boilers #1 and #2 Natural Gas	1.29	1.29	0.02	2.50	2.10	0.14
Generator #1	0.21	0.21	0.05	4.53	0.98	0.37
Generator #2	0.21	0.21	0.05	4.53	0.98	0.37
Paint Booth	-	-	-	-	-	1.0
Total	3.11	3.11	8.87	14.06	4.69	1.92

III. AMBIENT AIR QUALITY ANALYSIS

MCC previously submitted an ambient air quality analysis in Air Emission License A-129-74-C-A/R, demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards. An additional ambient air quality analysis is not required for this renewal.

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-129-71-K-R/M subject to the following conditions:

Maine Department of Corrections)	Departmental
Maine Correctional Center)	Findings of Fact and Order
Cumberland County)	Air Emission License
South Windham, Maine)	Renewal
A-129-71-K-R/M	7	

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 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.
- [06-096 CMR 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 CFR Part 60 or other method approved or required by the Department; and

- B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
- C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 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 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. [06-096 CMR 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 CMR 115]

SPECIFIC CONDITIONS

- (16) Boilers #1 and #2
 - A. Fuel use shall not exceed 250,000 gallons/yr of #2 fuel oil which meets the criteria in ASTM D396 and 50,000,000 scf of natural gas on a calendar year basis. Records from the supplier documenting the type and the quantity of both fuels delivered shall be kept for compliance purposes. [06-096 CMR 115, BPT]

B. Emissions for each boiler shall not exceed the following: [06-096 CMR 115, Chapter 103, BPT]

Fuel		PM	PM ₁₀	SO ₂	NO _x	CO	VOC
#2 Fuel Oil	lb/MMBtu	0.08	-	-	-	-	-
	lb/hr	1.25	1.25	7.81	2.23	0.56	0.04
Nat Gas	lb/MMBtu	0.05	-	-	-	-	-
	lb/hr	0.84	0.84	0.01	1.62	1.36	0.09

C. Visible emissions from Stack #1 (shared by boilers #1 and #2) shall be limited to 20% opacity based on a six-minute block average basis, except for no more than one (1), six (6) minute block average in any three-hour period. [MEDEP Chapter 101]

(17) Back-up Generators #1 and #2

- A. MCC shall limit each Back-up Generator to 500 hr/yr of operation (based on a calendar year). An hour meter shall continue to be maintained and operated for compliance purposes. [06-096 CMR 115, BPT]
- B. The Back-up Generators shall only be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. The Back-up Generators shall not be used for prime power when reliable offsite power is available. A log shall be maintained documenting the date, time, and reason for operation. [06-096 CMR 115, BPT]
- C. The Back-up Generators shall fire diesel fuel with a sulfur limit not to exceed 0.05% by weight. Compliance shall be based on fuel records from the supplier documenting the percent sulfur of the fuel. [06-096 CMR 115, BPT]
- D. Emissions from each Back-up Generator shall not exceed the following [06-096 CMR 115, BPT]:

Emission Unit		PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Back-up Generators	lb/MMBtu	0.20	-	-	-	-	-
	lb/hr	0.82	0.82	0.21	18.13	3.90	1.48

E. Visible emissions from each Back-up Generator shall 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. [06-096 CMR 101]

(18) OP-4 Emergencies

- A. MCC shall only operate the Back-up Generators for periods of maintenance and readiness testing, emergencies when off-site power is unavailable, and ISO New England OP-4 emergencies. [06-096 CMR 115, BPT]
- B. MCC shall keep records for OP-4 emergencies which include the date, which generators were operated, start time and stop time for each generator, and documentation that MCC was contacted by ISO New England and asked to reduce consumption as part of an OP-4 event. [06-096 CMR 115, BPT]
- C. MCC shall not operate the Back-up Generators for more than 50 hours each per calendar year in response to an OP-4 emergency. [06-096 CMR 115, BPT]
- D. If EPA does not change 40 CFR Part 63 Subpart ZZZZ NESHAP rule, then MCC is required to meet all applicable requirements per the federal rule by the applicable compliance dates. [06-096 CMR 115, 40 CFR Part 63 Subpart ZZZZ, BPT]

(19) Woodworking Operations and Baghouse

- A. Preventative maintenance shall be conducted on the baghouse once per quarter to ensure efficient operation. A maintenance log shall be kept for compliance purposes. [06-096 CMR 115, BPT]
- B. Emissions from the woodworking operations and baghouse shall not exceed 10% on a six (6) minute block average basis, except for no more than one (1), six (6) minute block average in a one hour period. [06-096 CMR 101]

(20) Paint Booth

- A. VOC emissions from the Paint Booth shall be limited to 1.0 ton on a calendar year basis. VOC emissions shall be calculated based on the amount of coating used and the VOC content on the coating. [06-096 CMR 115, BACT]
- B. The particulate filters shall be replaced once per quarter and a maintenance log shall be kept for the Paint Booth. [06-096 CMR 115, BACT]

Maine Department of Corrections)
Maine Correctional Center)
Cumberland County)
South Windham, Maine)
A-129-71-K-R/M 12

Departmental
Findings of Fact and Order
Air Emission License
Renewal

(21) Parts Washer

Parts washers at MCC are subject to *Solvent Cleaners*, 06-096 CMR 130 (as amended).

- A. MCC shall keep records of the amount of solvent added to each parts washer. [06-096 CMR 115, BPT]
- B. The following are exempt from the requirements of 06-096 CMR 130 [06-096 CMR 130]:
 1. Solvent cleaners using less than two liters (68 oz) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
 2. Wipe cleaning; and,
 3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.
- C. The following standards apply to cold cleaning machines that are applicable sources under Chapter 130.
 1. MCC shall attach a permanent conspicuous label to each unit summarizing the following operational standards [06-096 CMR 130]:
 - (i) Waste solvent shall be collected and stored in closed containers.
 - (ii) Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.
 - (iii) Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.
 - (iv) The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
 - (v) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the degreaser.
 - (vi) When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.
 - (vii) Spills during solvent transfer shall be cleaned immediately. Sorbent material shall be immediately stored in covered containers.
 - (viii) Work area fans shall not blow across the opening of the degreaser unit.
 - (ix) The solvent level shall not exceed the fill line.
 2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches. [06-096 CMR 130]

Maine Department of Corrections)
Maine Correctional Center)
Cumberland County)
South Windham, Maine)
A-129-71-K-R/M 13

Departmental
Findings of Fact and Order
Air Emission License
Renewal

- (22) MCC 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 (Title 38 MRSA §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 27th DAY OF June, 2011.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Melanie B. For
PATRICIA W. AHO, ACTING 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: 8/3/2010

Date of application acceptance: 8/17/2010

Date filed with the Board of Environmental Protection:

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

