

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

PETITION OF WATERTOWN : PETITION NO. 834
RENEWABLE POWER, LLC PETITION :
FOR A DECLARATORY RULING THAT :
NO CERTIFICATE OF :
ENVIRONMENTAL COMPATIBILITY :
AND PUBLIC NEED IS REQUIRED FOR :
THE PROPOSED CONSTRUCTION, :
MAINTENANCE AND OPERATION OF :
A 30MW BIOMASS GASIFICATION :
GENERATING PROJECT AT ECHO :
LAKE ROAD, WATERTOWN, :
CONNECTICUT : MARCH 5, 2008

PROPOSED FINDINGS OF FACT

Introduction

1. On November 14, 2007, Watertown Renewable Power, LLC ("WRP"), pursuant to Connecticut General Statutes ("CGS") § 16-50k and as amended by Section 18 of Public Act 05-01, submitted a petition to the Connecticut Siting Council (the "Council") for a declaratory ruling that no Certification of Environmental Compatibility and Public Need ("Certificate") is required for the construction, maintenance and operation of a 30 megawatt ("MW") biomass gasification generating project in Watertown, Connecticut. (WRP Exhibit 1).
2. WRP, a Connecticut limited liability company, is a wholly-owned subsidiary of Tamarack Energy, Inc. Tamarack Energy, Inc., a Delaware corporation is an independently operated, wholly-owned subsidiary of Haley & Aldrich, Inc. (WRP Exhibit 1, p. 14).
3. The proposed generating facility qualifies as a Class I renewable resource as defined by CGS § 16-1(a)(26). (WRP Exhibit 1, p. 6; Administrative Notice 22).
4. The project will sell approximately fifteen MW of its energy, capacity and associated renewable attributes to Connecticut Light & Power ("CL&P") under the terms of a 15-year electricity purchase agreement that resulted from the first round of the Connecticut Clean Energy Fund's Project 100 solicitation. (WRP Exhibit 1, p. 6; WRP Exhibit 10).
5. The parties in this proceeding are WRP and the Town of Watertown. CL&P is an intervenor. (Transcript 1, p. 4).

6. Notice of the petition was provided to all abutting property owners by First Class Mail. (WRP Exhibit 2 Response to Council Interrogatory No. 1).
7. Notice of the petition was published in local newspapers. (WRP Exhibit 1, p. 91).
8. On January 26, 2008, WRP created a sign at the entrance to the site stating the name of the applicant and the date, time and location for the Council's public hearing on the petition. (Transcript 1, p. 20).
9. Pursuant to Sections 16-50j-21 and 16-50j-40 of the Regulations of Connecticut State Agencies, the Council, after giving due notice thereof, held a public hearing on February 5, 2008 beginning at 3:00 p.m. and continuing at 7:05 p.m. at the Watertown High School, 324 French Street, Watertown, Connecticut. (Transcript 1, pp. 2, 3; Transcript 2, pp. 2, 3).
10. The Council and its staff inspected the proposed site on February 5, 2008. On the same date from 8:00 a.m. to 5:00 p.m. the Petitioner raised a balloon to a height of 170 feet to simulate the location and height of the proposed exhaust stack. (Transcript 1, pp. 19, 20; Transcript 2, p. 42).

State Agency Comments

11. Pursuant to CGS § 16-50j(h) on January 10, 2008, the Council solicited the following state agencies for written comments regarding the proposed facility. Department of Environmental Protection ("DEP"), Department of Public Health ("DPH"), Council on Environmental Quality ("CEQ"), Department of Public Utility Control ("DPUC"), Office of Policy and Management ("OPM"), Department of Economic and Community Development ("DECD") and the Department of Transportation ("DOT"). (Record).
12. State agency comments were received from the DEP on February 1, 2008. (Record).
13. The following agencies did not respond with comments on the application: CEQ, DPUC, OPM and DECD. DPH and DOT responded with "no comments." (Record).

