



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

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COMMISSIONER

**Rumford Paper Company
Oxford County
Rumford, Maine
A-214-70-I-A**

**Departmental
Findings of Fact and Order
Part 70 Air Emission License
Amendment #5**

After review of the Part 70 License 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, §344 and §590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Rumford Paper Company (The Mill)
LICENSE TYPE	Part 70 Significant Modification
NAICS CODES	322121
NATURE OF BUSINESS	Pulp & Paper Manufacturer
FACILITY LOCATION	Rumford, Maine
AMENDMENT ISSUANCE DATE	October 6, 2009

B. Amendment Description

Rumford Paper Company (The Mill) amended their New Source Review (NSR) license in amendments A-214-77-7-A and A-214-77-8-M to address the following:

1. Modify the Lime Kiln to allow the firing of natural gas;
2. Align the frequency of stack testing with State statute;
3. Adjust the Relative Accuracy Test Audit (RATA) frequency when the equipment has reduced operating hours; and
4. License a flexible operating scenario for the Cogen Boilers #6 & #7 sulfur dioxide limitations.

The Mill is now requesting that these changes be incorporated into their Part 70 air emission license.

C. Application Classification

The application for the Mill does not violate any applicable federal or state requirements. The Best Available Control Technology (BACT) analysis performed per New Source Review (NSR) was modified per *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (last amended December 1, 2005) in air emission license major modification A-214-77-7-A and minor revision A-214-77-8-M. This action incorporates the changes of these NSR amendments into the Mill's Part 70 license and is therefore determined to be a Part 70 Significant Modification and has been processed as such.

II. DETAILED AMENDMENT DESCRIPTION

A. Lime Kiln Project Description

The Lime Kiln project includes the equipment changes that are needed to support firing fuel oil or natural gas alone or together in the lime kiln in a manner that supports the existing kiln throughput capacity. The Mill proposed to replace the oil-only burner with a burner system designed for a heat release of 100 MMBtu/hr for oil and 110 MMBtu/hr for natural gas. Since natural gas generates a greater flue gas volume than oil, the firing rate for natural gas must be greater to support the same process heating and process throughput capacity. The proposed change also included the possibility of a separate dedicated burner for LVHC combustion.

Other changes anticipated as part of the project to support the existing throughput capacity while firing natural gas alone or in combination with fuel oil include:

1. The addition of natural gas piping, a kiln burner, burner management controls, and other changes to add natural gas firing capability to the lime kiln.
2. Changes to supply cooling air to a dedicated LVHC burner. These changes could include a minor upgrade to the primary air fan so that the cooling air may be supplied from this fan or the addition of a small blower designed to supply this cooling air.
3. An increase in the capacity of the I.D. fan. The I.D. fan is adequate to support oil firing but marginal for supporting the increased flue gas volume from natural gas firing.
4. An increase in the amount of chain hanging in the chain section of the kiln by replacing the existing worn chain and by adding additional chain.
5. Improvements to better handle mud from the scrubber underflow. These changes may include simplifying piping runs, adding a y-strainer, and increasing pumping capacity.

B. Lime Kiln BACT

The Mill performed a BACT analysis on the lime kiln for all criteria pollutants and TRS. This BACT analysis is described in detail in air emission license A-214-77-8-M.

C. Lime Kiln Streamlining

1. PM

- a. 06-096 CMR 105, Section (2) contains an applicable PM emission standard on a lb/air dried ton of pulp basis.
- b. MACT, 40 CFR Part 63, Subpart MM contains an applicable PM g/dscm (gr/dscf) emission standard.
- c. BACT establishes applicable PM gr/dscf emission limits.

The Mill accepts streamlining for the PM standards in 1(a), 1(b), and 1(c) above. The MACT and BACT limits are equivalent. These limits are determined to be the most stringent and are therefore the only PM concentration standard included in this license.

- d. BACT establishes an applicable PM lb/hr emission limit.
No streamlining is requested.

2. PM₁₀

BACT establishes the only applicable PM₁₀ lb/hr emission limit.
No streamlining is requested.

3. SO₂

- a. 06-096 CMR 106, Section (2)(A) contains the only applicable fossil fuel sulfur content standard. No streamlining is requested.
- b. BACT establishes the only applicable SO₂ lb/hr emission limit.
No streamlining is requested.

4. NO_x

- a. 06-096 CMR 138, Section (3)(E) contains an applicable NO_x ppm emission standard.
- b. BACT establishes an applicable NO_x ppm emission limit.

The Mill accepts streamlining for the NO_x ppm emission limit. The limits in 4(a) and 4(b) above are equivalent. These limits are determined to be most stringent and are therefore the only NO_x ppm concentration standard included in this license.

