



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

**Red Shield Acquisition, LLC
Penobscot County
Old Town, Maine
A-180-77-2-A**

**Departmental
Findings of Fact and Order
New Source Review
Amendment #1**

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 finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Red Shield Acquisition, LLC (Red Shield)
PART 70 LICENSE NUMBER	A-180-70-A-I
LICENSE TYPE	06-096 CMR 115 Minor Modification
NAICS CODES	322110 Wood Pulp Manufacturing 221119 Electric Power Generation
NATURE OF BUSINESS	Pulp Manufacturing
FACILITY LOCATION	Old Town, Maine
PART 70 LICENSE ISSUANCE DATE	December 2, 2009
NSR AMENDMENT ISSUANCE DATE	January 29, 2010

B. Amendment Description

Red Shield has submitted an amendment to allow the firing of natural gas in the #4 Recovery Boiler.

C. Emission Equipment

This amendment addresses an addition to the allowable fuel in the #4 Recovery Boiler. The #4 Recovery Boiler capacity is 2.57 MM lb/day firing black liquor solids and 375 MMBtu/hr firing #6 fuel oil, #2 fuel oil, and/or diesel fuel. The controls on the #4 Recovery Boiler include an electrostatic precipitator.

D. Application Classification

The application for the addition of natural gas to the #4 Recovery Boiler does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing or record keeping.

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PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
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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 24, 2005).

The emission increases are determined by subtracting the average past actual emissions from the future actual emissions. The facility has gone through various owners and shutdowns over the recent years. Because of this, 2009 was the most representative year for current actual emissions. The past and future actual emission were calculated using emission factors from the Webfire database for fuel oil and natural gas and, where applicable, site-specific data. The results of this comparison are as follows:

Pollutant	Average Past 2009 Actuals (ton/year)	Future Actuals (ton/year)	Net Change (ton/year)	Significance Level (ton/year)
PM	23	18.8	- 4.2	25
PM ₁₀	23	19.7	- 3.3	15
SO ₂	100	36.2	- 63.8	40
NO _x	355	341.9	- 13.1	40
CO	55	61.9	+ 6.90	100
VOC	63	62.7	- 0.30	40

Note: The above numbers are for the #4 Recovery Boiler only. None of the other equipment at the facility is affected by this amendment.

This amendment is classified as a minor modification under *Minor and Major Source Air Emission License Regulations* 06-096 CMR 115 (last amended December 24, 2005) since the changes being made are not addressed or prohibited in the Part 70 license. This amendment will be incorporated into the Part 70 air emission license no later than 12 months from commencement of the requested operation.

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 (last amended December 24, 2005). 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. Natural Gas in the #4 Recovery Boiler

Red Shield is requesting a license amendment to fire natural gas in the #4 Recovery Boiler. The unit currently fires black liquor solids during normal operations and is licensed to fire #6 fuel oil, #2 fuel oil, and/or diesel as auxiliary fuel for startup, operation stabilization, and shutdown. The #4 Recovery Boiler is currently only equipped with fuel guns capable of firing black liquor and fuel oil. To fire natural gas, two gas burners and the associated piping will be installed, which would allow natural gas to be fired to meet 85% of the typical amount of auxiliary fuel needed. Three additional burners will likely be installed at a future date to meet 100% of the auxiliary fuel needs. The calculations in this amendment were based on firing natural gas for 100% of the auxiliary fuel needs.

Red Shield has not proposed any increase in #4 Recovery Boiler licensed emission limits, either short term or annual. The facility is requesting that the existing 12 month rolling total heat input from fuel oil (approximately 552 billion Btu/yr) be revised to allow for the sum of natural gas and fuel oil usage.

BACT for firing natural gas in recovery boilers is the use of good combustion control, based on similar licensed sources and information in EPA's RACT/BACT/LAER Clearinghouse listings. Based on a comparison of criteria pollution emission factors from boilers firing oil and boilers firing natural gas, all factors are lower for natural gas except for CO which is only slightly higher.

The Department approves allowing the firing of natural gas in the #4 Recovery Boiler. The current license requirements in Air Emission License A-180-70-A-I will continue to apply, including: recordkeeping of the type and amount of fuel consumed; operation of continuous emission monitors for SO₂, NO_x, O₂, CO, and TRS; operation of a continuous opacity monitor; and a heat input limit of 551,868,945,768 Btu/yr from auxiliary fuel. The lb/hr short term limits listed for the fuel oil (non-black liquor firing) shall also apply when firing natural gas.

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 (last amended December 24, 2005), Section 2(J)(2)(d), 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

No licensed increases are occurring as a result of this amendment.

II. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a minor modification shall be determined on a case-by case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

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-180-77-2-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) #4 Recovery Boiler

- A. Red Shield may fire natural gas in the #4 Recovery Boiler. [06-096 CMR 115] **Enforceable by State-only**

- B. Natural gas, #6 fuel oil, #2 fuel oil or diesel fuel may be fired alone in the #4 Recovery Boiler to generate steam for a total heat input not to exceed 375 MMBtu/hr, demonstrated by fuel flow meter records and heat contents of the fuel(s). The #4 Recovery Boiler shall be limited to firing up to 551,868,945,768 Btu/year from fuel oil or natural gas based on a 12 month rolling total basis in addition to black liquor. Red Shield shall maintain records of monthly and 12 month rolling total Btu use by the quantity, type of fuel consumed, and the heat content of the fuel (s). [06-096 CMR 115 and A-180-70-A-I, 2009]. **Enforceable by State-only**
- C. Emissions from the #4 Recovery Boiler shall not exceed the following limits when firing auxiliary non-black liquor solids fuel (fuel oil or natural gas):

Pollutant	lb/hr	Compliance Method
PM	37.4	Stack Test (upon request)
PM ₁₀	37.4	Stack Test (upon request)
SO ₂	196.5	Stack Test (upon request)
NO _x	188.2	Stack Test (upon request)
CO	312.7	Stack Test (upon request)
VOC	19.4	Stack Test (upon request)

[06-096 CMR 115 and A-180-70-A-I, 2009] **Enforceable by State-only**

DONE AND DATED IN AUGUSTA, MAINE THIS 29th DAY OF January, 2010.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Little
DAVID P. LITTELL, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: November 23, 2009

Date of application acceptance: November 23, 2009

Date filed with the Board of Environmental Protection:

This Order prepared by Kathleen E. Tarbuck, Bureau of Air Quality.

