



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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**S.D. Warren Company
Cumberland County
Westbrook, Maine
A-29-77-4-A**

**Departmental
Findings of Fact and Order
New Source Review
NSR #4**

FINDINGS OF FACT

After review of the air emissions 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., Section 344 and Section 590, the Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	S.D. Warren Company
LICENSE TYPE	06-096 CMR 115, Minor Modification
NAICS CODES	322121
NATURE OF BUSINESS	Paper Mill
FACILITY LOCATION	89 Cumberland St Westbrook, Maine

Amendment Description

S.D. Warren Company (SDW) has requested a license amendment under 06-096 CMR 115, *Major and Minor Source Air Emission License Regulations* to address an improvement project for the #20 Coater and associated flotation dryer.

The #20 Coater improvement project consists of three primary activities.

1. SDW proposes to replace the existing rod/blade coating process with a new air knife system. The new air knife will be equipped with a new two-stage wet scrubber which will operate when any coating grade is applied by the new air knife.

The air stream from the wet scrubber will be tied into the existing catalytic incinerator. When the new air knife is running coatings containing 2.9 lbs VOC/gallon or more, the wet scrubber exhaust will also be controlled by the incinerator.

2. SDW proposes to convert the flotation dryer on #20 Coater from steam heat to natural gas burners. This will allow SDW to provide precision cure control prior to the stick conveyor drying tunnel and improve drying efficiency. The proposed flotation dryer will convey the web on two cushions of air heated by natural gas burners that will directly impinge on both sides of the web. The natural gas heaters will be capable of higher temperatures than the steam coils, resulting in more efficient heat transfer and lower overall energy consumption.
3. SDW proposes to tie the flotation dryer on #20 Coater into the catalytic incinerator such that dryer emissions will be controlled by the incinerator when running grades requiring control by the incinerator. This change will increase overall capture and control of VOCs from this process.

Application Classification

The application for SDW does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing or recordkeeping. This application does seek to modify a Best Available Control Technology (BACT) analysis performed per New Source Review.

Additionally, the modification of a major source is considered a major modification based on whether or not expected emissions increases exceed the "Significant Emission Increase Levels" as given in *Definitions Regulation*, 06-096 CMR 100 (as amended).

The emission increases are determined by subtracting the baseline actual emissions from the projected actual emissions. The results of this test are as follows:

Pollutant	Average Past Actual Emissions 11/09-10/11 (ton/year)	Projected Future Actual Emissions (ton/year)	Net Change (ton/year)	Significance Level (ton/year)
PM	0.13	1.9	+1.8	25
PM ₁₀	0.13	1.9	+1.8	15
SO ₂	Negligible	Negligible	Negligible	40
NO _x	1.8	5.2	+3.4	40
CO	1.3	4.2	+2.9	100
VOC	99.5	114.7	+15.2	40
CO ₂ e	2,046	6,138	+4,092	75,000

Note: The above numbers for fuel-burning emissions (PM, PM₁₀, SO₂, NO_x, CO and CO₂e) are conservatively based on licensed allowed levels. VOC emissions are based on past actual emissions and projected future levels as

described in Section II.B below. The above numbers are for #20 Coater. None of the other equipment at the facility is affected by this amendment.

Therefore, this amendment is determined to be a minor modification under *Minor and Major Source Air Emission License Regulations* 06-096 CMR 115 (as amended) since the changes being made are not addressed or prohibited in the Part 70 air emission license. An application to incorporate the requirements of this amendment into the Part 70 air emission license shall be submitted no later than 12 months from commencement of the requested operation.

II. APPLICABLE REQUIREMENTS

A. Paper Coating NESHAP

SDW is subject to 40 CFR Part 63, Subpart JJJJ, *National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating*.

Section 63.3310 defines “web coating line” as “any number of work stations, of which one or more applies a continuous layer of coating material across the entire width or any portion of the width of a web substrate, and any associated curing/drying equipment between an unwind or feed station and a rewind or cutting station.”

Section 63.3300 states that “The affected source subject to this subpart is the collection of all web coating lines at your facility.”

Section 63.3310 defines “existing affected source” as “any affected source the construction or reconstruction of which is commenced on or before September 13, 2000, and has not undergone reconstruction as defined in §63.2.”

Section 63.3310 defines “new affected source” as “any affected source the construction or reconstruction of which is commenced after September 13, 2000.”

Section 63.2 defines “reconstruction” as, in sum, the replacement of components of an affected source comprising 50% or more of the cost to completely replace the source with a comparable new unit.

The #20 Coater was constructed prior to September 13, 2000. The #20 Coater improvement project is anticipated to cost about \$2-3 million. The cost to replace #20 Coater alone is estimated at approximately \$25 million. The cost to replace all of the coating lines at the facility (e.g. the affected source) would be significantly greater. Therefore, this project does not reach the threshold to be considered a reconstruction and #20 Coater will continue to be considered an

existing affected source subject to all applicable requirements contained in 40 CFR Part 63, Subpart JJJJ.

