STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

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ACTING COMMISSIONER

The President and Trustees of Colby College
Kennebec County
Waterville, Maine
A-107-71-Q-R/A (SM)

Departmental
Findings of Fact and Order
Air Emission License

After review of the air emissions license renewal/amendment 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 President and Trustees of Colby College (Colby), of Waterville, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their educational facility.

Colby has requested the addition of two Biomass Boilers to their License.

B. Emission Equipment

Colby College is authorized to operate the following equipment:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate (gal/hr)	Fuel Type, % sulfur	Stack #
Boiler 10A	37.1	247.5	#6, #2, spec. waste oil, 0.5%	9
Boiler 10B	37.1	247.5	#6, #2, spec. waste oil, 0.5%	9
Boiler 10C	37.1	247.5	#6, #2, spec. waste oil, 0.5%	9
BIO1*	20.0	4342 lb/hr @ 45% moisture	Biomass	10
BIO2*	20.0	4342 lb/hr @ 45% moisture	Biomass	10

* Indicates new equipment

Back-up Generators

Equipment	Maximum Capacity (MMBtu/hr)	Firing Rate (gal/hr)	Fuel Type, % sulfur	Date of Installation
SICE #1	2.5	17.5	Diesel, 0.05%	1998
SICE #2	4.9	35.8	Diesel, 0.05%	1999
SICE #3	0.56	4.1	Diesel, 0.05%	2000
SICE #4	0.75	8.0	LPG	2005
SICE #5	0.70	7.3	LPG	2005

Miscellaneous Equipment

Equipment	Pollution Control Equipment
Gasoline storage tank	none
Solvent Degreaser	none

C. Application Classification

The application for Colby includes licensing of existing equipment and includes licensing of new equipment. 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. The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

Pollutant	Current License (TPY)	Future License (TPY)	Net Change (TPY)	Sig. Level
PM	10.0	15.3	5.3	100
PM_{10}	10.0	15.3	5.3	100
SO_2	51.2	55.6	4.4	100
NO_x	42.6	86.8	44.2	100
CO	5.2	31.2	26.0	100
VOC	0.6	3.6	3.0	50

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

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.

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 10A, 10B, and 10C

Boilers 10A, 10B, and 10C are Babcock and Wilcox package watertube boilers (Model FM9-57) each with a design capacity of 37.1 MMBtu/hr. They are located in Colby College's central heating plant and are licensed such that not more than two of the boilers operate concurrently. These boilers were manufactured in 1992 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.

BPT for Boilers 10A, 10B and 10C is the following, firing #2 fuel oil, #6 fuel oil or specification waste oil:

1. Fuel sulfur content shall not exceed 0.5% by weight as documented per 40 CFR 60.46c.
2. SO_2 emission data was based on fuel sulfur mass balance.
3. A BACT PM emission limit of 0.10 lb/MMBtu was established in Air Emission License A-107-72-C-A, and shall now be considered BPT.
4. A BACT NO_X emission limit of 0.36 #/MMBtu was established in Air Emission License A-107-72-C-A, and shall now be considered BPT.
5. CO and VOC emission rates were based on AP-42 data dated 9/99 for boilers firing fuel oil, and having a heat input of 10 to 100 MMBtu/hr.

6. Opacity shall not exceed 20% from the combined stack serving Boilers 10A, 10B, and 10C, on a 6 minute block average, except for one 6 minute block average period per hour of not more than 27% opacity.
7. Opacity CEM as required by 40 CFR 60.47c and maintained in accordance with *Source Surveillance* 06-096 CMR 117 (as amended).
8. Annual fuel limit of 1,300,000 gallons per year of 0.5 % sulfur #2 fuel oil, #6 fuel oil and waste oil combined.

C. BIO1 and BIO2

Colby is installing two biomass fueled gassifier/boiler systems in 2011, each rated at 20.0 MMBtu/hr. BIO1 and BIO2 are 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.

BACT for BIO1 and BIO 2 shall consist of the following:

PM

Colby shall control PM emissions through the use of a multi-clone at the outlet of each boiler, combined with an Electrostatic Precipitator controlling PM in the flue gas of the combined stack. A PM emission limit from the stack outlet of 0.03 lb/MMBtu is more stringent then the applicable requirement found in 06-096 CMR 103, and shall be considered BACT. The PM_{10} limits are derived from the PM limits.

