Petition of Watertown Renewable Power, LLC
for a Declaratory Ruling that No Certificate of Environmental Compatibility and Public Need is Required for the Construction, Maintenance, and Operation of a 30 MW Biomass Gasification Generating Project in Watertown, Connecticut

November 14, 2007

SUBMITTED BY:

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On behalf of:
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1. Executive Summary

Watertown Renewable Power, LLC proposes to develop, construct, own and operate a 30 megawatt (MW) biomass power plant at a 33-acre site in Watertown, Connecticut. The Watertown Renewable Power Facility (Watertown Facility, Watertown Project, or WRP) is the creative vision of a team of experienced biomass developers and the direct result of diligent site selection, a strategic fuel supply plan, and a long-term energy sale contract. The Watertown Facility will utilize a state-of-the-art fluidized bed gasification system and steam turbine generator to convert clean wood chips into 30 MW of Class I renewable electricity. The facility will provide clean, renewable power as an alternative to inefficient and outdated fossil fuel power in an area of Connecticut where it is desperately needed. The Watertown Project will be carbon neutral and will therefore help to combat global warming.

Fifteen MW of the Watertown Facility's energy, capacity and associated renewable attributes will be sold to Connecticut Light & Power (CL&P) under the terms of a 15-year electricity purchase agreement (EPA) that resulted from the first round of the Connecticut Clean Energy Fund's Project 100 solicitation. Project 100 is a clean energy program implemented by the Department of Public Utility Control (DPUC) and the Connecticut Clean Energy Fund (CCEF) under which 100 MW of new, in-state, renewable energy facilities will qualify to receive long-term contracts with the major public utilities. CCEF, through Project 100, supports the state's Renewable Portfolio Standard (RPS) which requires that 20% of Connecticut's energy come from Class I renewable sources by 2020. The Watertown Project was one of only three projects selected out of seventeen submittals for Project 100, Round 1, and is the only project to have received a signed EPA. The balance of the plant power output will be sold directly to the New England ISO (ISO-NE) or via separate, long-term contracts. Associated renewable

attributes will be sold under separate bilateral agreement(s) and the capacity will be sold in the Forward Capacity Market (FCM).

The Watertown site was selected after an exhaustive review of over thirty potential locations evaluated on the basis of its proximity to fuel supply, nearby transmission lines, suitable truck access routes, surrounding land use, environmental considerations, and community receptivity. The project will provide fuel diversity for Connecticut's consumers while reducing greenhouse gas emissions, generating lower emissions than most of Connecticut's existing power plants and stimulating the state's forest industry. The use of clean wood fuel provides a means by which the state's public and private foresters can improve their forest management practices while reducing the burdens on local landfills, thereby further minimizing greenhouse gas emissions, which are generated when wood decays.

The Watertown Facility will provide significant economic benefits to the community. The project will create approximately two hundred construction jobs and up to 20 permanent positions, many of which can be filled by the local workforce. In addition, the regional wood supply industry will be stimulated with the creation of nearly one hundred additional jobs and related expenditures in the local economy. The Watertown Project will increase the tax base for the town of Watertown, thus providing significant revenue for schools and basic government services, without adding significantly to the services burden of those same entities. As one of the first large-scale renewable energy facilities in Connecticut, the project will provide the community an opportunity to embrace renewable energy and set an example for the rest of the state to follow.

This petition is submitted to the Connecticut Siting Council which, in accordance with Connecticut General Statutes § 16-50*g*, has the following responsibilities:

1) balancing the need for adequate and reliable public utility services at the lowest reasonable cost to consumers with the need to protect the environment and ecology of the state and to minimize damage to scenic, historic, and recreational values;
2) providing environmental standards for the location, design, construction, and operation of public utility facilities that are at least as stringent as federal environmental standards and that are sufficient to assure the welfare and protection of the people of Connecticut;
3) encouraging research to develop new and improved methods of generating, storing, and transmitting electricity and fuel and of transmitting and receiving television and telecommunications signals with minimal damage to the environment;
4) promoting the sharing of telecommunications towers in order to avoid their unnecessary proliferation; and
5) requiring annual forecasts of the demand for electricity together with the planning for facilities needed to supply the predicted demand.

As described throughout this petition, the Watertown Renewable Power Project will provide low-cost, reliable power to consumers without presenting a substantial adverse environmental effect. The Watertown Project was determined to have the lowest cost impact to ratepayers of all renewable power applicants to CCEF's Project 100[1]. The Watertown Facility has been sited and designed so as to minimize all impacts to the community and the environment. The Watertown Project will also meet air quality standards of the Connecticut Department of Environmental Protection (CTDEP) to assure the welfare and protection of the people of Connecticut. The information presented in this petition to the Connecticut Siting Council is intended to support a

[1] *Project 100 Round II: CCEF Advisory Committee and CI Investment Committee Review*. Presentation, March 26, 2007. Slide 54.

declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the Watertown Renewable Power Project. This project is eligible for consideration and approval by declaratory ruling as a grid-side distributed resource less than 65 MW that will meet air quality standards of the CTDEP and will not have a substantial adverse environmental effect.

1.1 Key Project Elements

1.1.1 Fuel

The Watertown Project will utilize clean wood primarily from forest industry operations, forest timber stand improvements, land conversion operations, tree trimming and yard waste generated in Connecticut, eastern New York, and western Massachusetts. Chipped pallets and some amount of primary mill waste (clean sawdust or chipped slab wood) will also be utilized by the facility. Painted or treated wood will not be accepted. Natural gas from the robust Yankee Gas system will be used for plant startup.

