



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

**ReEnergy Fort Fairfield LLC
Aroostook County
Fort Fairfield, Maine
A-181-77-1-A**

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

FINDINGS OF FACT

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 Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	ReEnergy Fort Fairfield LLC (REFF)
LICENSE TYPE	06-096 CMR 115, Minor Modification
NAICS CODES	22111
NATURE OF BUSINESS	Electric Generating Station
FACILITY LOCATION	Cheney Grove Rd Fort Fairfield, Maine

B. Amendment Description

ReEnergy Fort Fairfield LLC (REFF) is a wood/biomass-fired electric generating facility capable of generating approximately 30 net megawatts of electricity. The plant consists of one steam generating unit (Boiler #1) which fires primarily sawmill residues, whole tree chips, and other wood fuels. Fuel oil is used during startups, shutdowns, flame stabilization, and emergency situations only. Boiler #1 supplies steam to a steam turbine for the generation of electricity.

In March 2013, the Department approved REFF's request to temporarily install, operate, and test a Selective Non-Catalytic Reduction (SNCR) system designed by Fuel Tech known as "NO_x OUT."

REFF now wishes to license the NO_x OUT system as a permanent installation. Operation of this system may enable REFF to compete in New England's renewable energy market as a low emissions renewable energy producer. In order to minimize ammonia slip (NH₃-slip) REFF plans to operate this system only when necessary to participate in the renewable energy market.

The NO_x OUT system consists of a reagent storage and delivery system for the injection of a urea reagent solution into the combustion gases of the boiler.

A 50% urea reagent solution is delivered to the facility and stored in a 10,000 gallon tank. Diluted urea is metered to distribution modules. The distribution modules channel the urea mixture out to a series of injectors which penetrate the boiler walls.

The injectors atomize the mixture before it enters the boiler and mixes with the combustion flue gas. Within the boiler the urea mixture reacts with the flue gas to form nitrogen, carbon dioxide, and water.

Use of the NO_x OUT system can involve emissions of NH₃-slip similar to the currently licensed ECOTUBE system (when urea or ammonia injection is utilized). REFF performed stack testing to demonstrate that emissions of NH₃ were within REFF's currently licensed limit of 40 ppm_{dv} (corrected to 12% CO₂) when operating the NO_x OUT system.

REFF intends to maintain the ECOTUBE system for use when additional over-fire air can aid in control of combustion. However, to date, neither urea nor NH₃ have been used with the ECOTUBE system and REFF shall not use any urea or NH₃ injection in the ECOTUBE at the same time as the NO_x OUT system is in operation.

REFF has not requested any changes in any licensed emission limits as part of this amendment.

C. Application Classification

The application for REFF does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing or record keeping.

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 (as amended).

The emission increases are determined by subtracting the baseline actual emissions of the 24 months preceding the modification (or representative 24 months) from the projected actual emissions.

However, per 40 CFR Part 51.166(b)(40)(ii)(c), in calculating any increase in emissions, the calculation shall exclude the portion of the unit's emissions

following the project that the existing unit could have accommodated during the baseline period.

Since this amendment does not involve any changes in emission limits nor does this project affect the capacity of the boiler in either size or available operating hours (i.e. no changes in the emissions that could have been accommodated), there is determined to be no emissions increase for any regulated pollutants.

Therefore, this amendment 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 amendment into the Part 70 air emission license shall be submitted no later than 12 months from commencement of the requested operation.

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-181-77-1-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) NO_x OUT System

- A. REFF has installed and has the capability to operate the NO_x OUT system for control of NO_x emissions from Boiler #1. REFF is not required to operate the NO_x OUT system, provided Boiler #1 does not exceed the NO_x limits established in the Part 70 permit. REFF shall maintain a system of

maintenance, inspection and repair for the NO_x OUT system, which includes periodic inspection of the system to ensure the system's proper function and operation. REFF shall document compliance by means of a maintenance, inspection and repair log (written or electronic), in which REFF shall record all routine maintenance as well as all inspection dates, findings, and subsequent corrective actions. [06-096 CMR 115, BACT]

- B. Whenever the NO_x OUT system is in use, REFF shall maintain records of urea injection operations, including dates and times urea injection is utilized and amounts of urea reagent used on a daily, monthly, and 12-month rolling total basis. [06-096 CMR 115, BACT]
- C. REFF shall not operate urea injections in the ECOTUBE system at the same time that the NO_x OUT system is in operation. Compliance shall be demonstrated by the records required to be kept for each system which show the dates and times of use of each system. [06-096 CMR 115, BACT]

- (2) REFF shall submit an application to incorporate this amendment 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 17 DAY OF September, 2013.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marie Allen Robert Cone for
PATRICIA W. AHO, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 8/22/13
Date of application acceptance: 8/23/13

Date filed with the Board of Environmental Protection:

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