SO_2

BACT for SO_2 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 SO_2 emission rate of 0.025 lb/MMBtu shall be considered BACT.

NOx, CO, and VOC

A BACT analysis for NOx, CO and VOC had determined that add-on controls for these pollutants are not economically justified. Therefore BACT for NOx, CO and VOC shall be the use of good combustion practices. The BACT emission rates for NOx, CO and VOC shall be 0.25, 0.15, and 0.017 lb/MMBtu respectively.

Opacity

Visible Emissions from the combined stack serving Boilers BIO1 and BIO2 shall not exceed 20% opacity on a 6 minute block average, except for no more than one (1), six (6) minute block average in a one hour period.

NSPS Requirements

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

1. Colby shall submit notification to EPA and the Department of the date of construction, anticipated start-up, and actual start-up of each boiler. This notification shall include the design heat input capacity of the boilers and the type of fuel to be combusted.
2. Colby shall record and maintain records of the amounts of biomass combusted in each boiler during each day.

D. Back-up Diesel Generators

Back-up generators SICE #1, #2 and #3 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, or for participation in any demand response program. These generators were installed prior to June 2006 and are therefore not subject to NSPS 40 CFR, Part 60, Subpart IIII for stationary compression ignition engines. These generators were installed prior to June 2006 and are therefore classified as existing institutional stationary emergency compression ignition engines at an area source of Hazardous Air Pollutants. They are therefore exempt from the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR part 63, Subpart ZZZZ pursuant to 40 CFR 63.6590(b)(3).

A summary of the BPT analysis for the existing back-up generators is the following:

1. SICE #1, #2 and #3 shall only fire diesel fuel with a maximum sulfur content not to exceed 0.05% by weight as documented on fuel receipts.
2. The back-up generators shall each be limited to 500 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.
3. The PM and PM_{10} limits are derived from 06-096 CMR 103.
4. SO_2 emission data was based on fuel sulfur mass balance.
5. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96 for diesel engines less than 600 HP for SICE #1 and #3, and AP-42 data dated 10/96 for diesel engines greater than 600 HP for SICE #2.
6. Visible emissions from SICE #1, #2 and #3 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. Back-up LP Gas Generators

Back-up generators SICE #4 and #5 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, or for any demand response program. These generators were installed prior to January 2009 and are therefore not subject to New Source Performance Standards 40 CFR, Part 60, Subpart JJJJ for stationary spark ignition engines. These generators were installed prior to June 2006 and are therefore classified as existing institutional stationary emergency spark ignition engines at an area source of Hazardous Air Pollutants. They are therefore exempt from the NESHAP 40 CFR part 63, Subpart ZZZZ pursuant to 40 CFR 63.6590(b)(3).

A summary of the BPT analysis for SICE #4 and #5 is the following:

1. SICE #4 and #5 shall fire LP Gas.
2. The back-up generators shall each be limited to 500 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.
3. PM and PM_{10} emission rates were based upon BPT of 0.08 #/MMBtu established in License A-107-71-P-R/A.
4. SO_2, NO_x, CO, and VOC emission limits are based upon AP-42 data dated 7/00 for 4-stroke, lean burn natural gas fired reciprocating engines.
5. Visible emissions from SICE #4 and #5 shall each not exceed 10% 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.

F. Temporary Stationary Internal Combustion Engines (SICEs)

Colby College periodically operates temporary SICEs for electrical generation during maintenance and construction activities, during campus event activities, or during emergencies that exceed the existing emergency diesel units power capacity. Use of temporary SICEs is limited to two weeks or less in duration per calendar year for each unit brought on site.

The temporary SICEs shall meet BPT through the firing of propane, natural gas or diesel fuel (with a sulfur content not to exceed 15 ppm) and must be certified by the manufacturer as meeting the emission requirements of NSPS 40 CFR, Part 60, Subpart IIII (for compression ignition engines) or Subpart JJJJ (for spark ignition engines).

G. Degreasing Station

Colby operates one solvent degreaser that is subject to the requirements of *Solvent Degreasers* 06-096 CMR 130 (as amended). BPT shall be to maintain covers on all solvent degreasing tanks when the tanks are not in use and maintain records of the quantity of solvent added and removed.

H. Gasoline Storage Tank

The gasoline storage tank is a miscellaneous activity subject to the requirements in 06-096 CMR 118. BPT for the Gasoline Storage Tank shall be the following:

1. The fill pipe shall extend within 6 inches of the bottom of the gasoline storage tank.
2. Colby shall maintain records of the monthly and annual throughput of gasoline.

