



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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**Verso Bucksport, LLC
Hancock County
Bucksport, Maine
A-22-77-6-M**

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

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	Verso Bucksport LLC (Verso Bucksport)
LICENSE TYPE	Chapter 115 Minor Revision
NAICS CODES	322121 (pulp mill producing paper)
NATURE OF BUSINESS	Groundwood and thermomechanical pulp, papermaking
FACILITY LOCATION	Main Street, Bucksport, Maine
NSR AMENDMENT ISSUANCE DATE	June 30, 2011

B. Application Description

Verso Bucksport has submitted a minor revision to clarify the Boiler 8 start-up and 'shake-down' period in air emission license amendment A-22-77-4-A (issued November 29, 2010). Amendment A-22-77-4-A was a major modification which addressed an increase in the biomass feed rate for Boiler 8 and allows for the new lb/MMBtu limits to take effect 9 months from the startup of the upgraded boiler. This minor revision clarifies the effective timeframe to be 6 months from the installation of the new steam turbine generator associated with the modification. Boiler 8 will be operating at reduced loads until the turbine comes online, at which time steam use can be maximized and the upgraded Boiler 8 will be brought up to full load.

C. Emission Equipment

The equipment addressed in this air emission license is the 814 MMBtu/hr multi-fuel Boiler 8 which is to be modified to allow an increase in biomass feed rate per

air emission license amendment A-22-77-4-A. The modification also includes the installation of a 25 MW steam turbine.

D. Application Classification

The application for Verso Bucksport does not seek to change any emission limits, control technology requirements, or recordkeeping and reporting requirements. The purpose of the application is solely to clarify the timeframe the new Boiler 8 lb/MMBtu emission limits become effective.

The application has been classified as a minor revision amendment has been processed under *Minor and Major Source Air Emission License Regulations* 06-096 CMR 115 (as amended). The clarifications being made are not prohibited in the Part 70 air emission license.

II. MINOR REVISION DESCRIPTION

Verso Bucksport was issued air emission license amendment A-22-77-4-A allowing modifications to Boiler 8 to increase biomass usage, resulting in additional steam production to be used in a new 25 MW steam turbine generator. License amendment A-22-77-4-A set forth a timeframe for the new Boiler 8 lb/MMBtu emission limits to become effective nine months after the boiler upgrades are completed. The lb/hr limits are effective at the startup of the upgraded boiler.

Verso Bucksport requested a revision to the timeframe in order to address the phased implementation of the project. It is expected that the boiler will be modified to increase biomass firing by the end of November 2011. The second phase of the project involves the delivery, installation, and check-out of the steam turbine generator. The earliest delivery for the new turbine is expected to be by the end of March 2012, with the installation and check-out to be complete by the end of August 2012.

Prior to the new steam turbine being installed, Boiler 8 will operate at greatly reduced loads due to low process steam demand. Most of the process steam demand is currently being met with the operation of the existing gas turbine. The new steam turbine will both increase the facility's overall steam demand and increase the facility's electricity production. However, until the new steam turbine is in place, Verso Bucksport has limited ability to fire the boiler at full load (occasionally for a day or two at a time) unless the extra steam is vented. Additionally, even if the boiler was operated at full load it could only occur for a limited number of hours since steam cannot be vented during the night due to noise issues with the residents.

Verso Bucksport has requested that the new lb/MMBtu emission limits for Boiler 8 be effective 6 months after the new steam turbine is in full operation (after installation

and full check out is complete). This will allow for the facility to fine tune the boiler at full load. Verso Bucksport intends to continue to minimize the boiler emissions in the transition period prior to turbine installation.

The Department approves revising condition (2)(D) in air emission license amendment A-22-77-4-M to allow for the Boiler 8 lb/MMBtu emission limits to take effect 6 months after the new steam turbine is in full operation. This allows Boiler 8 to be operated and fine tuned at full load, and under varying seasonal fuel types and steam demand. The timeframe revision does not change any other facility requirements, including the lb/hr emission limits which are effective at startup of the upgraded boiler.

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-22-77-6-M 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

The following shall replace condition (2) in air emission license A-22-77-4-A (issued November 29, 2010):

(2) Boiler 8 Requirements

These conditions shall be effective once Boiler 8 starts up after the upgrades have been completed, unless otherwise noted.

A. Verso Bucksport is licensed to fire the following fuels in boiler 8 (814 MMBtu/hr): fuel oil (including fuel oil, off-specification waste oil, and specification waste oil), natural gas, and biomass (including wood waste, wood chips, bark, mill waste treatment sludge, paper roll core ends, and waste papers).