- c. BACT establishes the only applicable NO_x lb/hr emission limit.
No streamlining is requested.

5. CO
BACT establishes the only applicable CO lb/hr emission limit.
No streamlining is requested.
6. VOC
BACT establishes the only applicable VOC lb/hr emission limit.
No streamlining is requested.
7. Total Reduced Sulfur (TRS)
 - a. 06-096 CMR 124, Section (3)(H) contains an applicable TRS ppm emission standard.
 - b. NSPS, 40 CFR Subpart BB contains an applicable TRS ppm emission standard.
 - c. BACT establishes an applicable TRS ppm emission standard.

The Mill accepts streamlining for the TRS ppm emission standard. The BACT limit is most stringent and is therefore the only ppm emission standard included in this license.

D. Adjusting Stack Test Frequency

The Mill has requested that the stack testing frequency listed in the license be adjusted to reflect recent changes in Maine Statute. Specifically, 38 MRSA 589 Subsection 2 states that facilities shall not be required to stack test for chlorine or chlorine dioxide more than once every five years. In addition, facilities monitored by a Continuous Opacity Monitor (COM) or appropriate surrogate parameters as required by the commissioner shall not be required to stack test for PM more than once every five years. If visible emissions, operating parameters, federal requirements, or other information indicates that the source may be operating out of compliance, additional testing may be required upon request of the Department.

E. Adjusting the RATA frequency for Boilers #3 and #5

Boilers #3 and #5 have Continuous Emission Monitoring Systems (CEMS) for NO_x and SO₂. The actual operating hours of these boilers have been reduced substantially and they are operated only when absolutely necessary to meet the steam demand for the mill. Due to the reduced operating hours, scheduling RATAs every four calendar quarters has become infeasible because the source is often not planned to be in operation around the time the RATA is due. Occasionally, these boilers are called upon to operate for short periods of time when another boiler is offline for repairs. Performing RATAs during these short-term unplanned operating periods is not feasible due to required notification periods and the time required to schedule stack testing company resources.

Therefore, The Mill has requested flexibility (per A-214-77-8-M) in determining when a RATA needs to be performed on Boilers #3 and #5.

F. SO₂ Emission Limits for Cogen Boilers #6 and #7

Boilers #6 and #7 were modified in 2004 to accept pulp mill and evaporator gases as a fuel source. These gases include high volume low concentration (HVLC) gases collected from tank vents and equipment hoods, non-condensable gases (NCGs) from digester relief, blow tank, and evaporator sources, and stripper off gases (SOGs) that originate from the steam stripper that treats foul kraft condensates.

Pulp mill gases have a sulfur content that varies with the operating conditions. The Mill operates batch digesters which typically release gases intermittently. These pulp mill gases can cause a high level of short-term variability in the sulfur load to the boilers. Long-term average emissions are less affected.

The Mill has requested flexibility in the short-term SO₂ emission limit for Boilers #6 and #7. The Mill's current license allows for a higher SO₂ emission limit when the Cogen Boilers are firing only fuel oil or performing a gravimetric calibration. This condition also requires a simultaneous decrease in the emission limits for Boilers #3 and #5. Previous modeling has demonstrated that these alternative emission limitations do not violate ambient air quality standards.

G. Annual Emissions

The Mill shall be restricted to the following annual emissions:

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	Cl ₂	ClO ₂
Power Boiler #3	65.7	65.7	341.6	525.6	262.8	19.7	-	-
Power Boiler #5	65.7	65.7	341.6	525.6	262.8	19.7	-	-
Power Boiler #6	82.8	82.8	772.6	1,655.6	1,090.0	22.1	-	-
Power Boiler #7	82.8	82.8	772.6	1,655.6	1,090.0	22.1	-	-
Lime Kiln	105.1	105.1	100.7	227.8	170.8	8.8	-	-
Recovery Boiler	379.7	284.7	903.6	941.7	972.4	16.2	-	-
Smelt Tank C	70.1	69.2	24.1	-	-	-	-	-
Dryers	15.2	15.2	0.1	19.6	2.7	0.7	-	-
Air Heaters	2.0	2.0	0.1	40.6	40.6	2.2	-	-
Cogen Emerg Gen	0.1	0.1	0.1	1.6	0.4	0.1	-	-
R15 Emerg Gen	0.1	0.1	0.1	1.4	0.3	0.1	-	-
Mill Emerg Gen	0.2	0.2	0.1	4.4	1.2	0.1	-	-
Fire Pump	0.1	0.1	0.1	2.5	0.5	0.2	-	-
Lift Pump Engine	0.1	0.1	0.1	2.1	1.1	2.1	-	-
Bleach Plant	-	-	-	-	-	-	13.1	13.1
Total TPY	869.7	773.8	3,257.5	5,577.1	3895.6	114.1	13.1	13.1

III. AIR QUALITY ANALYSIS

The Mill previously submitted an ambient air quality analysis demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards. An additional ambient air quality analysis is not required for this Part 70 license amendment.