I. Facility Emissions

Colby College has the following 12 month rolling total annual emissions based on firing no more than:

- 1,300,000 gallons per year (12 month rolling total) of 0.5 % sulfur fuel oil in Boilers 10A, 10B and 10C (#2 fuel oil, #6 fuel oil and waste oil combined).
- Operating each back-up generators no more than 500 hours per year (0.05% sulfur diesel fuel in SICE #1, #2 and #3; LPG in SICE #4 and #5).
- Emissions for BIO1 and BIO2 are based on continuous operation when firing 45% moisture fuel.

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
Boilers 10A, 10B, and 10C	9.75	9.75	51.11	35.10	3.25	0.18
Boilers BIO1 and BIO2	5.24	5.24	4.37	44.21	26.02	2.97
SICE #1	0.08	0.08	0.03	2.65	0.57	0.21
SICE #2	0.15	0.15	0.06	3.92	1.04	0.12
SICE #3	0.03	0.03	0.01	0.62	0.13	0.05
SICE #4	0.02	0.02	0.01	0.16	0.10	0.02
SICE #5	0.01	0.01	0.01	0.15	0.10	0.02
Total TPY	**15.28**	**15.28**	**55.60**	**86.81**	**31.21**	**3.57**

III. AMBIENT AIR QUALITY ANALYSIS

A. Overview

A refined modeling analysis was performed to show that emissions from Colby, in conjunction with other sources, will not cause or contribute to violations of Maine and National Ambient Air Quality Standards (MAAQS/NAAQS) for SO_2, PM_{10}, NO_2 or CO. It has been determined that Colby does not consume SO_2, PM_{10} or NO_2 increment, therefore, Class II SO_2, PM_{10}, and NO_2 increment analyses were not performed.

Since the current licensing action for Colby 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. 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 (1996-2000) was 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 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 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 Colby 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 (km)	UTM Northing (km)
CURRENT/PROPOSED						
III. Colby						
• Oil Boiler Stack	76.50	25.15	24.76	1.52	447.326	4934.968
• Biomass Stack	76.50	15.24	24.76	1.22	447.344	4934.949
IV. Huhtamaki						
• Stack #1	30.50	31.70	28.96	1.88	451.560	4935.940
• Stack #2	30.50	31.70	28.96	1.68	451.560	4965.940
V. Maine General – Seton						
• Stack #1	68.27	33.52	76.70	1.20	447.680	4932.780
VI. Maine General – Thayer						
• Stack #1	36.27	40.00	58.75	0.91	448.580	4934.670

Emission parameters for Colby for MAAQS and increment modeling are listed in Table III-2. The emission parameters for Colby are based on the maximum license allowed (worst-case) operating configuration. For the purposes of determining PM_{10} and NO_2 impacts, all PM and NO_x emissions were conservatively assumed to convert to PM_{10} and NO_2, 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							
Colby – Scenario 1							
• Biomass Stack – 2 Boilers	All	0.13	1.01	1.27	0.93	422.04	6.87
• Oil Boiler Stack – 1 Boiler	All	2.45	0.47	1.69	0.15	449.82	2.91
Colby – Scenario 2							
• Oil Boiler Stack – 2 Boilers	All	4.91	0.93	3.38	0.03	449.82	5.81
VII. Huhtamaki							
• Stack #1	All	13.12	1.10	3.70	nm	550.00	4.37
• Stack #2		24.40	2.06	5.48	nm	495.00	8.63
VIII. Maine General – Seton							
• Stack #1	All	1.66	0.38	1.43	nm	450.00	3.18
IX. Maine General – Thayer							
• Stack #1	All	5.30	0.36	1.21	nm	450.00	4.23

C. Single Source Modeling Impacts

Refined modeling was performed for a total of five operating scenarios that represented a range of maximum, typical and minimum operations.