1.1.2 Technology

The Watertown Facility will employ an advanced biomass gasification system, steam turbine generator, and post-combustion air pollution control technology to produce 30 MW of clean, renewable power. A state-of-the art fluidized bed gasification process will be utilized. This technology was reviewed and approved by the CCEF as part of the Project 100 submission.

1.1.3 Site

The site is zoned General Industrial (I G-80) and is located in an active industrial area along Echo Lake Road in Watertown, Connecticut. This 33-acre site has excellent access to Route 8

and is in close proximity to two 115kV transmission lines. It is bordered by the Mattatuck State Forest and other industrial-zoned property.

1.1.4 Water Supply

The Watertown Facility will purchase cooling water from the Watertown Municipal Water System. Water for domestic needs and fire suppression will come from the same source. The Watertown Water & Sewer Authority has committed to provide water and sewer services at the volumes and pressures required by the project for the life of the facility (see Appendix E).

1.1.5 Electrical Interconnection

Watertown Renewable Power filed an Interconnection Request for a Large Generating Project with ISO-NE on December 22, 2006. A Feasibility Study is ongoing by ISO-NE. Originally targeted for completion in June 2007, the study continues to be delayed by ISO-NE and Northeast Utilities due to a substantial backlog in the interconnection queue. Based on recent conversations with these entities, the Feasibility Study is now expected to be released in mid-November 2007. Interconnection will occur at one of two 115kV CL&P transmission lines running in the same right-of-way approximately 1000 feet north of the project site. A short right-of-way through the Mattatuck State Forest to access the transmission lines has been approved by CTDEP (see Appendix F).

1.1.6 Community Relations

Watertown Renewable Power has developed an excellent relationship with the Watertown community, and has been forthcoming in the presentation of information. Key components of the Watertown Project's public outreach efforts include:

- Frequent discussions and meetings with local officials and interested parties.

- Issuance of a community consultation document assembled in accordance with Siting Council's pre-application process (C.G.S 16-50*l*(e)).
- A community open house was held on October 4, 2007 at Watertown High School.
- Submittal of a wetlands permit application to the Watertown Conservation Commission.
- Several voluntary information-sharing sessions with the Watertown Planning and Zoning Commission.
- Up-to-date information on the project is available online at:

  www.tamarackenergy.com

1.1.7 Development Strategy & Schedule

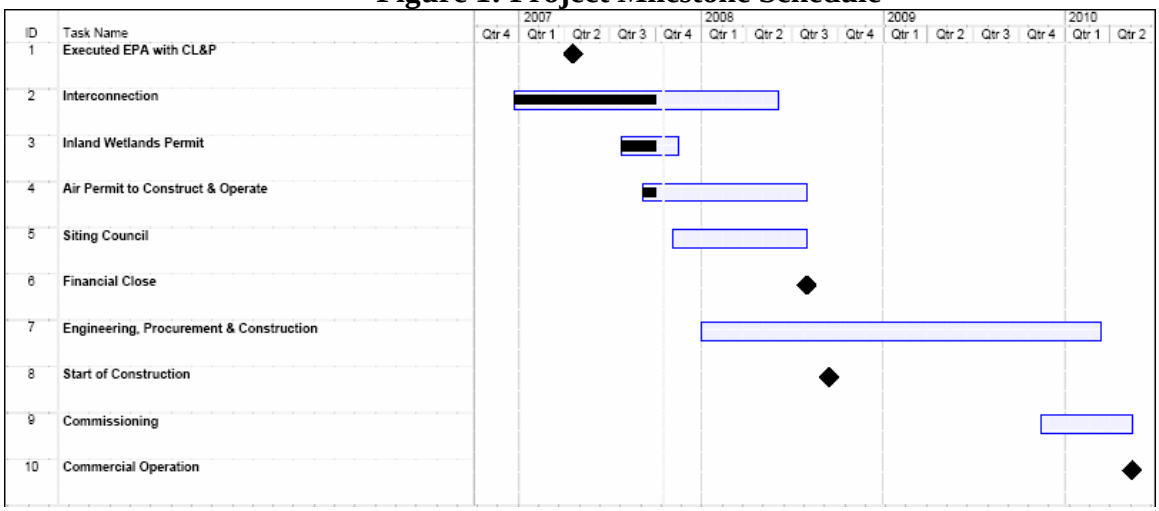
The Watertown Renewable Power Project has reached an advanced stage of development. To date Watertown Renewable Power has accomplished the following:

- Selected and secured an appropriate site through an extensive site selection process.
- Secured a long term electricity purchase agreement with CL&P.
- Developed a strategic fuel supply plan through collaboration with an established wood fuel supplier.
- Completed preliminary facility design and site layout.
- Filed an Interconnection Request with ISO-NE, and begun interconnection studies.
- Filed an application for an Air Permit to Construct and Operate, including an Air Quality Impact Analysis.

- Submitted an application for an Inland Wetlands Permit.
- Entered into negotiations with major equipment suppliers and established Engineering, Procurement and Construction (EPC) firms.

Design efforts will continue to support the state and local permit processes as well as engineering and financial package preparation. Once the necessary approvals are obtained, construction activities are scheduled to begin in the third quarter of 2008, and are expected to take approximately 18 months to complete. The commissioning and start-up of the Watertown Facility will occur in the first half of 2010.

Figure 1: Project Milestone Schedule



2. Purpose of the Petition

With this petition, Watertown Renewable Power, LLC requests that the Connecticut Siting Council (the "Council") issue a declaratory ruling that the Watertown Renewable Power Project will not have a significant adverse environmental effect, and that a Certificate of Environmental Compatibility and Public Need is not needed for the construction, operation, and maintenance of this facility.