Municipal Consultation

14. WRP met with the Town Manager, Meredith Robson, and other town staff in March 2005 to introduce the project. Numerous meetings were held with town officials during 2006 and 2007. (WRP Exhibit 1, p. 91 and Appendix L).
15. In August 2007, WRP submitted a technical report titled "Community Consultation Document, Watertown Renewable Power, 30MW Biomass Generating Project, Watertown, Connecticut" to the chief elected officer of the Town of Watertown and 60 stakeholders. The document was also available on Tamarack Energy, Inc's website. (WRP Exhibit 1, p. 91 and Appendix L).

16. WRP held a community open house on October 4, 2007. A public notice with the date, time and location of the open house was published in local newspapers. Approximately 13 members of the Watertown community attended the open house. (WRP Exhibit 1, p. 91 and Appendix L).
17. At the Council's public hearing on February 5, 2008, several municipal officials made limited appearances into the record in support of the project, including Elaine Adams, Chairwoman of the Watertown Town Council; David Minnich, Chairman of the Planning and Zoning Commission; Joe Seacrist, Economic Development Coordinator and Chairman of the Watertown Oakville Chamber of Commerce; Joe McGrail, Chairman of the Watertown Economic Development Commission; and Jack Traver, Vice Chairman of the Watertown Economic Development Commission. (Transcript 2, pp. 6-8 and pp. 24-31).
18. The Watertown Economic Development Commission and the Watertown Oakville Chamber of Commerce also wrote letters in support of the project. (WRP Exhibits 8 and 14).

Site Description

19. The site is a 33-acre parcel in an industrial-zoned area off of Echo Lake Road in Watertown, Connecticut. It is bordered by industrial-zoned land and a portion of the Mattatuck State Forest. The Watertown zoning regulations allow the installation of public utility buildings and facilities. (WRP Exhibit 1, pp. 9-10; pp. 18-19).
20. The site is undeveloped and was cleared approximately 10 years ago. (WRP Exhibit 1, Appendix I; WRP Exhibit 2 Response to Council Interrogatory No. 8).
21. Turkey Brook and associated wetlands occupy the central portion of the property. (WRP Exhibit 1, p. 19).
22. Development of the project will require the acquisition of an easement from DEP across a portion of the Mattatuck State Forest for the electric interconnection. CL&P transmission lines are located between 500 and 1000 feet north of the project site. (WRP Exhibit 1, p. 38; WRP Exhibit 13).
23. The nearest residence is located in an industrial-zoned area and is approximately 1,300 feet from the project site. (WRP Exhibit 1, p. 19).
24. Other nearby properties include a metal manufacturing facility, a Connecticut Resources Recovery Authority waste transfer facility, an automotive scrap yard, UPS and FEDEX distribution centers and several light manufacturing industries. (WRP Exhibit 1, p. 19).
25. The site is located approximately one mile west of Route 8. (WRP Exhibit 1, p. 18).

Power Plant Description

26. The WRP project will utilize a highly automated wood fuel receiving, storage and conveyance system to deliver wood fuel to an advance fluidized bed gasification system that is close coupled with a boiler that generates steam to drive a conventional condensing steam turbine with a nominal output of 30 MW. (WRP Exhibit 1, p. 26).
27. The facility will utilize clean wood chips derived from whole trees, chipped clean pallets, urban wood waste and mill residue. The facility will not use wood chips derived from painted or treated materials. (WRP Exhibit 1, pp. 21-22).
28. Wood fuel will be delivered in tractor-trailer trucks, which will be unloaded by two hydraulically operated truck dumpers into a receiving hopper. Wood fuel would be moved by conveyor to an outside storage pile capable of holding enough fuel for 17-20 days of operation. (WRP Exhibit 1, p. 26).
29. Approximately 40 to 50 truck loads of fuel would be delivered each day. (WRP Exhibit 1, pp. 74-75).
30. Wood fuel will be delivered from the storage pile to the fluidized bed boiler using a series of conveyors. The fuel will be combusted in a fluidized bed to produce steam to power a conventional steam turbine capable of producing 30 MW of electrical energy. (WRP Exhibit 1, pp. 26-28).
31. Natural gas will be used within the fluidized bed boiler as a start-up fuel prior to introducing wood fuel into the furnace. (WRP Exhibit 1, p. 25).
32. The facility will have the capability to maintain 40% of its total capacity on natural gas in the event of a wood fuel handling system failure during critical grid load periods. (WRP Exhibit 1, p. 25).