The AERMOD-PRIME model results for Colby alone are shown in Table 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 Colby Alone

Pollutant	Averaging Period	Max Impact ($\mu g/m^3$)	Receptor UTM E (km)	Receptor UTM N (km)	Receptor Elevation (m)	Max Impact Scenario	Class II Significance Level ($\mu g/m^3$)
SO_2	1-hour	**149.42**[1]	-	-	-	2	**10**[2]
	3-hour	**111.71**	447.500	4935.000	68.80	2	**25**
	24-hour	**65.48**	447.500	4934.500	75.20	2	**5**
	Annual	**2.64**	447.500	4934.500	75.20	2	**1**
PM_{10}	24-hour	**34.94**	447.500	4935.000	68.80	1	**5**
	Annual	**2.22**	447.500	4935.000	68.80	1	**1**
NO_2	1-hour	**152.66**[1]	-	-	-	1	**10**[3]
	Annual	**18.91**	447.344	4935.049	70.60	1	**1**
CO	1-hour	79.25	447.500	4935.000	68.80	1	**2000**
	8-hour	44.83	447.500	4935.000	68.80	1	**500**

[1] Value based on the average of H1H (high-1st-high) concentrations for each of the five years of meteorological data, regardless of receptor location
[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 Colby 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 ($\mu g/m^3$)
SO_2	1-hour	47[1]
	3-hour	18[2]
	24-hour	11[2]
	Annual	1[2]
PM_{10}	24-hour	47[3]
	Annual	11[3]
NO_2	1-hour	47[4]
	Annual	3[4]

[1] Village Green Site - Rumford
[2] MacFarland Hill Site - Acadia National Park
[3] Jay Hill/Bomaster Site - Androscoggin River Valley
[4] MicMac Site - Presque Isle

MEDEP examined other nearby sources to determine if any impacts would be significant in or near Colby's significant impact area. Due to Colby's location, extent of the predicted significant impact area and other nearby source's emissions, MEDEP has determined that three sources would be considered for combined source modeling: Huhtamaki Foodservice, MaineGeneral - Seton Unit and MaineGeneral – Thayer Unit.

For pollutant averaging periods that exceeded significance levels, the maximum modeled impacts from the model predicting the highest concentrations were added with conservative rural background concentrations to demonstrate compliance with MAAQS, as shown in Table III-5.

TABLE III-5 : Maximum Combined Sources Impacts

Pollutant	Averaging Period	Max Impact ($\mu g/m^3$)	Receptor UTM E (km)	Receptor UTM N (km)	Receptor Elevation (m)	Back-Ground ($\mu g/m^3$)	Max Total Impact ($\mu g/m^3$)	MAAQS/ NAAQS ($\mu g/m^3$)
SO_2	1-hour	**320.83**	451.344	4935.449	21.20	**47**	**367.83**[1]	**196**
	3-hour	**381.16**	451.344	4935.449	21.20	**18**	**399.16**	**1150**
	24-hour	**123.25**	451.844	4935.449	42.06	**11**	**134.25**	**230**
	Annual	**7.93**	451.844	4935.449	42.06	**1**	**8.93**	**57**
PM_{10}	24-hour	**12.76**	447.344	4935.049	70.60	**47**	**59.76**	**150**
	Annual	**2.31**	447.344	4935.049	70.60	**11**	**13.31**	**40**
NO_2	1-hour	**120.42**[2]	447.344	4935.049	70.60	**47**	**167.42**	**188**
	Annual	**18.91**	447.344	4935.049	70.60	**3**	**21.91**	**100**

[1] Colby did not cause or significantly contribute to this or any single-source or combined-source violation
[2] Average of H8H (high-8th-high) concentrations for each of the five years of meteorological data

E. Increment

It has been determined that Colby does not consume SO_2, PM_{10} or NO_2 increment. Therefore, Class II SO_2, PM_{10}, and NO_2 increment analyses were not performed.

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 Colby 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 Colby will not cause or contribute to violations of Maine and National Ambient Air Quality Standards (MAAQS/NAAQS) for SO_2, PM_{10}, NO_2 or CO or any SO_2, PM_{10} or NO_2 averaging period Class II increment standards.

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-107-71-Q-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 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 10A, 10B, and 10C**

A. Total fuel use for Boilers 10A, 10B and 10C shall not exceed 1,300,000 gal/yr of #2 fuel oil, #6 fuel oil and specification waste oil (combined) with a maximum sulfur content not to exceed 0.5% by weight. Fuel use compliance shall be demonstrated by fuel records from the supplier showing the quantity of fuel. Fuel sulfur content shall be documented per 40 CFR 60.46c. Records of fuel use shall be kept on a 12-month rolling total basis. [40 CFR 60.42c(d), 06-096 CMR 115, A-107-72-C-A, BPT]