3. Statutory Authority

Watertown Renewable Power, LLC is filing this application pursuant to Connecticut General Statutes (C.G.S) § 16-50*k* and § 16-50*j-l* et seq. of the Regulations of Connecticut State Agencies (R.C.S.A.). Public Act 05-01 (June 2005 Special Session), *An Act Concerning Energy Independence*, (the "Act") altered significantly the siting process for certain energy generating facilities. Section 18 of the Act amended C.G.S § 16-50*k* to allow "grid-side distributed resources" up to 65 MW to be approved by declaratory ruling, provided that they meet CTDEP air quality standards:

> [T]he council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling…(2) the construction or location of any fuel cell, unless the council finds a substantial adverse environmental effect, or of any customer-side distributed resources project or facility or grid-side distributed resources project or facility with a capacity of not more than sixty-five megawatts, as long as such project meets air quality standards of the Department of Environmental Protection[2]

"Grid-side distributed resources" are defined in Section 1 of the Act, and again in C.G.S § 16-1(*a*)(43), to mean "the generation of electricity from a unit with a rating of not more than sixty-five megawatts that is connected to the transmission or distributions system, which units may include, but are not limited to, units used primarily to generate electricity to meet peak demand."

The Watertown Project meets all of these requirements for consideration and approval by declaratory ruling as it is a grid-side distributed resource less than 65 MW that will meet air quality standards of the CTDEP, and will not have a substantial adverse environmental effect.

Although it is not specifically required, this petition for a declaratory ruling includes all of the information typically required by C.G.S §16-50*l* and the Council's Application Guide for

[2] C.G.S. § 16-50*k*(a)

an Electric Generating Facility dated June 2007 when filing for a Certificate of Environmental Compatibility and Public Need.

4. Legal Name and Address of Petitioner

The legal name of the petitioner is Watertown Renewable Power, LLC (a Connecticut limited liability company), a Tamarack Energy, Inc. company. Tamarack Energy is an independently operated, wholly-owned subsidiary of Haley & Aldrich, Inc. Tamarack Energy, Inc. is a Delaware corporation.

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5. Statement of Public Need and Project Benefits

The public need for the Watertown Project was established by virtue of its selection by the CCEF for the Project 100 program. The CCEF was established to "promote investment in renewable energy sources in accordance with a comprehensive plan developed by it to foster the growth, development and commercialization of renewable energy sources, related enterprises and stimulate demand for renewable energy and deployment of renewable energy sources which

serve end use customers in this state"[3]. The Project 100 program is one avenue by which the CCEF is executing this legislative mission. By providing clean, renewable power, the Watertown Facility will be meeting the public's need for reliable, home-grown, and carbon neutral energy. Projects such as Watertown Renewable Power are critical to lessening the public's reliance on fossil fuel power generation and slowing the effects of global warming. In addition, the Watertown project will be interconnected in southwestern Connecticut, an area that is severely transmission-constrained. To some extent the Watertown Project will decrease the need to import power from outside the region, therefore helping to relieve supply and demand pressures which lead to increasing prices.

Connecticut's need for renewable energy is substantiated by the 2005 *Climate Change Action Plan* authored by the Connecticut Governor's Steering Committee on Climate Change, in collaboration with the Office of Policy Management, Department of Environmental Protection, DPUC, CCEF, Department of Transportation, and Department of Administrative Services. This plan promotes the development of renewable energy in Connecticut as a long-term greenhouse gas emissions-reduction strategy, and notes that the vast majority of such development will come from biomass energy sources, such as Watertown Renewable Power. The Connecticut Energy Advisory Board, in their 2007 *State Energy Plan*, endorses the Climate Change Action Plan, and cites the need for new renewable energy generation to improve the reliability and security of energy in the state. Additionally, in her 2006 *Energy Vision for a Cleaner, Greener State*, Governor Jodi Rell espouses the need to take aggressive steps to increase energy from renewable sources in order to "move Connecticut toward more stable energy prices, a more secure and diverse energy supply, and a cleaner environment."

[3] C.G.S 16-245*n*(c)

The Watertown Project will also provide significant direct economic benefits to the community, through employment and tax revenue. The Watertown Project will create up to 20 permanent jobs to operate and maintain the facility and approximately 200 jobs during the 18-month construction period. To the maximum extent feasible, local building materials, labor, and services will be utilized. The Watertown Facility's demand for wood will create approximately one hundred additional jobs in the regional forest industry.

The Watertown Project will provide the Connecticut Ratepayer with substantial economic and environmental benefits, including:

- Sizable Class I renewable project that will help to satisfy Connecticut's Renewable Portfolio Standard (RPS) goals using an indigenous fuel resource.
- The 30 MW project will supply enough energy to power approximately 30,000 homes.
- Efficient and reliable renewable electrical power source – the combination of proven low emission technology and Connecticut's biomass resources will result in one of the least cost renewable options when compared to fuel cell and solar alternatives.
- Significant increase in the industrial tax base for the town of Watertown.
- Diversity of fuel sources for the state's electrical power generation – indigenous biomass supply will help offset the state's high reliance on gas and oil fired generation.
- Productively uses clean waste wood which would otherwise take up valuable landfill space or which would be disposed of through uncontrolled open burning, illegal dumping, or being left in place to rot and spread disease.
- Encourages sound forest management by providing a suitable method of disposal for undesirable, diseased, storm-damaged, and invasive plant species.

- Substantially lower levels of sulfur oxide, particulate matter and nitrogen oxides emissions relative to oil and coal-fired power plants.
- Helps combat global climate change – biomass energy generation is carbon neutral[4].

