**Woodland Pulp LLC**
**Washington County**
**Baileyville, Maine**
**A-215-77-7-A**

**Departmental**
**Findings of Fact and Order**
**New Source Review**
**NSR #7**

## FINDINGS OF FACT

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., Section 344 and Section 590, the Maine Department of Environmental Protection (the Department) finds the following facts:

## I. REGISTRATION

### A. Introduction

| | |
|---|---|
| FACILITY | Woodland Pulp LLC |
| LICENSE TYPE | 06-096 CMR 115, Minor Modification |
| NAICS CODES | 322121 |
| NATURE OF BUSINESS | Pulp Production |
| FACILITY LOCATION | 144 Main Street, Baileyville, Maine |

### B. New Source Review (NSR) License Description

Woodland Pulp LLC (Woodland Pulp) has applied for a New Source Review (NSR) Minor Modification License to permit modification of the facility's existing bleach plant to identify and operate alternate bleaching process scenarios.

### C. Emission Equipment

The following equipment is addressed in this air emission license:

| Equipment | Production Rate | Primary Raw Materials | Pollution Control Equipment |
|---|---|---|---|
| Bleach Plant | supports production of approximately 400,000 ADTP/year | Unbleached Pulp, $ClO_2$, NaOH, $O_2$, Hydrogen Peroxide, oxidized white liquor | Bleach Plant Scrubber |

D. Application Classification

The application for the modification of the bleach plant to identify and operate alternate bleaching process scenarios does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing, or recordkeeping requirements. This application does not seek to modify a Best Available Control Technology (BACT) analysis performed per New Source Review.

A modification at a source is identified as major or minor 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). Regulated pollutants emitted from Woodland Pulp's bleaching system include chlorinated compounds (chlorine, $Cl_2$, and chlorine dioxide, $ClO_2$), which are part of the chlorinated hazardous air pollutants (HAPs) category. For this project, because Bleach Plant emissions are and shall continue to be controlled by the Bleach Plant Scrubber, emissions are not projected to change for any of the pollutants emitted from the bleaching process.

Because emissions are not expected to change, this modification 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 NSR license into the Part 70 air emission license shall be submitted 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 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 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts. Before presenting the BACT determination, specifics of the project are described in the following paragraphs.

To produce high quality, stable paper pulps, the industry utilizes bleaching methods to remove lignin from the pulp. Effective bleaching is achieved through a continuous sequence of process stages utilizing certain chemicals and conditions in each stage. Woodland Pulp is currently licensed to operate a bleach plant to support mill production of approximately 400,000 ADTP per year. The facility's bleaching configuration was previously licensed with the following delignification[1] and extraction[2] phases: Do-E1p-D1-E2-D2p. Chlorine dioxide, generated on-site, is used as a bleaching agent, with no elemental chlorine used in the process. Hydrogen peroxide (P) is used to reinforce the alkaline extraction stage. Vent gases from the towers, washers, and seal tanks in the Bleach Plant where chlorinated bleaching chemical is applied and from the $ClO_2$ Generation System are conveyed to a packed-bed scrubber for treatment.

[1] Delignification is the detachment of lignin from the desired pulp product, represented in the bleaching sequence notation as D.

[2] Extraction is the removal of the lignin portion of the mix, represented in the bleaching sequence notation as E.

Woodland Pulp has proposed to reconfigure the bleaching system in such a way as to reduce overall operating costs, energy consumption, and environmental impacts while still attaining the quality characteristics required of the product. The planned bleaching system process changes may utilize oxygen and/or oxidized white liquor, in addition to sodium hydroxide, chlorine dioxide, and hydrogen peroxide, with the intent to replace some of the chlorinated compounds historically used in the bleaching process with oxygen or oxidized white liquor and gain the ability to recycle more of the extracted lignin into the recovery process.

The exact bleaching process sequence shall be determined through a series of trials to be conducted at the facility starting in early August of 2013 and extending for a 90-day trial period. After the 90-day trial is complete, the reconfiguration of the bleaching sequence will then be considered in operation, at which time Woodland Pulp shall have 180 days to complete emissions testing to demonstrate compliance with the initial performance testing requirements of 40 CFR Part 63, Subpart A §63.7.

The reconfigured bleaching sequence will include a white liquor oxidizer into which the facility will pipe white liquor, cooling water, and air. The exothermic oxidation reaction will yield hot, oxygenated white liquor, to be added to a stage in the bleaching process. Woodland Pulp will use the Kappa value of the pulp as one of the parameters to identify successful bleaching sequence scenarios. The Kappa number correlates to the lignin content of the pulp, which informs the amount of bleaching needed to achieve the target pulp brightness.

