



DEPARTMENT ORDER

**Maine Woods Pellet Company, LLC,
Athens Capital Holdings, LLC &
Athens Energy LLC
Somerset County
Athens, Maine
A-989-77-6-M**

**Departmental
Findings of Fact and Order
New Source Review
NSR #6**

FINDINGS OF FACT

After review of the air emission license amendment application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Maine Woods Pellet Company, LLC, Athens Capital Holdings, LLC & Athens Energy LLC
LICENSE TYPE	06-096 C.M.R. ch. 115, Minor Revision
NAICS CODES	321999
NATURE OF BUSINESS	Wood Pellet Manufacturer
FACILITY LOCATION	164 Harmony Rd, Athens, Maine

B. NSR License Description

Maine Woods Pellet Company, LLC (MWP), along with co-applicants Athens Capital Holdings, LLC and Athens Energy LLC, previously licensed the installation and operation of a cogeneration facility and additional pellet processing equipment in support of the facility's pellet processing operation (A-989-71-E-A dated 5/13/2015).

The cogeneration facility is powered by Furnace #1, a 149 MMBtu/hr biomass-fired furnace. In order for the project to be considered a minor modification, an annual operating limit of 8,200 hours per year (hr/year) was imposed on Furnace #1. In New Source Review (NSR) license A-989-77-4-A (issued 9/13/2019), MWP replaced this restriction with an equivalent limit on heat input of 1,221,800 MMBtu/year. MWP has requested a minor revision which makes a small change to the calculation methodology used to demonstrate compliance with this limit.

C. Emission Equipment

The following equipment is addressed in this NSR license:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate (ton/hr)	Fuel Type, % sulfur	Date of Manuf.	Stack #
Furnace #1	149	16.6	biomass, negligible	2015	3

D. Definitions

Shutdown of Furnace #1 means a period of time commencing when the biomass walking floor is turned off and ending when the combustion fan is turned off. (Note: The ID fan is sometimes left on for many additional hours to fully cool all boiler refractory and provide fresh air for workers. However, fire cannot be sustained in the combustion chamber without the combustion fan running.) The total duration of each shutdown period shall not exceed seven (7) hours.

Startup of Furnace #1 means a period of time commencing when the combustion fan is turned on and ending when the ESP is engaged. The total duration of each startup period shall not exceed four (4) hours.

E. Revision Description

In NSR license A-989-77-4-A (issued 9/13/2019), MWP replaced a restriction on annual operating hours with an equivalent limit on heat input of 1,221,800 MMBtu/year. MWP has proposed demonstrating compliance with the annual heat input limit by continuously monitoring the heat output to the thermal oil and calculating the heat input to Furnace #1 using a conversion factor of 1.4 MMBtu of heat input to Furnace #1 per MMBtu transferred to the thermal oil. Additionally, MWP continuously monitors the bypass damper for Heater Section 3 which must be operated at 0% (closed) except for periods of startup and shutdown (see Definitions section). During periods of startup and shutdown, the bypass damper may be opened to assist with control of the startup/shutdown process. Since the conversion factor is dependent on this bypass damper being shut, it has been noted that NSR license A-989-77-4-A did not adequately address how to determine the heat input to Furnace #1 during periods of startup and shutdown.

In early November 2019, MWP ran a trial to determine the change in heat input to the thermal oil when the damper is opened. It was determined that at 50% open (the most it could be opened during normal operation for safety reasons) there was a loss of 1.375% in heat transfer to the thermal oil. Assuming a linear relationship, opening the damper to 100% equates to a 2.75% loss in heat transfer. Therefore, heat input to Furnace #1 is most accurately represented by the following equation:

$$\text{Heat Input to Furnace \#1} = (O \times 1.4) + (O \times 0.0275 \times d)$$

Where:

O = MMBtu transferred to the thermal oil

d = Heater Section 3 Damper percentage open expressed as a decimal (0.00 – 1.00)

The Department has determined that the above equation shall be used to calculate heat input to Furnace #1 and used in demonstrating compliance with the annual heat input limit. Since the original conversion factor offers the greatest level of accuracy, MWP is still required to keep the bypass damper for Heater Section 3 closed during all operating times other than startup and shutdown.

F. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the issued date of this license.

The application submitted by MWP does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing, or recordkeeping requirements.

The proposed revision will not change the facility's emission limits. Therefore, the NSR license is determined to be a minor revision under *Minor and Major Source Air Emission License Regulations* 06-096 Code of Maine Rules (C.M.R.) ch. 115. The procedures found in 06-096 C.M.R. ch. 115 can be utilized to process this application since the proposed revision is not prohibited by the Part 70 air emission license. An application to incorporate the requirements of this NSR license into the Part 70 air emission license has been submitted to the Department.

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G. Incorporation Into the Part 70 Air Emission License

Per *Part 70 Air Emission License Regulations*, 06-096 C.M.R. ch. 140 § 1(C)(8), for a modification at the facility that has undergone NSR requirements or been processed through 06-096 C.M.R. ch. 115, the source must apply for an amendment to their Part 70 license within one year of commencing the proposed operations, as provided in 40 C.F.R. Part 70.5. An application to incorporate the requirements of this NSR license amendment into the Part 70 air emission license has been submitted to the Department.

H. Annual Emissions

This NSR license amendment will not change the facility's licensed annual emissions.

II. AMBIENT AIR QUALITY ANALYSIS

MWP previously submitted an ambient air quality analysis demonstrating that emissions from the facility (A-989-71-E-A), in conjunction with all other sources, do not violate ambient air quality standards. An additional ambient air quality analysis is not required for this NSR license amendment.

ORDER

The Department hereby grants New Source Review Minor Revision A-989-77-6-M pursuant to the preconstruction licensing requirements of 06-096 C.M.R. ch. 115 and subject to the standard and specific conditions below.

Severability. The invalidity or unenforceability of any provision of this License Amendment or part thereof shall not affect the remainder of the provision or any other provisions. This License Amendment shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

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SPECIFIC CONDITIONS

The following shall replace Condition (22)(B) of Air Emission License A-989-77-4-A.

(22) **Furnace #1 and Pre-Dryer #1**

B. MWP shall not exceed an annual limit of 1,221,800 MMBtu/year heat input to Furnace #1. Compliance shall be demonstrated by:

1. Operating the bypass damper for Heater Section 3 at 0% (i.e., closed) except during periods of startup and shutdown; and
2. Calculation of the monthly and 12-month rolling total heat input to Furnace #1 based on the following equation:

$$\text{Heat Input to Furnace \#1} = (O \times 1.4) + (O \times 0.0275 \times d)$$

Where:

O = MMBtu transferred to the thermal oil

d = Heater Section 3 Damper percentage open expressed as a decimal (0.00 – 1.00)

[06-096 C.M.R. ch. 115, BACT]

DONE AND DATED IN AUGUSTA, MAINE THIS 11th DAY OF December, 2019.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:


GERALD D. REID, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 11/20/19

Date of application acceptance: 12/2/19

Date filed with the Board of Environmental Protection:

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

