S.D. Warren Company **Somerset County** **Skowhegan, Maine** **A-19-77-3-A**	**Departmental** **Findings of Fact and Order** **New Source Review** **Amendment #2**

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., § 344 and § 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	S.D. Warren Company (SDW)
CURRENT PART 70 LICENSE NUMBER	A-19-70-A-I
LICENSE TYPE	06-096 CMR 115, Minor Modification
NAICS CODES	322121
NATURE OF BUSINESS	Pulp & Paper Mill
FACILITY LOCATION	Skowhegan, Maine
NSR AMENDMENT ISSUANCE DATE	July 16, 2008

B. Amendment Description

S.D. Warren Company (SDW) is proposing to install a new emergency engine. Power Boiler #2 is exhausted through a stack made of an external concrete shell and an internal brick lined stack. Due to failure of the mortar in the brick stack, SDW will be removing the bricks and replacing this internal brick stack with a fiberglass re-enforced plastic (FRP) liner during the Summer of 2008.

During normal operation, the exhaust gases from Power Boiler #2 are reduced from approximately 450°F to 150°F by the existing spray tower SO_2 scrubber. In the event of scrubber failure, the new FRP liner could potentially be exposed to the 450°F boiler exhaust gases. Therefore, in order to protect the liner from thermal damage, it was determined that an emergency backup system was needed. The upper most shower level in the SO_2 Scrubber will be used as the dedicated level to deliver a backup water supply to cool the exhaust in the event of a scrubber malfunction. SDW proposes a new 755 Hp (3.4 MMBtu/hr) Cummings emergency diesel generator to power the pump to deliver water to the dedicated emergency shower level.

C. Emission Equipment

The following new equipment is addressed in this air emission license:

Electrical Generation Equipment

Equipment	**Power Output (Hp/kW)**	**Firing Rate (gal/hr)**	**Fuel Type**
SO_2 Scrubber Emerg Engine	755 / 563	24.3	non-road diesel

D. Application Classification

The application for SDW does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing or record keeping. This application does seek to address 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 (last amended December 1, 2005).

Pollutant	Emissions Increase (ton/year)	Significance Level (ton/year)
PM	0.1	25
PM_{10}	0.1	15
SO_2	0.1	40
NO_x	1.8	40
CO	1.1	100
VOC	0.1	40

The above numbers are for the SO_2 Scrubber Emergency Engine only. None of the other equipment at the facility is affected by this amendment. Therefore, this amendment is determined to be a minor modification under *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (last amended December 1, 2005) and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in 06-096 CMR 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 CMR 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. NSPS Generator

The SO_2 Scrubber Emergency Engine is an emergency generator.

Emergency Generator is defined as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary engines used to produce power for critical networks or equipment, including power supplied to portions of a facility, when reliable electric power from the normal power source is interrupted. This also includes stationary engines used to pump water in the case of fire or flood. Stationary engines used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

The SO_2 Scrubber Emergency Engine was purchased after July 11, 2005 and manufactured after April 1, 2006. Therefore, the SO_2 Scrubber Emergency Engine is subject to New Source Performance Standards 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*.

A summary of the BACT analysis for the SO_2 Scrubber Emergency Engine is the following:

1. The SO_2 Scrubber Emergency Engine shall fire only diesel fuel with a maximum sulfur content not to exceed 500 ppm.
2. Beginning October 1, 2010, the SO_2 Scrubber Emergency Engine shall fire only diesel fuel with a maximum sulfur content not to exceed 15 ppm.
3. The SO_2 Scrubber Emergency Engine shall be limited to 100 hr/yr of operation for maintenance checks and readiness testing. The SO_2 Scrubber Emergency Engine shall be limited to 500 hours per year of total operation.

Both of these limits are based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.