1. The fuel oil sulfur content shall not exceed 0.7% by weight, demonstrated through record keeping.
2. Verso Bucksport shall not exceed a fuel oil usage of 1.5 million gallons per year in Boiler 8, based on a 12 month rolling total. Compliance shall be demonstrated through recordkeeping on a monthly and 12 month rolling total.

[MEDEP Chapter 115, BACT]

B. Verso Bucksport shall control particulate matter emissions from Boiler 8 with the operation and maintenance of a multicyclone followed by an electrostatic precipitator (ESP). The ESP is not required to be operated when firing only natural gas in Boiler 8. [06-096 CMR 115, BACT]

C. Verso Bucksport shall control nitrogen oxide emissions from Boiler 8 with the operation and maintenance of an SNCR system. [MEDEP Chapter 115, BACT]

D. Emissions from Boiler 8 shall not exceed the following, with the lb/MMBtu limits effective 6 months after the new steam turbine is in operation, with operation being defined as after completion of installation and check-out, (the existing limits shall apply until that time) and the lb/hr limits effective at startup of the upgraded boiler:

	lb/MMBtu	Origin and Authority
PM	0.03	MEDEP 06-096 CMR 115, BACT
SO ₂	0.80 (3-hr rolling ave)	40 CFR §60.43
NO _x	0.15 (30 day rolling ave)	MEDEP 06-096 CMR 115, BACT
CO	0.30 (30 day rolling ave)	MEDEP 06-096 CMR 115, BACT

Pollutant	lb/hr	Origin and Authority
PM	24.4	MEDEP 06-096 CMR 115, BACT
PM ₁₀	24.4	MEDEP 06-096 CMR 115, BACT
SO ₂	651.2	MEDEP 06-096 CMR 115, BACT
NO _x	244.2	MEDEP 06-096 CMR 115, BACT
CO	435 (24-hr block ave)	MEDEP 06-096 CMR 115, BACT
VOC	40.7	MEDEP 06-096 CMR 115, BACT

E. Opacity

1. Verso Bucksport shall operate Boiler 8 such that visible emissions from the stack does not exceed 20% opacity on a six (6) minute block average basis, except one (1) six (6) minute block average in a 1-hour block period of not more than 27% opacity. [40 CFR § 60.42]
2. Verso Bucksport shall use an indicator set point of 10% opacity at which level an inspection of the particulate control parameters of the multiple centrifugal cyclones and ESP will be initiated when an opacity reading of greater than 10% for ten consecutive six-minute block average periods is reached. An opacity reading of greater than 10% for ten consecutive six-minute block average periods will be considered an excursion that shall be reported in the quarterly report, along with corrective action taken. This requirement shall not apply during startup, shutdowns, and malfunctions. [06-096 CMR 115]

F. Ammonia emissions shall not exceed 40 ppm from startup of the upgraded boiler until 24 months later when the limit shall be 20 ppm. Compliance with the ammonia limit shall be demonstrated by a stack test within 12 months of start of operation of the SNCR system, again within 24 months of the initial test, and by request thereafter. The stack test shall be performed in accordance with the appropriate 40 CFR Part 60, Appendix A Method or other method as approved by EPA and the Department. [06-096 CMR 115, BACT]

G. Compliance with the opacity limit on the Boiler 8 stack shall be demonstrated by a continuous opacity monitoring system (COM) and the COM shall be maintained and operated in accordance with 06-096 CMR 117 (as amended) and 40 CFR §60.45. [40 CFR §60.45 and 06-096 CMR 117]

H. Verso Bucksport shall perform stack tests every other year on Boiler 8 to determine compliance with the PM emission limits (lb/MMBtu and lb/hr). The first stack test shall occur within 12 months of the start of operation of the upgraded boiler. The stack tests shall be performed in accordance with 40 CFR Part 60, Appendix A, Method 1-5 or other method as approved by EPA and the Department. [MEDEP 06-096 CMR 115, BACT]

Verso Bucksport shall perform two PM_{2.5} stack tests within a 16 month period after the start of operation of the upgraded boiler. The stack tests shall be performed in accordance with the appropriate EPA method or other method as approved by EPA and the Department. Verso Bucksport shall submit an amendment application to the Department which shall include a proposed PM_{2.5} limit for the boiler within 6 months of the last test date. [MEDEP 06-096 CMR 115, BACT]