B. Colby is limited to firing only two boilers (10A, 10B, or 10C) at any one time in the central heating plant. [06-096 CMR 115, A-107-72-C-A, BPT]

C. Emissions from each boiler shall not exceed the following: [06-096 CMR 115, A-107-72-C-A, BPT]

Pollutant	lb/MMBtu	lb/hr
PM	0.10	3.7
PM_{10}	n/a	3.7
SO_2	n/a	19.5
NOx	n/a	13.4
CO	n/a	1.2
VOC	n/a	0.1

D. Colby shall maintain a Continuous Opacity Monitor System (COMS) to monitor the emissions from Stack #9. [40 CFR 60.47c(a)]

E. Visible Emissions from common stack serving Boilers 10A, 10B and 10C, shall not exceed 20% opacity, measured as 6 minute block averages, except for one 6-minute block average period per hour of not more than 27% opacity. [40 CFR 60.43c(c)]

F. Colby shall record and maintain records of the amounts of fuel combusted for each boiler during each day. [40 CFR 60.48c(g)]

G. Colby shall maintain records documenting which boilers were in operation each day and when they were operated. [06-096 CMR 115, A-107-72-C-A BPT]

H. Colby shall raise the height of the stack serving Boilers 10A, 10B, and 10C to 82.5 feet, not later than two (2) years from the date of issuance of this permit. [06-096 CMR 115, BPT]

I. The following address for EPA shall be used for any reports or notifications required to be copied to them [40 CFR Part 60, Subpart Dc]:

Compliance Clerk
USEPA Region 1
1 Congress Street
Suite 1100
Boston, MA 02114-2023

(17) **Boilers BIO1 and BIO2**

A. Boilers BIO1 and BIO2 shall be limited to firing Biomass fuel only. Colby shall record and maintain records of the amounts and type of fuel combusted in each boiler during each day. [06-096 CMR 115, 40 CFR 60.48c(g), BACT]

B. Emissions from each boiler shall not exceed the following: [06-096 CMR 115, BACT]

Pollutant	lb/MMBtu	lb/hr
PM	0.03	0.60
PM_{10}	n/a	0.60
SO_2	n/a	0.50
NOx	n/a	5.05
CO	n/a	3.00
VOC	n/a	0.34

C. Visible Emissions from the combined stack serving Boilers BIO1 and BIO2 shall not exceed 20% opacity on a 6 minute block average, except for no more than one (1), six (6) minute block average in a one hour period. [06-096 CMR 101]

D. Colby shall submit notification to EPA and the Department of the date of construction, anticipated start-up, and actual start-up of each boiler. 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. Colby shall perform an initial performance test for Boilers BIO1 and BIO2 to demonstrate compliance with the PM, NOx, CO and VOC emission limits specified in Condition 17(B) using approved EPA test methods. Tests shall be conducted within 30 days after achieving the normal steam production rate at which each boiler will be operated but not later than 180 days after the initial start-up of each boiler. [06-096 CMR 115, BACT]

(18) **Back-up Generators**

A. Colby College shall limit back-up generators SICE #1, #2, #3, #4 and #5 to 500 hr/yr of operation each (based on a 12 month rolling total). Compliance shall be demonstrated by a written log of all generator operating hours. A non-resettable hour meter shall be maintained and operated on the back-up generators. [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 generator shall not be used for prime power when reliable offsite power is available or for any demand response program. A log shall be maintained documenting the date, time, and reason for operation. [06-096 CMR 115, BPT]

C. SICE #1, #2 and #3 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 type of the fuel delivered. [06-096 CMR 115, BPT]

D. SICE #4 and #5 shall fire LP Gas. Compliance shall be based on fuel records from the supplier documenting the type of the fuel delivered. [06-096 CMR 115, BPT]

E. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
SICE #2	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

F. Emissions shall not exceed the following [06-096 CMR 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)
SICE #1	0.30	0.30	0.12	10.58	2.28	0.84
SICE #2	0.59	0.59	0.25	15.68	4.17	0.49
SICE #3	0.10	0.10	0.03	2.47	0.53	0.20
SICE #4	0.06	0.06	0.01	0.64	0.42	0.09
SICE #5	0.06	0.06	0.01	0.59	0.39	0.08

G. Visible emissions from SICE #1, #2 and #3 each shall not exceed 20% opacity on a six (6) minute block average basis, except for two (2), six (6) minute block averages in a 3-hour period. [06-096 CMR 101]