ORDER

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

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

The Department hereby grants the Part 70 License A-214-70-I-A pursuant to 06-096 CMR 140 and the preconstruction permitting requirements of 06-096 CMR 115 and subject to the standard and special conditions below.

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

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

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

The following Condition replaces Condition (25)(C) of Air Emission License A-214-70-A-I:

C. Boilers #6 and #7 shall each not exceed the following emission limits:

Pollutant	lb/MMBtu (each boiler)	Fuel	Ave Time	Compliance Determined By
PM	0.03	any combination	--	Stack Testing Every Five Years
PM ₁₀	0.03	any combination	--	Stack Testing Upon Request
SO ₂	0.28 ^a	any combination	24-hr block	CEMS
	0.32 ^a	for coal, DPC, or TDF contribution		
NO _x	0.60	any combination	24-hr block	CEMS
	0.10	natural gas only		
	0.30	oil only		
CO	0.15	coal, DPC, or TDF; or	--	Stack Testing Upon Request
	0.50	biomass, or natural gas;		
	0.03	oil		
VOC	0.008	any combination	--	Stack Testing Upon Request

- a. When Boiler #6 and/or #7 is firing only fuel oil or performing a gravimetric calibration, the monitored SO₂ lb/MMBtu emissions during that period shall not be included in determining the 24-hr block average SO₂ lb/MMBtu emission rate. The Mill shall keep records of the dates and times of all gravimetric calibrations and the date and time of any firing of only fuel oil in Boilers #6 and #7.

<u>Pollutant</u>	lb/hour (each boiler)	Ave Time	Compliance Determined By
PM	18.9	--	Stack Testing Every Five Years
PM ₁₀	18.9	--	Stack Testing Upon Request
SO ₂	176.4 ^{b,c,d}	3-hr block	CEMS
NO _x	378.0	24-hr block	CEMS
CO	248.85	--	Stack Testing Upon Request
VOC	5.04	--	Stack Testing Upon Request

- b. When Boiler #6 and/or #7 is firing only fuel oil or performing a gravimetric calibration, SO₂ emissions from the common stack for Boilers #6 and #7 shall be limited to a total of 500.0 lb/hr. The Mill shall keep records of the dates and times of all gravimetric calibrations and the date and time of any firing of only fuel oil in Boilers #6 and #7.
- c. When the Recovery Boiler C is firing only fuel oil and emissions are above 206.3 lb/hr, SO₂ emissions from the common stack for Boilers #6 and #7 shall be limited to a total of 250.0 lb/hr. The Mill shall keep records of the date and time of any firing of only fuel oil in Recovery Boiler C.
- d. In addition to the limitations listed above, The Mill shall be determined to be in compliance when Boilers #6 or #7 exceed the 176.4 lb/hr (352.8 lb/hr combined) SO₂ limit provided all of the following conditions are met:
- i. Either Boiler #6 or #7 is firing any of the following gas streams: SOGs, NCGs, or HVLCs;
 - ii. SO₂ emissions from Boilers #6 and #7 combined do not exceed 500 lb/hr on a 3-hour block average basis;
 - iii. SO₂ emissions from Recovery Boiler C do not exceed 206.3 lb/hr on a 3-hour block average basis;
 - iv. SO₂ emissions from Boilers #3 and #5 combined do not exceed 60 lb/hr on a 3-hour block average basis;
 - v. The Mill shall report the dates, times, and average SO₂ emissions for each 3-hour block when Boilers #6 and/or #7 utilize these alternative limits.

- e. The alternative SO₂ limits in (d) above shall not account for more than 4.0 ton/year of actual SO₂ emissions.