B. Regulatory Requirements

The facility shall continue to comply with $Cl_2$ and $ClO_2$ emission limits, periodic monitoring, and emissions testing requirements as specified in air emission license A-215-70-I-R/A (issued November 18, 2011) for the Bleach Plant and Chlorine Dioxide Generation System. Requirements applicable to the changes made to the bleaching process are presented in the following paragraphs.

1. 40 CFR Part 63, Subpart S

Bleach plants at kraft pulp mills are subject to the requirements of 40 CFR Part 63, Subpart S, *Standards for Hazardous Air Pollutants from the Pulp and Paper Industry.* Standards for the bleaching system, including the changes made as a part of this project, are specified under this subpart at §63.445. According to Subpart S, the bleaching system includes all process equipment after high-density pulp storage prior to the first application of oxidizing chemicals or reducing chemicals following the pulping system, up to and including the final bleaching stage. All changes made to the bleaching sequence as part of the trials authorized by this NSR license shall occur within the process equipment included in the "bleaching system" definition of Subpart S §63.441. Any process modification(s) identified during this trial process which fall(s) outside the "bleaching system" definition shall be addressed in a licensing action as appropriate for the potential modification(s).

Per Subpart S §63.445, the equipment at each bleaching stage where chlorinated compounds are introduced shall be enclosed and vented into a closed-vent system and routed to a control device. The control device used to reduce chlorinated HAP emissions (not including chloroform) from the bleach plant shall comply with one of the following:

(a) Reduce the total chlorinated HAP mass in the vent stream entering the control device by $\geq$ 99% by weight;
(b) Achieve a treatment device outlet concentration of $\leq$ 10 ppm by volume of total chlorinated HAP; or
(c) Achieve a treatment device outlet mass emission rate of 0.002 pounds of total chlorinated HAP mass per ton of ODP.

The enclosures and closed-vent system shall meet the requirements specified in 40 CFR §63.450.

Woodland Pulp complies with the guidelines to reduce chloroform emissions as specified in §63.445(d) by not using hypochlorite or chlorine for bleaching in the bleaching system. [40 CFR Part 63, Subpart S, §63.445(d)(2)]

Woodland Pulp is currently complying and shall continue to comply with the emission limitations as specified in Subpart S.

2. Best Available Control Technology (BACT)

The Department finds that compliance with the standards and requirements of 40 CFR Part 63, Subpart S as applicable to the Bleaching System constitutes BACT for emissions from the system.

C. Incorporation into the Part 70 Air Emission License

The requirements in this 06-096 CMR 115 New Source Review license shall apply to the facility upon NSR license 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

This minor modification will not result in any change to the annual emission limits contained in Woodland Pulp's Part 70 Air Emission License or any subsequently issued NSR licenses or amendments.

## III. AMBIENT AIR QUALITY ANALYSIS

Woodland Pulp 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 (License A-215-71-AC-A, dated October 6, 1999). Based on review of that demonstration, the Department finds an additional ambient air quality analysis is not required for this minor modification.

## 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, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants NSR Air Emission License A-215-77-7-A pursuant to the preconstruction licensing requirements of 06-096 CMR 115 and subject to the specific 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) Woodland Pulp is licensed to modify the existing bleaching system to identify and operate alternate bleaching process scenarios, in accordance with the following:

A. Woodland Pulp is authorized to conduct a series of trials on the bleaching system, as defined in 40 CFR Part 63, Subpart S §63.441, starting in August 2013 and extending for a 90-day trial period.

The facility shall notify the Department of the date upon which the trials will commence and the corresponding date of conclusion for the 90-day trial period.

Any process modification(s) identified during this trial process which fall(s) outside the "bleaching system" definition cited above shall be addressed in a licensing action as appropriate for the potential modification(s).

B. After the 90-day trial period has concluded, the reconfigured bleaching sequence shall be considered to be in operation. No later than 180 days from the date the reconfigured bleaching sequence is in operation, Woodland Pulp shall complete testing in accordance with initial performance testing requirements of 40 CFR Part 63, Subpart A §63.7.

C. Woodland Pulp shall identify, in written documentation to the Department, the bleaching system's alternate bleaching process scenario(s) within 30 days of the conclusion of the 90-day trial period.

[40 CFR Part 63, Subparts A and S; and 06-096 CMR 115, BACT]

(2) The facility shall comply with the applicable emissions standards of 40 CFR Part 63, Subpart S §63.445, monitoring requirements of §63.453, recordkeeping requirements of §63.454, and reporting requirements of §63.455.

(3) Woodland Pulp shall submit an application to incorporate this NSR license and the bleaching system's reconfigured bleaching process scenario(s) 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 5 DAY OF July , 2013.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Mara Allen Robert Cove for
PATRICIA W. AHO, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: April 4, 2013
Date of application acceptance: April 4, 2013

Date filed with the Board of Environmental Protection:

This Order prepared by Jane E. Gilbert, Bureau of Air Quality.

Filed
JUL - 8 2013
State of Maine
Board of Environmental Protection