Transmission Interconnection

33. WRP filed a revised Large Generator Interconnection Application with ISO-New England, Inc. ("ISO'NE") on December 22, 2006 requesting to connect to either CL&P's 115 kV Frost Bride to Campville Line No. 1191 or the 115 kV Frost Bridge to Carmel Hill Line No. 1238, both of which occupy a right-of-way between 500 and 1,000 feet north of the site. (WRP Exhibit 1, p. 37; WRP Exhibit 13).
34. On October 3, 2007, WRP received a Qualification Determination Notification letter from ISO-NE for the Forward Capacity Market indicating that significant system upgrades would not be required for the interconnection. (WRP Exhibit 1, pp. 37-38; WRP Exhibit 11).
35. The interconnection will require an easement across the Mattatuck State Forest from the facility to the transmission right-of-way. On May 25, 2007, WRP requested DEP to consider granting such an easement. On July 31, 2007, DEP indicated that it would

grant an easement provided that the line was built underground among other conditions. (WRP Exhibit 1, p. 38 and Appendix F).

36. On January 14, 2008, based on discussions with ISO-NE and CL&P and their concerns about reliability of an underground interconnection, WRP requested DEP to consider granting an easement for an overhead interconnection. DEP has not yet responded to the request. (Transcript 1, pp. 31-32; WRP Exhibit 13).
37. CL&P estimates that the cost of installing an underground cable is eight to ten times as expensive as an overhead interconnection. (Transcript 1, p. 87).
38. The proposed overhead alternative to an underground interconnection would use a single pole configuration along a shorter (approximately 500 feet) right-of-way. (Transcript 1, p. 32).
39. Under the overhead configuration, locating the switchyard near the transmission right-of-way would reduce the width of right-of-way needed for the interconnection to the transmission line. (Transcript 1, pp. 33-34).
40. The overhead configuration would require two or three poles, plus two at the termination. (Transcript 1, p. 42).
41. CL&P has provided WRP with its standard conditions for transmission easements and WRP indicated that it would accept, as a condition of approval, a requirement to provide the Council with a certificate indicating CL&P's approval of any easement obtained from DEP. (CL&P Exhibit 1, p. 4; Transcript 1, pp. 32-33).
42. On February 29, 2008, ISO-NE issued an interconnection feasibility study concluding that the proposed interconnection would have no significant adverse impacts on the transmission system that may require transmission upgrades or system reinforcements. (WRP Late-Filed Exhibit 17, p. viii).

Wood Fuel Supply

43. The WRP project will purchase and consume approximately 310,000 tons per year of clean chipped wood at an average moisture content of 40%. (WRP Exhibit 1, p. 21).
44. Several independent studies have concluded that between 500,000 and 1,000,000 tons of clean wood waste is currently available each year in Connecticut. (WRP Exhibit 1, p. 23).
45. A project specific study for WRP confirmed that a long-term wood supply is available for the project. (WRP Exhibit 1, pp. 23-24).
46. The wood fuel supply for the project is expected to consist of whole tree chips (44%), pallet waste (39%), urban wood waste (16%) and mill residue (1%). (WRP Exhibit 1, p. 24).

47. Most of the wood fuel would be supplied by sources within a 50 mile radius of the site. (Transcript 1, p. 51).
48. Wood fuel deliveries would occur between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and Saturdays as needed to address delays due to weather or other factors. (Transcript 1, p. 50).
49. Watertown will enter into a long-term contract for the supply of wood fuel for the project with a company that will act as a procurer of fuel from hundreds of sources. (WRP Exhibit 1, p. 46; Transcript 1, pp. 58-59).
50. Wood fuel would be provided by qualified suppliers. The quality of the supply would be confirmed by source inspections and testing protocols at the facility upon receipt of the fuel. (Transcript 1, p. 60).