B. Best Available Control Technology (BACT)

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 06-096 CMR 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

Replacement of Rod/Blade Coating Process with Air Knife

SDW anticipates that the #20 Coater improvement project will result in an approximate 15% increase in annual production. However, to meet BACT for the #20 Coater, SDW proposes to continue to maintain all applicable existing emissions limits contained in 06-096 CMR 123, *Paper Coating Regulation* and their current air emission license which include limiting VOC emissions to less than 2.9 lb VOC/gallon of coating applied and operating add-on pollution control equipment to reduce overall VOC emissions by 95% or to a rate equal to 4.8 lb VOC/gallon of solids applied when operating with a coating that contains greater than 2.9 lb VOC/gallon of coating applied.

Also, the components of the #20 Coater that are being modified will include upgraded controls including a new wet scrubber and tying the wet scrubber and flotation dryer emissions into the catalytic incinerator. SDW has not proposed the increase in any emission limit from the catalytic incinerator or the annual emission limit of 139.7 ton/year of VOC from the coating processes of #2 Coater and #20 Coater combined.

Installation of the wet scrubber, tying the scrubber and flotation dryers into the catalytic incinerator, control of these emissions by exhausting them to the incinerator as described above, in conjunction with previously licensed emission limits and conditions, is determined to be BACT for the replacement of the existing rod/blade coating process with a new air knife system.

New Flootation Dryer Burners

The #20 Coater improvement project includes the conversion of the flotation dryer on the #20 Coater from steam heat to natural gas burners. The flotation

dryer will be heated by two (2) 4.0 MMBtu/hr natural gas fired burners. BACT emission limits for the floatation dryer burners were based on the following:

- PM/PM₁₀ – 0.05 lb/MMBtu based on 06-096 CMR 115, BPT
- SO₂ – 0.6 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98
Therefore, lb/hr emissions are determined to be negligible and not included in this license.
- NO_x – 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
VOC emissions from this equipment fall under the combined TPY limit for #2 and #20 Coater. Therefore, a lb/hr limit for this equipment is not included in this license.

The BACT emission limits for the floatation dryer burners (combined) are the following:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)
#20 Coater Floatation Dryer Burners (combined)	0.40	0.40	0.78	0.65

C. Incorporation into the Part 70 Air Emission License

The requirements in this 06-096 CMR 115 New Source Review amendment shall apply to the facility upon amendment issuance. Per *Part 70 Air Emission License Regulations*, 06-096 CMR 140 (as amended), Section 1(C)(8), for a modification that has undergone NSR requirements or been processed through 06-096 CMR 115, the source must then apply for an amendment to the Part 70 license within one year of commencing the proposed operations as provided in 40 CFR Part 70.5.

D. Annual Emissions

SDW's annual license fee shall be based on the following annual emissions.

Total Annual Licensed Emissions for the Facility

(Annual licensed emissions are used to calculate license fees and are not license restrictions)

<u>Pollutant</u>	<u>Emissions in Tons/Year</u>						<u>Total</u>
	<u>#17, #18, #20 and #21 Boilers</u>	<u>Diesels #2 and #4</u>	<u>Tech. Center Boiler</u>	<u>#35 Research Coater Dryer</u>	<u>#20 Coater and Catalytic Incinerator</u>	<u>#2 Coater and 4th Zone Dryer</u>	
PM/PM ₁₀	523.0	37.7	0.2	0.4	6.37*	0.7	568.37
SO ₂	3763.3	0.2	0.02	0.03	0.06	0.1	3763.8
NO _x	1787.6	20.0	2.9	5.7	9.6	9.5	1,885.3
CO	2822.5	4.3	2.5	4.9	12.1	2.5	2,848.8
VOC	179.8	1.6	0.2	0.3	139.7 (combined)		321.6

*Note: 3.99 ton/year of the 6.24 ton/year is directly from the catalytic incinerator. The remaining amount is from the #20 Coater when it is operating on coated paper grades that do not require operation of the catalytic incinerator and from the burning of natural gas in the floatation dryer and 7th zone dryer.

III. AMBIENT AIR QUALITY ANALYSIS

SDW 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 amendment.

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-29-77-4-A pursuant to the preconstruction licensing requirements of 06-096 CMR 115 and subject to the standard and special conditions below.

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.

SPECIFIC CONDITIONS

- (1) SDW may modify and/or install the equipment described as part of the #20 Coater improvement project.
- (2) Emissions from the new air knife to be installed on #20 Coater shall be controlled by a new wet scrubber when the air knife applies any grade of coating. [06-096 CMR 115, BACT]
- (3) Natural Gas-Fired Floatation Dryer Burners on #20 Coater

A. Emissions from the natural gas-fired floatation dryer burners on #20 Coater shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
#20 Coater Floatation Dryer Burners	PM	0.05	06-096 CMR 115, BACT

B. Emissions from the natural gas-fired floatation dryer burners (combined) on #20 Coater shall not exceed the following [06-096 CMR 115, BACT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)
#20 Coater Floatation Dryer Burners (combined)	0.40	0.40	0.78	0.65

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- (4) SDW shall submit an application to incorporate this amendment into the Part 70 air emission license no later than 12 months from commencement of the requested operation. [06-096 CMR 140, Section 1(C)(8)]

DONE AND DATED IN AUGUSTA, MAINE THIS 6 DAY OF March, 2013.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Maia Allen Robert Case for
PATRICIA W. AHO, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 2/4/13

Date of application acceptance: 2/4/13

Date filed with the Board of Environmental Protection:

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