The Watertown Project provides a substantial list of benefits that should also be considered in light of the strong experience and financial resources of the development team. Tamarack Energy, Inc. is a renewable energy company focused on the development and operation of biomass-based energy supply and generation facilities. Based in Essex, Connecticut, the company consists of an experienced team of professionals with a track record of developing and constructing more than 2,000 MW of energy projects. Tamarack Energy was founded in 2003 and, in 2005, became an independently operated, wholly-owned subsidiary of Haley & Aldrich, Inc.

6. Description of the Proposed Project

The Watertown Renewable Power Project is a 30MW advanced biomass gasification facility proposed for Watertown, Connecticut. The Watertown Project will be the first large-scale biomass power facility in the state of Connecticut. A unique electricity purchase agreement has been secured through CCEF's Project 100 program. The project is also strategically located within an industrial zone, in close proximity to transmission lines, and has excellent transportation access. Throughout the development process, great efforts have been made to minimize any potential impacts on the local community and environment.

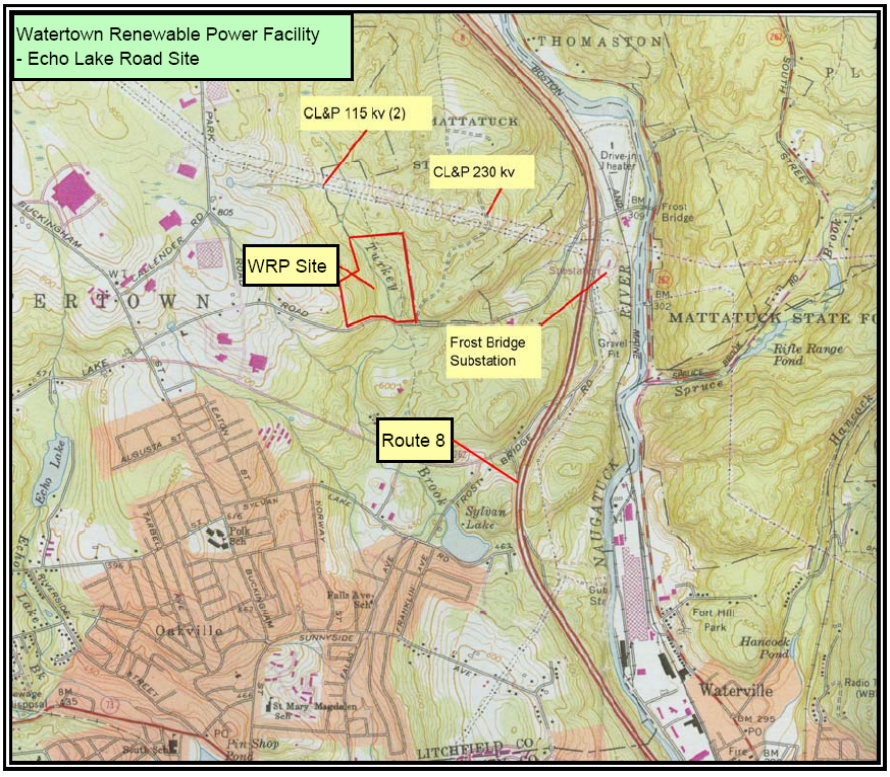
A detailed site plan can be found in Appendix D. In addition, renderings of the preliminary plant design as seen from several views are available in Appendix B.

[4] Spath, Pamela L. and Margaret K. Mann, *Biomass Power and Conventional Fossil Systems with and without Carbon Sequestration*. National Renewable Energy Laboratory. January 2004.

6.1 Project Site Description

The Watertown Facility will be located on a 33-acre site along Echo Lake Road in Watertown, Connecticut. A map of the site and the surrounding area is included below for reference and again in Appendix N.1. Site control has been achieved through the execution of a purchase option agreement with the current owner. The site is approximately one mile from Route 8, providing excellent truck access with no residential area traffic impact.

Figure 2: Project Location



The Zoning Regulations for Watertown classify the site as General Industrial, I G-80. The purpose of the I G-80 district is "to accommodate basic industrial uses and heavy commercial operations incompatible with residential environments and is intended to be less restrictive than

the Restricted Industrial Districts." The installation of "public utility buildings and facilities" is permitted within the General Industrial zones.[5]

The site is in a natural depression that will help to reduce the impacted viewshed and is surrounded by dense forest helping to screen the view from nearby properties. The results of Noise and Visual Impact Analyses are presented in Sections 11.3 and 11.4, respectively.

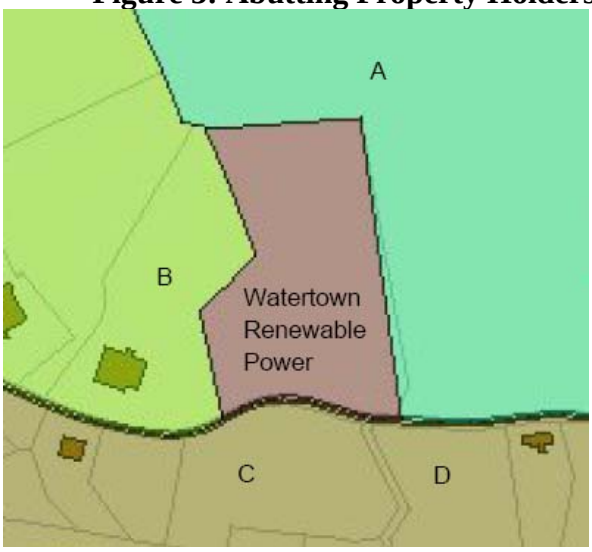
The project site has been laid out to make maximum use of the eastern portion of the 33-acre site, while minimizing impacts upon Turkey Brook and its associated wetlands that occupy the central portion of the property. Impacts to these wetlands and associated mitigation strategies are discussed fully in Section 11.6: Wetlands and Watercourses.