- I. Compliance with the SO₂ lb/MMBtu emission limits for Boiler 8 shall be on a 3-hr rolling average, demonstrated by an SO₂ CEMS. [40 CFR Part 60.45]. Verso Bucksport shall maintain the SO₂ CEMS in accordance with 06-096 CMR 117 (as amended), and 40 CFR Part 60, Section 60.45. [MEDEP 06-096 CMR 117 and 40 CFR §60.45]
- J. Compliance with the NO_x lb/MMBtu emission limits for Boiler 8 shall be on a 30 day rolling average, demonstrated by a NO_x CEMS. Startup and shutdown shall be included in determining the 30 day rolling arithmetic average emission rates. [40 CFR §60.45]. Verso Bucksport shall maintain the NO_x CEMS in accordance with 06-096 CMR 117 (as amended) and 40 CFR §60.45. [MEDEP 06-096 CMR 117 and 40 CFR §60.45]
- K. Compliance with the CO lb/MMBtu and lb/hr emission limits for Boiler 8 shall be on a 30 day rolling average and a 24-hr block average, respectively, demonstrated by a CO CEMS. Startup and shutdown shall be included in determining the 30 day rolling and 24-hr block arithmetic average emission rates. Verso Bucksport shall maintain the CO CEMS in accordance with 06-096 CMR 117 (as amended). [MEDEP 06-096 CMR 117]
- L. Calculation Corrections
 1. For no more than six (6) hours during start-up, Verso Bucksport may make the following calculation corrections for Boiler 8:
 - a. Stack O₂ levels that exceed 14.0% may be replaced with a value of 14.0
 - b. Stack CO₂ levels less than 5.0% may be replaced with a value of 5.0
 - c. Hourly lb/MMBtu averages for SO₂, NO_x, and CO may be recalculated if the observed stack O₂ is greater than 14.0% and/or the observed stack CO₂ is less than 5.0% for no more than six (6) hours during start-up.
 - d. The recalculated hourly lb/MMBtu averages may be used for compliance purposes.
 2. While operating in warm standby mode firing only natural gas without producing usable steam (boiler pressure is less than or equal to header pressure), Verso Bucksport may make the following calculation corrections for Boiler 8:

- a. Stack O₂ levels that exceed 14.0% may be replaced with a value of 14.0
- b. Hourly lb/MMBtu averages for SO₂ and NO_x may be recalculated if the observed stack O₂ is greater than 14.0% during warm standby mode firing natural gas without producing usable steam.
- c. The recalculated hourly lb/MMBtu averages may be used for compliance purposes.

[06-096 CMR 115, BACT]

M. For Boiler 8, exceedances of the opacity limit during the first six hours following the initiation of start-up from cold start-up, warm standby where no usable steam is being produced (boiler pressure is less than or equal to header pressure), or planned shutdown shall be exempt by the Department, provided that operating records are available to demonstrate that the facility was being operated to minimize emissions and, in the case of warm standby, to demonstrate that no usable steam was being produced. The total exemptions shall not be greater than 10 exceedances, based on 6 minute averages. Any person claiming an exemption shall have the burden of proving that any excess emissions were not caused entirely, or in part, by poor maintenance, careless operation, poor design or any other reasonably preventable condition.
[06-096 CMR 115, BACT]

N. Boiler 8 Periodic Monitoring

1. Verso Bucksport shall maintain monthly records of all fuels used in the boiler. The fuel oil use records shall include sulfur content, demonstrated by fuel analysis (es) from the supplier for each delivery. The waste oil use records may be on a monthly mill total basis and not a per boiler basis.
2. Verso Bucksport shall keep records of the results of the analysis(es) of representative waste oil sample(s) and shall test representative samples annually or more frequently if changes occur in the process that may effect the composition of the waste oil collected. The results of the analyses shall be kept on-site.
3. Verso Bucksport shall maintain a log of the ESP secondary T/R voltage and current meter reading and record the voltage and current meter reading once per day. The periodic monitoring in this license relating to the boiler 8 ESP will be superceded by the continuous monitoring system requirements of 40 CFR Part 63, Subpart DDDDD once the regulation is promulgated.
4. Verso Bucksport shall maintain a log detailing all routine and non-routine maintenance on the ESP. Verso Bucksport shall keep a log documenting the date and nature of all ESP failures.
5. Verso Bucksport shall keep a log(s) and maintain the Boiler 8 multiclones according to the plan previously submitted to the Department.

[MEDEP Chapter 115, BACT]

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- O. Boiler 8 is subject to and shall comply with the applicable requirements of the Federal New Source Performance Standards 40 CFR Part 60, Subpart A (General Provisions) and Subpart D. [40 CFR Part 60, Subparts A and D]
- P. Verso Bucksport shall meet any applicable standards of 40 CFR Part 63, Subpart DDDDD once the regulation is promulgated.

DONE AND DATED IN AUGUSTA, MAINE THIS 30th DAY OF June, 2011.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Patricia W. AHO
PATRICIA W. AHO, ACTING COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 23, 2011

Date of application acceptance: March 30, 2011

Date filed with the Board of Environmental Protection:

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

