



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

Red Shield Environmental LLC
Penobscot County
Old Town, Maine
A-180-77-1-A

Departmental
Findings of Fact and Order
Regional Haze
Best Available Retrofit Technology
Determination

After 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, §582, §590 and §603, the Department finds the following facts:

I. REGISTRATION

A. Introduction

| | |
|-----------------------------|--|
| FACILITY | Red Shield Environmental, LLC (Red Shield) |
| LICENSE TYPE | BART Determination |
| NATURE OF BUSINESS | Pulp and Paper Manufacturing |
| FACILITY LOCATION | Old Town, Maine |
| DETERMINATION ISSUANCE DATE | November 29, 2007 |

Best Available Retrofit Technology (BART) is defined in 38 MRSA §582, sub-§5-C as an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each visibility-impairing air pollutant that is emitted by an existing stationary facility. The emission limitation must be established, on a case-by-case basis, taking into consideration the technology available, the costs of compliance, the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility that may reasonably be anticipated to result from the use of such technology.

A facility is determined to have BART eligible emission units if the following criteria outlined in the Regional Haze Rule found in 40 CFR, Part 51 are met:

AUGUSTA

17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR

106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND

312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE

1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

1. The facility falls into one the 26 source specific categories identified in the Clean Air Act (CAA) of 1977,
2. The facility has emission units that entered operation in the 15 years prior to the adoption of the CAA, and
3. The facility has the potential to emit more than 250 tons/year of a single visibility impairing pollutant from units that fall under criteria #2.

Per 38 MRSA §603-A, sub-§8; for those BART eligible units determined by the Department to require additional sulfur air pollution controls to improve visibility, the controls must:

1. Be installed and operational no later than January 1, 2013; and
2. Either:
 - a. Require the use of oil having 1% or less of sulfur by weight; or,
 - b. Be equivalent to a 50% reduction in sulfur dioxide emissions from a BART eligible unit based on a BART eligible unit source emission baseline determined by the Department under 40 CFR, Section 51.308 (d)(3)(iii)(2006) and 40 CFR, Section 51, Appendix Y (2006).

B. Emission Equipment

The following emission units are determined to be BART eligible under 40 CFR, Section 51:

| CAA Source Specific Category | Emission Unit | Unit Capacity | Date of Start-up |
|------------------------------|--------------------|--|-----------------------|
| Kraft Mill (category 3) | #4 Recovery Boiler | 2.57 MM lb/day black liquor solids, 375 MMBtu/hr firing #6 fuel oil | 1971, rebuilt 1987 |
| | Lime Kiln | 64 MMBtu/hr burner | 1974 |

II. EMISSION UNITS AND CONTROL EQUIPMENT DESCRIPTIONS

A. #4 Recovery Boiler

The #4 Recovery Boiler, manufactured by Babcock & Wilcox was originally installed in 1971, however, in June of 1987, a smelt bed explosion damaged the boiler. The #4 Recovery Boiler was repaired and returned to operation by

December of 1987. The #4 Recovery Boiler has the capability of firing black liquor, either alone or in combination with #6 fuel oil and is limited to firing 2.57 MMlbs of black liquor solids per day. The total heat input capacity of firing #6 fuel alone in the boiler is 375 MMBtu/hr (2500 gal/hr).

A dry bottom electrostatic precipitator (ESP) controls particulate matter from the unit. The Recovery Boiler monitors include SO₂, NO_x, opacity, and black liquor fired.

BART Determination

Particulate Matter (PM)

Red Shield shall operate the #4 Recovery Boiler and the ESP to meet a particulate limit of 0.028 gr/dscf corrected to 8% O₂.

Sulfur Dioxide (SO₂)

The SO₂ emission limit when firing black liquor shall not exceed 100 ppm on a dry basis corrected to 8% O₂ from the #4 Recovery Boiler.

Nitrogen Oxides (NO_x)

Red Shield shall use good combustion practices to control NO_x emissions to 150 ppm on a dry basis corrected to 8% O₂ from the #4 Recovery Boiler.

Volatile Organic Compounds (VOC)

Red Shield shall use good combustion practices to meet the VOC emission limit of 17.9 lb/hr from the #4 Recovery Boiler.

BART Implementation

The BART determination for the #4 Recovery Boiler is currently required in existing air emission licenses. No additional implementation is necessary at this time.

B. Lime Kiln

The Lime Kiln was installed in 1974 and is controlled with a venturi scrubber system. The Lime Kiln burner has a rating of 64 MMBtu/hr and fires primarily #6 fuel oil with 2% sulfur. Propane is used only for the pilot flame. Low volume high concentration (LVHC) gases are also fired in the Lime Kiln.

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BART Determination

Particulate Matter (PM)

Red Shield shall operate the Lime Kiln and the venturi scrubber system to meet a particulate limit of 0.13 gr/dscf corrected to 10% O₂.

Sulfur Dioxide (SO₂)

Red Shield shall not exceed a SO₂ emission limit of 7.1 lb/hr from the Lime Kiln. The lime mud is an effective medium to scrub SO₂ emissions.

Nitrogen Oxides (NO_x)

Red Shield shall use good combustion practices to control NO_x emissions to 170 ppm on a dry basis corrected to 10% O₂ from the Lime Kiln.

Volatile Organic Compounds (VOC)

Red Shield shall use good combustion practices to meet the VOC emission limit of 1.2 lb/hr from the lime kiln.

BART Implementation

The BART determination for the Lime Kiln is currently required in existing air emission licenses. No additional implementation is necessary at this time.

ORDER

The Department hereby finds that Red Shield is meeting the requirements of 40 CFR Part 51; 38 MRSA §582, sub-§5-C; and 38 MRSA §603-A, sub-§8 as currently licensed.

DONE AND DATED IN AUGUSTA, MAINE THIS 29th DAY OF November, 2007.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date filed with the Board of Environmental Protection:

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