The abutting properties are the Mattatuck State Forest to the north and east, Echo Lake Road to the south, and a metal manufacturing facility to the west (see). Beyond Echo Lake Road to the south are two industrially-zoned properties. Notice of the filing of this petition is being provided to all abutters.

Other nearby properties along Echo Lake Road include a Connecticut Resource Recovery Authority waste transfer facility, an automotive scrap yard, UPS and FedEx distribution centers, and several light manufacturing industries. The nearest residence is located in an industrially zoned area approximately 1300 feet from the Watertown Facility's western property boundary, and the nearest residential-zoned area is approximately three quarters of a mile from the site.

[5] Town of Watertown Planning and Zoning Commission Zoning Regulations. Effective December 24, 1993.

Figure 3: Abutting Property Holders



	Property Owner	Zoning	Land Use
A	Mattatuck State Forest	R-90	State Forest
B	Nelson, Joel	I R-200	Light Industrial
C	Fusco, Richard	I R-80	Undeveloped
D	Fusco, Richard	I R-80	Undeveloped

An Environmental Site Assessment conducted at this property in August 2007 found no risk factors for hazardous substances, petroleum products, or other constituents of concern to the environment. A copy of the final report can be provided upon request.

The selection of the Echo Lake Road site is the result of an extensive investigation of numerous properties, described in detail in Section 10: Site Identification and Evaluation Process.

6.2 Service Life and Capacity Factor

The Watertown Facility is expected to have a service life of more than 30 years. As the Watertown Renewable Power Facility will produce base load power, an annual capacity factor of approximately 92% is anticipated.

6.3 Fuel Type & Supply

The Watertown Project will purchase and consume approximately 310,000 tons per year of clean chipped waste wood at an average moisture content of 40% to produce the 30 MW of power that the plant will be capable of delivering at full load. A primary reason for selecting the Watertown site is the availability of sufficient, low cost wood fuel from local forest management, land conversion, and wood processing operations. Wood fiber material including branches, stumps, undesirable and diseased trees, transmission line clearing residue, and community clean-up material will be the project's principal sources of wood fuel. As a result of high landfill disposal costs, much of the forest management waste generated in southwestern Connecticut, eastern New York and western Massachusetts is being chipped and left to decay on site or is being shipped out of state at a significant expense to the producer. Chipped pallets and some amount of primary mill waste (clean sawdust or chipped slab wood) will also be available to the facility. The four general types of biomass fuel to be utilized are described below:

- WHOLE TREE CHIPS (WTC) – Obtained from commercial timber harvest, silvicultural improvement processes, or from projects where forest land is cleared for development. This wood is processed with a portable chipper located at or near the harvest site. Moisture content is expected to average 45% and shall not exceed 50%. <u>This wood does not include painted or treated materials.</u>
- PALLET WASTE – Unadulterated wood collected from portable platforms used for storing or moving cargo or freight processed through a grinder into chip form. Moisture content at approximately 15%. <u>This wood does not include painted or treated materials.</u>
- URBAN WOOD WASTE – Source separated, untreated wood including brush, tree parts, stumps, Christmas trees and the like. This wood is processed into chip form by a portable

grinder with moisture content not to exceed 50%. This category also includes processed stumps and tree parts from land clearing operations which are processed on the site by a portable grinder with moisture content not to exceed 50%. This wood does not include painted or treated materials.

- MILL RESIDUE – Scrap wood from sawmills including blocks off the trim saw, trimmings off the edger and slabs off the head saw that have been processed through a stationary chipper with moisture content not greater than 50%. This category includes bark off the de-barker, sawdust off the head saw, planer shavings, sawdust, sander dust, and pulverized scraps from millworks and secondary wood products industries such as furniture manufacturing. This wood does not include painted or treated materials.

All wood accepted at the Watertown Facility can be classified under the following regulatory definitions, in accordance with Solid Waste Management definitions in C.G.S. § 22*a*-209a and R.C.S.A. § 22*a*-208-1:

- "Land Clearing Debris" – trees, stumps, branches, or other wood generated from clearing land for commercial or residential development, road construction, routine landscaping, agricultural land clearing, storms, or natural disasters (R.C.S.A. § 22a-208a-1).
- "Recycled wood" – any wood or wood fuel which is derived from such products or processes as pallets, skids, spools, packaging materials, bulky wood waste or scraps from newly built wood products, provided such wood is not treated wood (C.G.S. § 22*a*-209a).
- "Clean wood" – any wood which is derived from such products as pallets, skids, spools, packaging materials, bulky wood waste, or scraps from newly built wood products, provided such wood is not treated wood as defined in C.G.S. § 22*a*-209a or demolition wood (R.C.S.A. § 22*a*-208a-1).

To qualify as a Connecticut "Class I" renewable energy resource, biomass-fired facilities must utilize a renewable fuel that is harvested in a sustainable manner and the plant must have a nitrogen oxides (NO_x) emission rate of less than 0.075 lb/mmBtu. The DPUC has determined that the Watertown Facility, if constructed and operated as proposed, will qualify as such a resource[6]. As this Class I designation, with its associated eligibility for Connecticut Renewable Energy Credits, is significant to the financing of the Watertown Project, no alternatives to clean wood fuel have been considered.

The Watertown Facility will not accept any painted or treated wood. As a renewable energy facility, Watertown Renewable Power is entitled to participate in certain state and federal incentive programs which include the sale of Renewable Energy Credits (RECs) and use of the federal Production Tax Credit (PTC). In order to participate in both of the programs, the project can not use painted or treated wood as a fuel.[7] Tamarack Energy will have a quality control program in place, both with its wood chip suppliers and at the facility, to ensure only clean biomass is utilized as fuel for the facility.