Water Requirements

51. The WRP project will require 500,000 to 600,000 gallons per day to support its steam turbine cooling system, boiler water make-up, fire protection and other domestic uses. (WRP Exhibit 1, p. 35).
52. Water for the project will be provided by the Watertown Municipal Water System subject to the terms of a Water Connection and Service Agreement dated January 24, 2008. (WRP Exhibit 1, p. 35; WRP Exhibit 16).
53. The Watertown Water and Sewer Authority has a long-term agreement with the City of Waterbury for the supply of 3 million gallons per day, while average daily water consumption for the Watertown Municipal Water System has been just over 1 million gallons per day. (WRP Exhibit 1, p. 35).
54. The project will utilize a conventional wet cooling tower for the purpose of condensing steam from the turbine generator. (WRP Exhibit 1, p. 33).
55. A 12-inch water main that terminates 1,200 feet west of the project site along Echo Lake Road will be extended to the facility. (WRP Exhibit 1, p. 36).

Waste Generation

56. Fly ash, which will be generated at a rate of approximately 1.5 tons/hour, is non-hazardous and can have substantial benefits as a soil additive (fertilizer) or as an amendment to concrete. Excess sand captured from the fuel will be periodically removed from the sand hopper and may be used as a building material. All residues will be handled, stored and disposed of in accordance with all applicable laws and regulations. (WRP Exhibit 1, pp. 36-37; Transcript 1, pp. 51-52).

Environmental Considerations

Wetland Impacts

57. The site contains one wetland area which occupies 6.96 acres in the central portion of the site and consists of Turkey Brook, associated riparian wetlands and a narrow and shallow swale that extends into the southeastern part of the site. (WRP Exhibit 1, p. 80).
58. The project will maintain an existing natural riparian buffer along both sides of Turkey Brook equal to or greater than the 100 feet recommended by DEP, except in two areas where the buffer will be 75 to 80 feet wide. (Transcript 1, p. 24).
59. Wetland impacts are limited to filling 4,000 square feet of the shallow swale. (WRP Exhibit 1, p. 81).
60. WRP sought and received a permit to conduct the proposed regulated wetland activities from the Watertown Conservation Commission. (WRP Exhibit 1, p. 81; WRP Exhibit 2, Response to Council Interrogatory No. 5).
61. Two forebay sediment traps, water quality basin, revegetation and best management practice will be used to mitigate wetland impacts. (WRP Exhibit 1, p. 81 and Appendix I).

Air Emissions

62. The project will utilize an advanced fluidized bed gasification system designed to operate at low temperature and low excess air to minimize the formation of nitrogen oxide emissions. (WRP Exhibit 1, p. 29).
63. The fluidized bed gasification system ensures efficient mixing, gasification and combustion of fuel particles which will minimize the formation of carbon monoxide ("CO"), unburned hydrocarbons or volatile organic compounds ("VOCs"). (WRP Exhibit 1, p. 29).
64. The addition of alkaline materials, such as limestone, lime or dolomite to the fluidized bed will control sulfur and other acid gas constituents. (WRP Exhibit 1, p. 29).
65. The project will utilize selective catalytic reduction ("SCR") technology to control nitrogen oxide ("NO_x") emissions. (WRP Exhibit 1, p. 30).
66. The project will utilize a fabric filter baghouse to control the emission of particulates and trace metals. (WRP Exhibit 1, p. 30).
67. The project will utilize a Continuous Emission Monitoring System to demonstrate compliance with emission limits. (WRP Exhibit 1, p. 30).

68. The project is considered a major stationary source of air pollutants due to its emissions of NO_x and CO. (WRP Exhibit 1, p. 64).
69. The project is subject to the New Source Review ("NSR") requirements of the Clean Air Act including the PSD program and the non-attainment NSR programs ("NNSR"). (WRP Exhibit 1, p. 67).
70. The project is subject to and will meet the applicable emission standards of performance for Industrial-Commercial-Institutional Steam Generating Units. (WRP Exhibit 1, p. 67).
71. On September 27, 2007, WRP submitted an application to DEP for a permit to construct and operate the project and demonstrating compliance with Best Available Control Technology ("BACT"), Lowest Achievable Emission Rates ("LAER") control technology requirements and Maximum Allowable Stack Concentrations ("MASC") for DEP regulated hazardous air pollutants. (WRP Exhibit 1, p. 63).
72. On October 31, 2007, WRP submitted an air quality impact analysis using analytical dispersion models to DEP demonstrating compliance with state and federal Ambient Air Quality Standards ("AAQS") and applicable Prevention of Significant Deterioration ("PSD") increments. (WRP Exhibit 1, pp. 64-65).
73. To comply with NNSR requirements, WRP will be required to acquire 176 tons of NO_x Emission Reduction Credits to off-site the potential NO_x emission by a ratio of 1.2:1 prior to the DEP's issuance of the permit to construct and operate. (WRP Exhibit 1, p. 69).
74. The project will be subject to DEP's Title V Operating Permit regulations and will be required to submit a Title V permit application to DEP at least twelve months before the commencement of operation or within 90 days of receiving notice from DEP that an application is required. (WRP Exhibit 1, p. 72).
75. The project will be subject to DEP's Acid Rain program and will be required to obtain an acid rain permit, perform continuous emissions monitoring and hold sufficient SO₂ allowances. (WRP Exhibit 1, p. 72).