[A-214-77-8-M]

The following Condition replaces Condition (25)(F) of Air Emission License A-214-70-A-I:

- F. Compliance with the lb/MMBtu particulate matter limits for Boilers #6 and #7 shall be demonstrated by stack testing performed once every five years. [A-214-77-8-M and 38 M.R.S.A 589, Subsection 2]

The following Condition replaces Condition (27) of Air Emission License A-214-70-A-I:

(27) Lime Kiln

- A. The lime kiln shall be limited to a maximum fuel oil sulfur content not to exceed 2.0% by weight when there is no lime within the kiln and 2.5% by weight when there is lime within the kiln. The lime kiln is licensed to fire natural gas, fuel oil, and Non-Condensable Gases (NCGs). [A-214-77-7-A, 9/2/08]
- B. The lime kiln shall not exceed the following emission limits:

Pollutant	ppmv	Ave Time	lb/hour
PM	--		24.0
PM ₁₀	--		24.0
SO ₂	--		23.0
NO _x	120	1-hr block	--
NO _x	--		52.0
CO	--		39.0
VOC	--		2.0
TRS	8.0	12-hr block	--

[A-214-77-7-A, 9/2/08]

- C. The lime kiln shall not exceed a limit of 0.064 grains/dscf corrected to 10% O₂ for PM. Compliance with the particulate matter limits shall be demonstrated by stack testing performed once within a year of startup after installation of the project and upon request of the Department thereafter. [A-214-77-7-A, 9/2/08 and 40 CFR Part 63, Subpart MM]

- D. The lime kiln shall not exceed a NO_x limit of 120 ppmv corrected to 10% O₂ on a wet basis. Compliance with the NO_x limits shall be demonstrated by stack testing performed once within a year of startup after installation of the project and upon request of the Department thereafter in accordance with 40 CFR Part 60, Appendix A. [A-214-77-7-A, 9/2/08 and 06-096 CMR 138, NO_x RACT]
- E. The lime kiln shall not exceed a TRS limit of 8.0 ppmv corrected to 10% O₂ on a dry basis, measured as H₂S. Compliance with the TRS ppmv emission limit shall be determined on a 12-hr block average basis, as described in 40 CFR Part 60, Subpart BB and demonstrated by means of a CEMS on the lime kiln. The first four twelve (12)-hour block averages in a quarter which exceed either license limits or the emission standards of 06-096 CMR 124, Section 3(K) are not in violation of Chapter 124. [A-214-77-7-A, 9/2/08]
- F. The Mill shall continuously operate the Scrubber System on the emissions from the lime kiln. [A-214-77-7-A, 9/2/08]
- G. The Mill shall monitor and record the following for the lime kiln:

Parameter	Monitor	Record
scrubber media flowrate	continuously	once every 8 hours
scrubber media solids	once every 24 hours	once every 24 hours
NCGs combustion duration	continuously	continuously

[A-214-77-7-A, 9/2/08]

- H. The Mill is subject to and shall comply with the requirements of 40 CFR Part 60, Subpart A and Subpart BB for the lime kiln.[40 CFR Part 60, Subpart BB]
- I. The Mill is subject to and shall comply with the requirements of 40 CFR Part 63, Subpart A and Subpart MM for the lime kiln by the dates required by that Subpart. [40 CFR Part 63, Subpart MM]

The following Condition replaces Condition (28)(D) of Air Emission License A-214-70-A-I:

- D. Compliance with the particulate matter limits for Recovery Boiler C shall be demonstrated by stack testing performed once every five years. [A-214-77-8-M and 38 M.R.S.A 589, Subsection 2]

The following Condition replaces Condition (29)(B) of Air Emission License A-214-70-A-I:

- B. Compliance with the particulate matter limits for Smelt Tank C shall be demonstrated by stack testing performed once every five years. [A-214-77-78-M and 38 M.R.S.A 589, Subsection 2]

The following Condition replaces Condition (31)(E) of Air Emission License A-214-70-A-I:

- E. The Mill shall operate the Bleach Plant Scrubber System, when the Bleach Plant is in operation, in accordance with the requirements of 40 CFR 63, §63.445(c). [40 CFR 63, §63.445(b), 06-096 CMR 122 (except for stack testing frequency), 06-096, A-214-77-8-M, and 38 M.R.S.A 589, Subsection 2]

The following are new Conditions:

- (65) Relative Accuracy Test Audits (RATAs) shall be performed on the monitoring equipment for Boilers #3 and #5 in accordance with 06-096 CMR 117 unless the unit has not had 168 operating hours in a quarter, in which case that quarter shall be excluded in determining the deadline for the next RATA. If the RATA has not been completed by the end of the eighth calendar quarter since the quarter of the last RATA, a RATA must be completed within 720 operating hours following the end of the eighth successive elapsed calendar quarter. [A-214-77-8-M]

DONE AND DATED IN AUGUSTA, MAINE THIS 6th DAY OF October, 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *David P. Littell*
DAVID P. LITTELL, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-214-70-A-I.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 5/22/09

Date of application acceptance: 6/2/09

Date filed with the Board of Environmental Protection:

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