6.3.1 Forecast of Available Fuel and Backup Supply

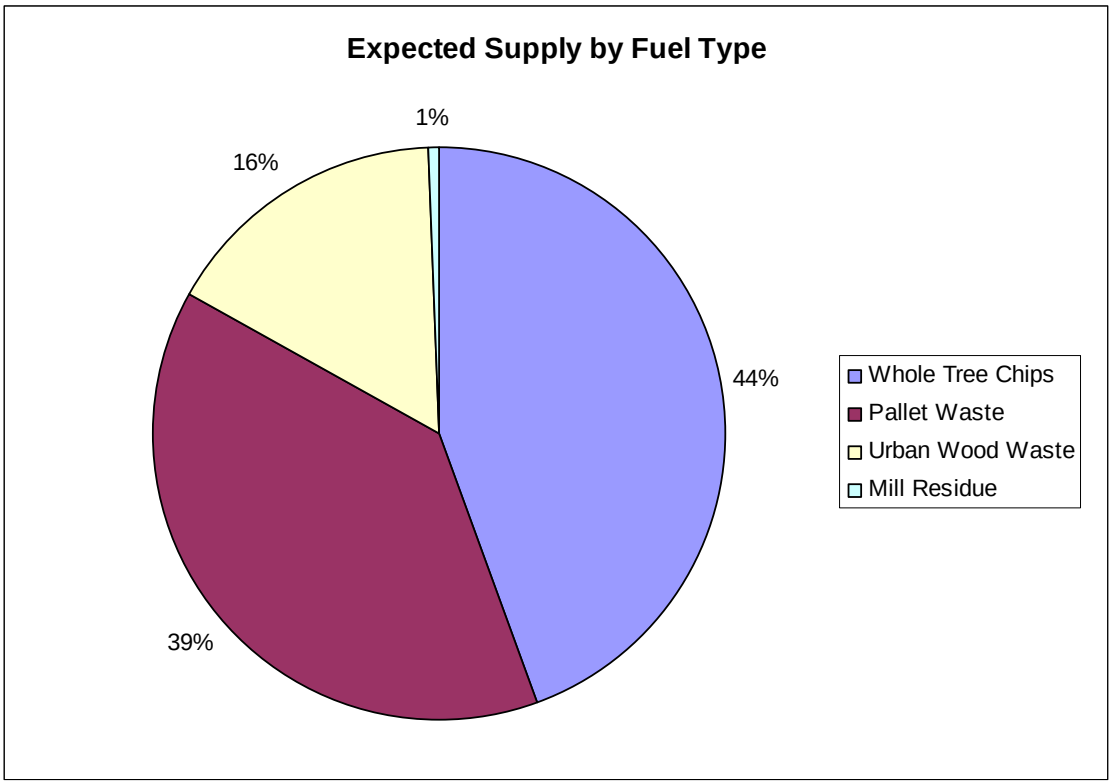
Several independent studies have found recently that between 500,000 and 1,000,000 tons of clean wood waste is currently available each year within Connecticut. These studies do not take into account the increase in available material that will result from the creation of a reliable outlet market for low grade wood fiber. A wood fuel study specific to the Watertown Project was conducted by an experienced forest products and services company, to determine the sources, types, and estimated costs of the fuel that will be required. This study confirmed that a

[6] Connecticut Department of Public Utility Control, Docket No. 06-01-01, Decision, March 15, 2006. (See Appendix M)
[7] 26 United States Code § 45 (2005)

sufficient, long-term, wood supply is available for the Watertown Project. Furthermore, the USDA Forest Inventory and Analysis estimates annual forest growth in Connecticut at over 2 million tons, more than six times the Watertown Project's consumption.

Figure 4 presents the expected supply breakdown by fuel type. Whole tree chips, produced primarily from land clearing operations, are expected to be the largest source. Chipped pallets from southwest Connecticut and New York and urban wood waste will also be major sources.

Figure 4: Fuel Supply by Fuel Type



Watertown Renewable Power has entered into an alliance with an experienced wood fuel supplier. A list of potential wood fuel sources with expected volume and fuel type can be found in Appendix C. It should be noted that the amount of wood identified in this list is well in excess of the Watertown Project's fuel requirements, before adjustment for any potential growth in the local forest products industry.

Measures are also in place to address any short-term supply interruptions that may occur as a result of seasonal variation in supply, weather events, obstacles to transportation, or other events. At the Watertown Facility, an on-site wood storage pile will hold 17-20 days of uncovered fuel to ensure that the plant can continue to operate through such an event. Watertown Renewable Power will also contract with select wood fuel suppliers for the maintenance of additional reserves.

6.3.2 Natural Gas Usage and Infrastructure

Natural gas will be used within the fluidized bed boiler as a start-up fuel prior to introducing wood fuel into the furnace. The fluidized bed boiler being used at Watertown will typically require 8-10 hours for a cold start. Warm starts can be accomplished in 2-4 hours. The Watertown Renewable Power Project will have an average of 2 to 4 cold starts per year on natural gas, typically after maintenance shut down periods during the fall and spring. In addition, the Watertown 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.

A new gas line branch will be routed to the project site by Yankee Gas. The gas pressure will be reduced to less than 1 psig where it connects to the fluidized bed boiler gas burners. A control system comprised of instrumentation, tight shut-off valves and relief valves will be provided to ensure the safe and reliable delivery of gas into the boiler.