Plume Visibility and Fogging

76. The project will employ a mechanical draft evaporative cooling tower to remove waste heat from the steam condenser cooling water, which under certain circumstances, may create a visible plume of liquid water. (WRP Exhibit 1, p. 83 and Appendix K).
77. Modeling analysis of the potential adverse effects of plume formation, including fogging, icing, salt deposition, plume shadowing and plume visibility, indicate that no off-site adverse environmental effects are expected. (WRP Exhibit 1, p. 84 and Appendix K).

Wildlife Impacts

78. DEP's Natural Diversity Database maps (June 2007) do not indicate the presence of state or federally recognized plant or animal species that are listed as endangered, threatened or species of special concern. (WRP Exhibit 1, p. 80 and Appendix I). However, DEP, in a letter to WRP indicated that a threatened species, the American Kestrel, occurs in the vicinity of the site, approximately 1.25 miles to the northeast of the site. Based on a site specific analysis of the habitat at the site, suitable habitat for the American Kestrel is not present at the site. (WRP Exhibit 1, Appendix I).

Cultural Resources

79. The project will have no effect upon Connecticut's archaeological heritage. (WRP Exhibit 1, p. 82 and Appendix J; WRP Exhibit 12).

Odors

80. No burning wood odor would emanate from the exhaust stack due to the complete combustion of the fuel and air pollution controls. (Transcript 2, pp. 44-46).

Noise

81. The nearest and most sensitive receptor is the Mattatuck State Forest, a Class B receptor under the state noise regulations. The worst case projection for noise levels from the plant with appropriate mitigation measures was 62 dB(A), which is below the 66 dB(A) noise limit for Class B receptors. (WRP Exhibit 1, pp. 75-77).

Magnetic Fields

82. The design and operation of the project will be consistent with the Council's Best Management Practices for Electric and Magnetic Fields. (WRP Exhibit 1, p. 82)
83. An EMF profile for the project has not yet been completed because the final configuration of the transmission interconnection is not yet known. (Transcript 1, p. 27).
84. As a condition of approval, WRP will provide an EMF profile as part of a Development and Management Plan. (Transcript 1, p. 28).

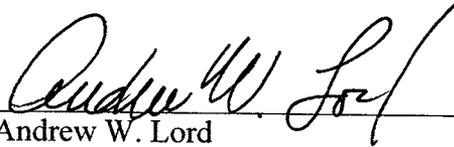
Visibility

85. The project is bounded on the north and east by the Mattatuck State Forest and on the south and west by industrial-zoned properties. The site is located in a natural depression and is surrounded by forest. (WRP Exhibit 1, pp. 78-79).

86. The surrounding forest and topography will limit the visibility of the project building. The project's 170 foot tall stack will be visible from certain vantage points. (WRP Exhibit 1, p. 79 and Appendix H).

Permits and Approvals

87. The project will require the following permits and approvals:
- a DEP Permit to Construct and Operate;
 - b DEP Title V Operating Permit;
 - c Title IV Acid Rain Permit;
 - d DEP Wastewater Discharge Permit;
 - e DEP General Permit for the Discharge of Stormwater Associated with Construction Activities; and
 - f DEP General Permit for the Discharge of Stormwater Associated with Industrial Activities. (WRP Exhibit 1, pp. 89-91).

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