H. Visible emissions from SICE #4 and #5 each shall not exceed 10% opacity on a six (6) minute block average basis, except for two (2), six (6) minute block averages in a 3-hour period. [06-096 CMR 101]

(19) **Temporary Stationary Internal Combustion Engines (SICEs)**

Colby is licensed to operate temporary SICEs for electrical generation in accordance with the following conditions:

A. Each temporary SICE unit shall be limited to discrete periods of operation not exceeding two weeks in a calendar year. [06-096 CMR 115, BPT]

B. Particulate matter emissions from each SICE shall not exceed 0.12 lb/MMBtu. [06-096 CMR 115, BPT]

C. Each SICE is licensed to fire propane, natural gas or diesel fuel (with a sulfur content not to exceed 15 ppm). Colby College shall maintain records of fuel shipped on site as well as the sulfur content of the diesel fuel. [06-096 CMR 115, BPT]

D. Visible emissions from each SICE shall not exceed 20% opacity on a six (6) minute block average basis, except for two (2), six (6) minute block averages in a three (3) hour period. [06-096 CMR 101]

E. Colby shall maintain records of temporary SICE use. Records shall indicate the size of the unit used, the length of time the unit was in service at Colby College, and the nature of the activity requiring the use of the SICE. [06-096 CMR 115, BPT]

F. Colby shall maintain certification from the manufacturer documenting that each temporary SICE meets the emission requirements in 40 CFR, Part 60, Subpart IIII (for compression ignition engines), and Subpart JJJJ (for spark ignition engines). [06-096 CMR 115, BPT]

(20) **Gasoline Storage Tank**

A. The fill pipe shall extend within 6 inches of the bottom of the gasoline storage tank. [06-096 CMR 118, BPT]

B. Colby shall maintain records of the monthly and annual throughput of gasoline. [06-096 CMR 118, BPT]

(21) **Parts Washer**

Parts washers at Colby are subject to 06-096 CMR 130.

A. Colby shall keep records of the amount of solvent added to each parts washer. [06-096 CMR 130, BPT]

B. The following are exempt from the requirements of 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 remote reservoir cold cleaning machines that are applicable sources under 06-096 CMR 130.
   1. Colby 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, BPT]

(22) **COMS Recordkeeping Requirements shall include:** [06-096 CMR 117]

A. Documentation that all COMS are continuously accurate, reliable and operated in accordance with 06-096 CMR 117, 40 CFR Part 51, Appendix P, and 40 CFR Part 60, Appendices B and F;

B. Records of all measurements, performance evaluations, calibration checks, and maintenance or adjustments for each COMS as required by 40 CFR Part 51 Appendix P;

C. A report of other data indicative of compliance with the applicable emission standards for those periods when the COMS were not in operation or produced invalid data. In the event the Department does not concur with the licensee's compliance determination, the licensee shall, upon the Department's request, provide additional data, and shall have the burden of demonstrating that the data is indicative of compliance with the applicable standard.

(23) **Quarterly Reporting**

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

A. All COMS downtimes and malfunctions;

B. All excess events of emission and operational limitations set by this Order, Statute, state or federal regulations, as appropriate. The following information shall be reported for each excess event;

1. Standard exceeded;
2. Date, time, and duration of excess event;

3. Maximum and average values of the excess event, reported in the units of the applicable standard, and copies of pertinent strip charts and printouts when requested;
4. A description of what caused the excess event;
5. The strategy employed to minimize the excess event; and
6. The strategy employed to prevent reoccurrence.

C. A report certifying there were no excess emissions, if that is the case.

(24) Colby shall notify the Department within 48 hours if a malfunction or breakdown in any component causes a violation of any emission standard. This information shall be included in the quarterly report. [38 MRSA §605].

(25) **Semi-annual Reporting**
Colby shall submit to EPA and the Department semi-annual reports. These reports shall include the calendar dates covered in the reporting period, records of fuel supplier certifications as required by Condition 16(A) as well as any excess emission reports for any excess opacity emissions during the reporting period. The semi-annual reports are due within 30 days of the end of each 6-month period. [40 CFR Part 60.48c]

(26) **Annual Emission Statement**

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

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.

DONE AND DATED IN AUGUSTA, MAINE THIS 5th DAY OF November , 2010.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
BETH NAGUSKY, 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: 9/14/2010
Date of application acceptance: 9/14/2010

Date filed with the Board of Environmental Protection:

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