The gas pipeline will be connected to a robust gas main that serves the Watertown and Waterbury area. A natural gas services agreement is currently being negotiated with Yankee Gas. Permitting and construction of the gas main extension required to reach the project site will be the responsibility of Yankee Gas. Through a distribution network, the existing main line serves residential, commercial and industrial users.

6.4 Combustion Technology

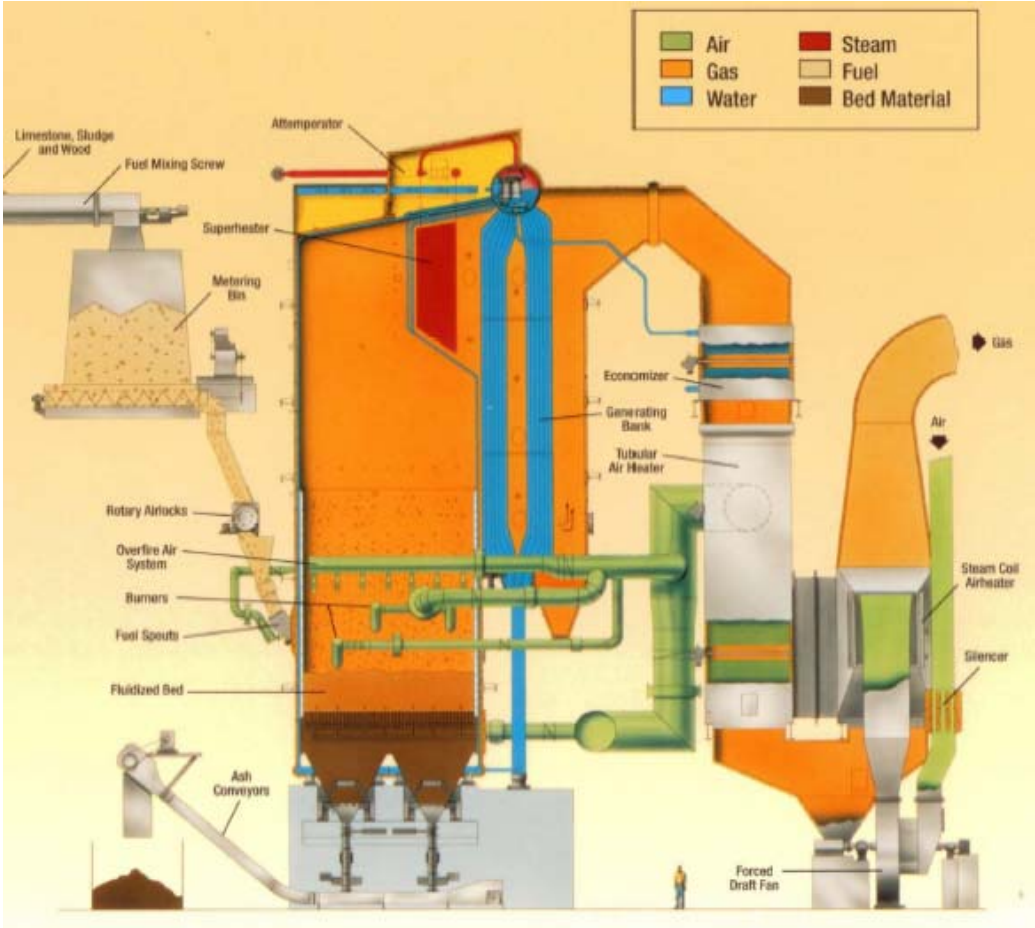
The Watertown Renewable Power Facility will be a nominal 30 MW low emission advanced biomass energy conversion facility. The Watertown Project will utilize a highly automated wood fuel receiving, storage and conveyance system to deliver wood fuel to an advanced fluidized bed gasification system that is close-coupled with a boiler that generates steam to drive a conventional condensing steam turbine generator. Fluidized bed technology is a mature process, initially developed for coal-fired power plants, and provides the capability to combust fuels with varying moisture content while producing lower emissions than conventional stoker fired boilers.

Wood fuel will be delivered by tractor-trailer trucks which will be unloaded by two hydraulically operated truck dumpers. The dumpers will lift the trailer to an angle sufficient to dump the wood fuel into a receiving hopper. Self-unloading or "walking floor" trailers will be unloaded onto a nearby paved area contained by a bulkhead. A bucket loader will transfer this fuel to the receiving hopper. The receiving hopper will utilize a heavy-duty drag chain to move wood fuel material onto a conveyor which runs below and perpendicular to the hoppers. This conveyor will deliver material to a processing building containing a screen and "hogger". Fuel of appropriate size passes through the screen and continues to a stacker conveyor for outdoor storage. Fuel that does not pass through the screen will be directed to the hogger where the material will be sheared to the appropriate size for delivery into the boiler. The hogged fuel will be sent to the same stacker conveyor as that which passed through the screen. The stacking system will uniformly distribute the wood onto an outdoor pile for storage.

Wood fuel is delivered from the on-site storage pile to the fluidized bed boiler using a series of conveyors. The final conveyor in this series will drop fuel into a surge bin located on

the “front” of the boiler. The wood is metered from the surge bin into the boiler’s fluidized bed by parallel screw feeders located at the base of the bin.

Figure 5: Typical Fluidized Bed Gasifier[8]



Once injected into the fluidized bed, the wood fuel is mixed by a stream of hot air forced upward through the bed of free-flowing wood chips and sand materials. The temperatures and air velocities in the gasifier are high enough that the wood fuel and sand particles are widely separated and circulate freely, creating a “fluidized-bed” that looks like a boiling liquid and has the physical properties of a fluid. The fine particles and volatile materials that escape the bed are burned in the freeboard area above the bed. This process provides longer residence time and

[8] Source: Babcock and Wilcox

better particle abrasion for improved carbon utilization, results in extremely thorough combustion, and provides very efficient heat transfer to the furnace walls and tubes. The controlling parameters in the fluidized bed combustion process are temperature, residence time, bed composition and turbulence.

