



DEPARTMENT ORDER

**Sappi North America, Inc.**  
**Cumberland County**  
**Westbrook, Maine**  
**A-29-77-6-A**

**Departmental**  
**Findings of Fact and Order**  
**New Source Review**  
**NSR #6**

**FINDINGS OF FACT**

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

**I. REGISTRATION**

A. Introduction

FACILITY	Sappi North America, Inc.
LICENSE TYPE	06-096 C.M.R. ch. 115, Minor Modification
NAICS CODES	322121
NATURE OF BUSINESS	Paper Mill
FACILITY LOCATION	89 Cumberland Street, Westbrook, Maine

B. NSR License Description

Sappi North America, Inc. (Sappi) was issued New Source Review (NSR) license A-29-77-5-A (NSR #5) on August 21, 2020, for their "2020 Restructuring Project." This project includes the addition of two new natural gas-fired boilers (Boilers #22 and #23), the permanent shutdown of #9 Paper Machine, and expected reduction in utilization of Boilers #17, #18, and #21.

Sappi has determined that the 2020 Restructuring Project will also require the installation of a small, natural gas-fired make-up air unit (MAU #1). Therefore, Sappi has requested an amendment to NSR #5 to incorporate this emissions unit.

C. Emission Equipment

The following equipment is addressed in this NSR license:

**Fuel Burning Equipment**

<b>Equipment</b>	<b>Maximum Capacity (MMBtu/hr)</b>	<b>Maximum Firing Rate (scf/hr)</b>	<b>Fuel Type, % sulfur</b>	<b>Stack #</b>
Boiler #22	99.9 <sup>a</sup>	96,400 <sup>b</sup>	Natural Gas, negligible	22
Boiler #23	42.0 <sup>a</sup>	40,500 <sup>b</sup>	Natural Gas, negligible	23
MAU #1	2.75	2,656 <sup>b</sup>	Natural Gas, negligible	fugitive

<sup>a</sup> The maximum capacities listed are estimates. Each boiler shall not exceed 99.9 MMBtu/hr, and both boilers combined shall not exceed 150.0 MMBtu/hr.

<sup>b</sup> Based on a heating value of 1,037 Btu/scf (representative of the natural gas supplied).

D. Definitions

East-Side Boilers means Boilers #22 and #23 collectively.

West-Side Boilers means Boilers #17, #18, and #21 collectively.

E. Application Classification

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

The application for Sappi does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing, or recordkeeping requirements. MAU #1 is part of the 2020 Restructuring Project. As such, this NSR amendment will reassess the application classification for the entire project.

The modification of a major source is considered a major or minor modification based on whether or not expected emissions increases exceed the “Significant Emission Increase” levels as given in *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100. For a major stationary source, the expected emissions increase from each new, modified, or affected unit may be calculated as equal to the difference between the post-modification projected actual emissions and the baseline actual emissions for each NSR regulated pollutant.

1. Baseline Actual Emissions

Baseline actual emissions (BAE) for existing affected emission units are equal to the average annual emissions from any consecutive 24-month period within the ten years prior to submittal of a complete license application. The selected 24-month baseline period can differ on a pollutant-by-pollutant basis.

The West-Side Boilers and #9 Paper Machine are not required to be considered “affected” units since there will be no emissions increases from these units associated with the 2020 Restructuring Project. Therefore, there are no existing emission units which are considered “affected” by this project.

The only equipment addressed by this license are new emission units. Baseline actual emissions for new equipment are considered to be zero for all pollutants; therefore, the selection of a baseline year is unnecessary.

2. Projected Actual Emissions

New emission units must use potential to emit (PTE) emissions for projected actual emissions (PAE). Those emissions are presented in the following table.

**Projected Actual Emissions**

<b>Equipment</b>	<b>PM (tpy)</b>	<b>PM<sub>10</sub> (tpy)</b>	<b>PM<sub>2.5</sub> (tpy)</b>	<b>SO<sub>2</sub> (tpy)</b>	<b>NO<sub>x</sub> (tpy)</b>	<b>CO (tpy)</b>	<b>VOC (tpy)</b>
Boilers #22 & #23	3.3	3.3	3.3	0.7	23.7	25.0	2.6
MAU #1	0.6	0.6	0.6	–	1.2	1.0	0.1
<b>Total</b>	<b>3.9</b>	<b>3.9</b>	<b>3.9</b>	<b>0.7</b>	<b>24.9</b>	<b>26.0</b>	<b>2.7</b>

The PAE above assume Boilers #22 and #23 have a combined maximum heat input capacity of 150 MMBtu/hr. This is a conservative estimate as the two boilers are expected to have a combined heat input of less than 150 MMBtu/hr.