4. The SO_2 Scrubber Emergency Engine shall be equipped with a non-resettable hour meter.
5. PM, CO, and NO_x + VOC emission limits are based on emission limits set forth in 40 CFR 60, Subpart IIII.
6. SDW shall operate and maintain the SO_2 Scrubber Emergency Engine in accordance with the manufacturer's written instructions. SDW shall not change settings that are not approved in writing by the manufacturer.
7. Visible emissions from the SO_2 Scrubber Emergency Engine shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.
8. Visible emissions from the SO_2 Scrubber Emergency Engine shall not exceed:
   a. 20% during the acceleration mode;
   b. 15% during the lugging mode; and
   c. 50% during the peaks in either the acceleration nor lugging modes.

C. Total Licensed Annual Emissions

Total Licensed Annual Emission for the Facility (TPY)
(used to calculate the annual license fee)

	PM	**PM_{10}**	**SO_2**	**NO_x**	**CO**	**VOC**
Package Boiler	4.5	4.5	224.3	44.7	11.4	0.4
Power Boiler #1	963.6	963.6	3,258.7	1,309.6	9,942.6	60.0
Power Boiler #2	170.8	170.8	1,537.4	1,138.8	2,277.6	39.9
Recovery Boiler	906.7	906.7	8650.5	3,285.0	13,634.9	65.7
Smelt Tanks #1 &2	113.9	--	113.9	--	--	--
Lime Kiln	254.0	254.0	328.5	254.0	254.0	43.8
SO_2 Scrubber Emerg Engine	0.1	0.1	0.1	1.8	1.1	0.1
Total TPY	**2,413.6**	**2,413.6**	**14,113.3**	**6,033.9**	**26,121.7**	**209.9**

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-19-77-3-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.

The following are New Conditions:

(5) **SO_2 Scrubber Emergency Engine**

A. The SO_2 Scrubber Emergency Engine shall fire only diesel fuel with a maximum sulfur content not to exceed 500 ppm. [40 CFR 60.4207(a)]

B. Beginning October 1, 2010, the SO_2 Scrubber Emergency Engine shall fire only diesel fuel with a maximum sulfur content not to exceed 15 ppm. [40 CFR 60.4207(b)]

C. The SO_2 Scrubber Emergency Engine shall be limited to 100 hr/yr of operation for maintenance checks and readiness testing. The SO_2 Scrubber Emergency Engine shall be limited to 500 hours per year of total operation. Both of these limits are based on a 12 month rolling total. Compliance shall be demonstrated by a monthly written log of all generator operating hours as recorded by the non-resettable hour meter. [40 CFR 60.4211(E) and 06-096 CMR 115, BACT]

D. The SO_2 Scrubber Emergency Engine shall be equipped with a non-resettable hour meter. [40 CFR 60.4209(a)]

E. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
SO_2 Scrubber Emergency Engine	PM	0.08	06-096 CMR 115, BACT

F. Emissions shall not exceed the following [40 CFR 60.4205(b)]:

Emission Unit	PM (g/kW-hr)	NO_x + VOC (g/kW-hr)	CO (g/kW-hr)
SO_2 Scrubber Emergency Engine	0.20	6.4	3.5

G. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x + VOC (lb/hr)	CO (lb/hr)
SO_2 Scrubber Emergency Engine	0.25	0.25	0.17	7.94	4.34

H. SDW shall operate and maintain the SO_2 Scrubber Emergency Engine in accordance with the manufacturer's written instructions. SDW shall not change settings that are not approved in writing by the manufacturer. [40 CFR 60.4211(a)]

I. Visible emissions from the SO_2 Scrubber Emergency Engine shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

J. Visible emissions from the SO_2 Scrubber Emergency Engine shall not exceed:
   a. 20% during the acceleration mode;
   b. 15% during the lugging mode; and
   c. 50% during the peaks in either the acceleration or lugging modes.
   [40 CFR 60.4205(b)]

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2008.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
DAVID P. LITTELL, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 6/23/08
Date of application acceptance: 6/24/08

Date filed with the Board of Environmental Protection: _____

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