



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner

DE 08-051



May 14, 2008

Debra A. Howland
Executive Director and Secretary
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301-2429



**Re: Conditional Certification as a Class III Renewable Energy Source
Pinetree Power, Inc.
Tamworth, NH**

Dear Ms. Howland:

The New Hampshire Department of Environmental Services (DES) received an application from Pinetree Power, Inc. for their wood-fired power plant located in Tamworth, NH to be certified as a Class III renewable energy source. DES has reviewed the application and recommends that the Public Utilities Commission (PUC) grant conditional approval to Pinetree – Tamworth as a Class III renewable energy source eligible to generate renewable energy certificates. A summary of the facility description, DES's review of particulate and NOx emission rates and monitoring requirements, and recommended conditions of the approval are presented below.

Facility Description

Facility Name: Pinetree Power, Inc.
Facility Location: 469 Plains Road
Tamworth, NH 03886

Gross Nameplate Capacity: 23.8 MW
Began operation: April 1, 1987
Primary Fuel: Biomass fuels including clean and untreated wood such as brush, stumps, lumber ends and trimmings, wood pallets, bark, wood chips, wood pellets, shavings, sawdust, and slash, which meets the definition of New Hampshire Revised Statutes Annotated RSA 362-F:2 II.

Particulate Emissions

New Hampshire Code of Administrative Rules Puc 2502.15, "*Eligible biomass technologies*", requires that the facility meet an average particulate emission rate limit of 0.02 lb/MMBtu.

Emission Rate

Pinetree – Tamworth uses a multiclone and electrostatic precipitator to control particulate emissions. The most recent particulate emission test performed for Pinetree – Tamworth was performed on June 9, 2004. The emission test was performed for total suspended particulate (TSP) using USEPA Method 5. The emission test was observed and the results were approved by DES. The results of the test indicated a TSP emission rate of 0.005 lb/MMBtu. This meets the particulate Renewable Portfolio Standard (RPS) standard of 0.02 lb/MMBtu pursuant to RSA 362-F:2 VIII(a). DES anticipates that Pinetree – Tamworth will be able to continue to meet the RPS standard.

Emissions Confirmation

Puc 2505.05(c), *Certification of Biomass Facilities*, requires facilities to conduct stack tests to verify compliance with the particulate RPS. Pinetree – Tamworth will need to perform future periodic particulate emission tests in accordance with Env-A 800, *Testing and Monitoring Procedures* on the schedule required by Puc 2505.05(c).

NOx Emissions

New Hampshire Code of Administrative Rules Puc 2502.15 requires that the facility meet a quarterly average NOx emission rate limit of 0.075 lb/MMBtu.

Emission Rate

Pinetree – Tamworth has not historically had NOx emission controls. Recent NOx emissions from Pinetree – Tamworth have ranged from approximately 0.19 to 0.22 (average 0.205 for 2007) lb/MMBtu. This does not meet the NOx RPS standard of 0.075 lb/MMBtu pursuant to RSA 362-F:2 VIII(a). However, as described below, Pinetree – Tamworth intends to install NOx emission control equipment and techniques to lower its NOx emissions.

On December 14, 2007, Pinetree – Tamworth submitted an application to DES to install overfire air (OFA), flue gas recirculation (FGR), selective non-catalytic reduction (SNCR), and selective catalytic reduction (SCR) NOx emission control techniques and equipment. DES approved the application and issued Temporary Permit TP-B-0543 on March 17, 2008. DES anticipates that, if Pinetree – Tamworth proceeds with the modifications, that NOx emissions from the facility could meet the NOx RPS standard of 0.075 lb/MMBtu or less.

Emissions Confirmation

Pinetree – Tamworth measures actual NOx emissions using a continuous emissions monitor (CEM). The CEM is required to be operated in accordance with Env-A 808, *Continuous Emissions Monitoring*, as specified in Condition VIII.D, Table 6, Item #2 of Pinetree – Tamworth's Title V Permit to Operate TV-OP-018. DES review of Pinetree – Tamworth's operational and testing data, including DES observation and review of Relative Accuracy Test Audits (RATA), indicate that Pinetree – Tamworth has historically operated the NOx CEM in accordance with all applicable requirements, and the CEM data is suitable for determining compliance with NOx emission limitations.

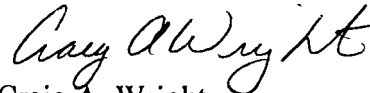
Conclusion and Recommended Conditions of Approval

DES believes that, with the modifications proposed by Pinetree – Tamworth, it will meet the requirements to be certified Class III - Existing Biomass/Methane renewable energy source. DES recommends that, with the following conditions, the PUC certify Pinetree – Tamworth as Class III renewable energy source eligible to generate renewable energy certificates:

- 1) Pinetree – Tamworth shall lower its NOx emissions to meet the 0.075 lb/MMBtu RPS. Pinetree has proposed to accomplish this by installing and operating the NOx emission controls specified in Temporary Permit TP-B-0543.
- 2) Pinetree – Tamworth shall perform emission tests for TSP in accordance with the procedures specified in Env-A 800 and schedule required by Puc 2505.05(c).

If you have any questions regarding DES's evaluation of the application or our conclusions, please contact Todd A. Moore of the Permitting and Environmental Health Bureau at todd.moore@des.nh.gov or (603) 271-6798.

Sincerely



Craig A. Wright
Assistant Director
Air Resources Division

Cc: David J. Shulock, Esq., Brown, Olson & Gould
Russell Doud, Pinetree Power, Inc.