3. Emissions Increases

Emissions increases are calculated by subtracting BAE from the PAE. The emission increase is then compared to the significant emissions increase levels.

Pollutant	Baseline Actual Emissions (ton/year)	Projected Actual Emissions (ton/year)	Emissions Increase (ton/year)	Significant Emissions Increase Levels (ton/year)
PM	0	3.9	3.9	25
PM <sub>10</sub>	0	3.9	3.9	15
PM <sub>2.5</sub>	0	3.9	3.9	10
SO <sub>2</sub>	0	0.7	0.7	40
NO <sub>x</sub>	0	24.9	24.9	40
CO	0	26.0	26.0	100
VOC	0	2.7	2.7	40

4. Classification

Since emissions increases do not exceed significant emissions increase levels, this NSR license is determined to be a minor modification under *Minor and Major Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115. Sappi has submitted an application to incorporate the requirements of this NSR license into the facility's Part 70 air emission license.

**II. BEST PRACTICAL TREATMENT (BPT)**

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment 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 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts.

B. MAU #1

Sappi has proposed the installation of a new make-up air unit (MAU #1) to provide heat to the building and offset the combustion air drawn by Boilers #22 and #23. MAU #1 is rated at 2.75 MMBtu/hr and will fire natural gas.

1. BACT Findings

Following is a BACT analysis for control of emissions from MAU #1.

a. Particulate Matter (PM, PM<sub>10</sub>)

Sappi has proposed to burn only a low-ash content fuel (natural gas) in MAU #1. Additional add-on pollution controls are not economically feasible.

BACT for PM/PM<sub>10</sub> emissions from MAU #1 is the use of natural gas as a fuel and the emission limits listed in the table below.

b. Sulfur Dioxide (SO<sub>2</sub>)

Sappi has proposed to fire only natural gas, an inherently low-sulfur fuel. The use of this fuel results in minimal emissions of SO<sub>2</sub>, and additional add-on pollution controls are not economically feasible.

BACT for SO<sub>2</sub> emissions from MAU #1 is the use of natural gas. Emissions of SO<sub>2</sub> from this unit are determined to be negligible.

c. Nitrogen Oxides (NO<sub>x</sub>)

The use of add-on control technologies for a natural gas-fired unit of such a small size is not economically feasible.

BACT for NO<sub>x</sub> emissions from MAU #1 is the use of natural gas and the emission limits listed in the table below.

d. Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)

Emissions of CO and VOC can be reduced by using oxidation catalysts or thermal oxidizers. Oxidation catalysts and thermal oxidizers both have high capital, maintenance, and operational costs considering the size of the emission unit in question. These controls were determined to not be economically feasible.

BACT for CO and VOC emissions from MAU #1 is the use of natural gas and the emission limits listed in the table below.

e. Emission Limits

The BACT emission limits for MAU #1 were based on the following:

- PM/PM<sub>10</sub> – 0.05 lb/MMBtu based on 06-096 C.M.R. ch. 115, BACT
- SO<sub>2</sub> – 0.6 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
- NO<sub>x</sub> – 100 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
- CO – 84 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
- VOC – 5.5 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
- Visible Emissions – 06-096 C.M.R. ch. 115, BACT

The BACT emission limits for MAU #1 are the following:

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
MAU #1	0.14	0.14	0.27	0.22	0.01

2. Visible Emissions

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

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

Due to its size and not being a “steam generating unit,” MAU #1 is not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

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

MAU #1 does not meet the definition of either *boiler* or *process heater* in 40 C.F.R. § 63.7575. Therefore, MAU #1 is not subject to *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*, 40 C.F.R. Part 63, Subpart DDDDD.

C. Incorporation Into the Part 70 Air Emission License

Per *Part 70 Air Emission License Regulations*, 06-096 C.M.R. ch. 140 § 1(C)(8), for a modification at the facility that has undergone NSR requirements or been processed through 06-096 C.M.R. ch. 115, the source must apply for an amendment to their Part 70 license within one year of commencing the proposed operations, as provided in 40 C.F.R. Part 70.5. An application to incorporate the requirements of this NSR license amendment into the Part 70 air emission license has been submitted to the Department.

D. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee. Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantified fugitive emissions are not included. Quantified emissions calculations are based on the following:

- Operation of Boiler #21 at 100% for 8,760 hrs/yr plus operation of Boilers #17 and #18 for 876 hrs/yr (10% capacity) for PM/PM<sub>10</sub>, CO, and VOC;
- The combined permitted "not to exceed" numbers for SO<sub>2</sub> and NO<sub>x</sub> for Boilers #21, #17, and #18, as these are lower than the calculation method stated above;
- Boilers #22 and #23 not operating simultaneously with Boilers #17, #18, or #21 except for transitional periods;
- Unlimited operation of MAU #1;
- A 10% capacity factor for the Technology Center Boiler;
- Operating each generator for 100 hrs/yr;
- Maximum operation (100% load for 8,760 hrs/yr) of the fuel burning equipment associated with the coaters; and
- Maximum licensed VOC emissions for the coaters and Ultracast Roll Cleaning process.

Please note, this information provides the basis for fee calculation only and should not be construed to represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of this license.

**Total Licensed Annual Emissions for the Facility**  
**Tons/year**  
 (used to calculate the annual license fee)

	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Boilers #17, #18, #21, #22, & #23 (combined)	208.9	208.9	3,763.5	1,787.6	2,169.7	180.2
Technology Center Boiler	0.1	0.1	–	0.4	0.3	–
MAU #1	0.6	0.6	–	1.2	1.0	0.1
Engine #1	–	–	–	0.4	–	0.1
Engine #2	–	–	–	0.4	0.1	–
Engine #3	–	–	–	0.2	–	–
Engine #4	–	–	–	0.1	–	–
Engine #5	–	–	–	0.2	0.4	–
#35 Coater Dryer	1.7	1.7	–	3.3	2.8	0.2
#2 Coater 4 <sup>th</sup> Zone Dryer	0.9	0.9	–	2.6	2.1	0.2
#20 Coater 7 <sup>th</sup> Zone Dryer	0.9	0.9	–	1.7	1.4	0.1
#20 Coater Floatation Dryers	1.8	1.8	–	3.4	2.9	0.2
Catalytic Incinerator	4.0	4.0	–	4.4	7.8	–
#2 & #20 Coaters (combined)	–	–	–	–	–	139.7
Ultracast Roll Cleaning	–	–	–	–	–	2.0
<b>Total TPY</b>	<b>218.9</b>	<b>218.9</b>	<b>3,763.5</b>	<b>1,805.9</b>	<b>2,188.5</b>	<b>322.8</b>

**III. AMBIENT AIR QUALITY ANALYSIS**

Sappi previously submitted an ambient air quality analysis demonstrating that emissions from the facility, in conjunction with all other sources, do not violate National Ambient Air Quality Standards (NAAQS) or increment standards (see license A-29-71-AB-M, issued 7/17/1997).

The West-Side Boilers have significantly higher licensed emissions than the East-Side Boilers, and these two boiler groups cannot operate simultaneously except for transitional periods. Therefore, it is expected that the 2020 Restructuring Project will have a net positive effect on ambient air quality.



Since Boilers #22 and #23 may be replaced by different permanent units within the next three years, the Department has agreed to postpone requiring a new ambient air quality dispersion modeling analysis until these boilers are made permanent or are replaced. Therefore, by May 1, 2023, Sappi shall either submit an ambient air quality impact analysis for the facility as licensed or submit an application (including an ambient air quality impact analysis) to replace Boilers #22 and/or #23 or other license changes necessary to demonstrate compliance with all NAAQS and 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 New Source Review License Amendment A-29-77-6-A pursuant to the preconstruction licensing requirements of 06-096 C.M.R. ch. 115 and subject to the specific conditions below.

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

### SPECIFIC CONDITIONS

The following are New Conditions added to NSR License A-29-77-5-A:

(4) MAU #1

A. MAU #1 shall only fire natural gas. [06-096 C.M.R. ch. 115, BACT]

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

Emission Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
MAU #1	0.14	0.14	0.27	0.22	0.01

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

DONE AND DATED IN AUGUSTA, MAINE THIS 30<sup>th</sup> DAY OF NOVEMBER, 2020.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:  for  
MELANIE LOYZIM, ACTING COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 11/5/2020

Date of application acceptance: 11/5/2020

Date filed with the Board of Environmental Protection:

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

**FILED**  
NOV 30, 2020  
State of Maine  
Board of Environmental Protection