The steam produced in the fluidized bed gasification system will be used to power a conventional steam turbine generator capable of producing approximately 30 MW of electrical energy. A portion of the plant output will be used to satisfy internal plant loads (approximately 3 MW) and the balance (approximately 27 MW) will be exported to the regional power grid through a short interconnection to an existing 115 kV transmission line.

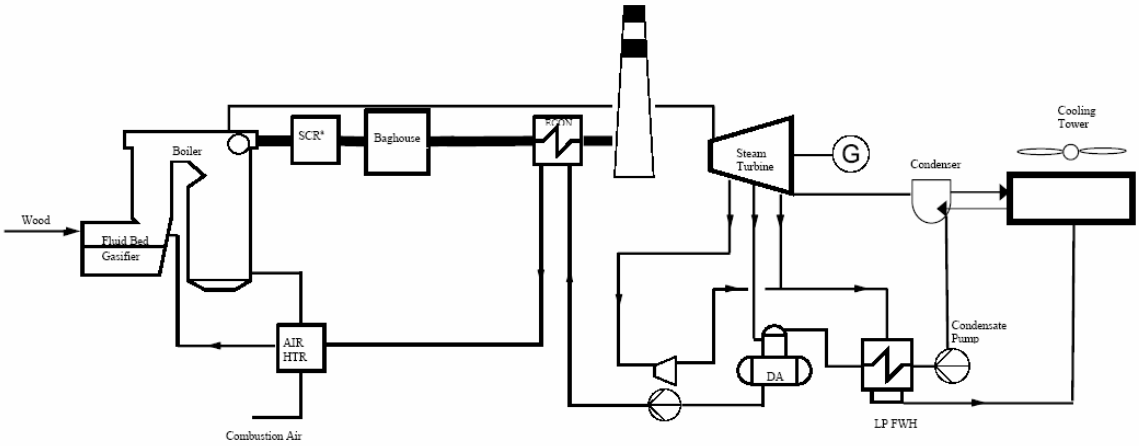
6.5 Control Systems including Pollution Controls

6.5.1 Pollution Control Technology

The proposed Watertown Facility will employ advanced, state-of-the-art air pollution control technology to be among the best controlled and lowest-emitting biomass energy facilities of its size constructed and operated in the northeast. The proposed air pollution controls consist of a combination of fuel characteristics/quality control, energy generation technology and flue gas controls. The facility will be fueled with 100% clean biomass. The primary fuel for this facility will be waste wood generated from sound forest management practices, tree trimmings produced by utility and municipal maintenance crews, stumps and unusable wood generated from land conversion activities and clean recycled pallets. The wood fuel received at the Watertown Facility will not include painted or treated material.

The proposed power generation technology is an advanced fluidized bed gasification system that is close-coupled with a boiler that generates steam to drive a conventional condensing steam turbine generator. The gasification system is designed to operate at low temperature and low excess air in order to minimize formation of nitrogen oxide (NO_x) emissions. NO_x emissions are a primary contributor to smog. The fluidized bed design also ensures efficient mixing, gasification and ultimately combustion of fuel particles, resulting in minimized formation of carbon monoxide (CO) and unburned hydrocarbons or volatile organic compounds (VOCs). The addition of alkaline materials, such as limestone, lime or dolomite, into the fluidized bed also provides for the capability to control sulfur and other acid gas constituents within the fluidized bed. Alternatively, a reagent injection system may also be provided ahead of the baghouse in lieu of or in addition to the bed additive system. It is anticipated that reagent injection will not be necessary under most conditions in order to meet the proposed air permit limits.

Figure 6: Close-Coupled Fluidized Bed Gasifier Process Flow and Conceptual Arrangement Diagram



[a] Hot-side (before baghouse) SCR location depicted. Final decision on location of SCR (hot-side or cold-side) is pending further evaluation and will be made prior to permit issuance.

In addition to strict fuel quality controls and advanced fluidized bed gasification technology, the Watertown Facility will use state-of-the-art flue gas controls to further reduce emissions. For NO_x control, selective catalytic reduction (SCR) will be used, resulting in a NO_x emission rate of no more than 0.075 lb/MMBtu. SCR involves injection of ammonia, typically in a diluted gaseous or aqueous form upstream of a catalytic reactor, where it is reacted with NO_x to form nitrogen and water. The SCR can be located either on the hot side or cold side (upstream or downstream) of a fabric filter (baghouse) system for high-efficiency particulate and trace metals control.

A Continuous Emissions Monitoring System (CEMS) will provide measurement of emissions levels and a means of reporting so that the facility can demonstrate environmental compliance to state regulatory agencies. It is anticipated that the Watertown Facility will be required to monitor NO_x, CO, and sulfur oxides (SO_x).

The Watertown Facility will be carbon neutral and will therefore help to combat global warming[10]. The carbon dioxide (CO_2) the facility will release would have otherwise been emitted as CO_2 or methane, another greenhouse gas, as the plants and trees naturally decompose in the forest or landfills.

BACT/LAER Analysis

As a new Major Stationary Source the facility is required to demonstrate use of Best Available Control Technology (BACT) for criteria air pollutants. In addition, Watertown is classified as serious nonattainment area for NO_x, an ozone (O_3) precursor, and therefore Lowest Achievable Emission Rate (LAER) requirements are applicable for NO_x emissions. CTDEP BACT requirements will apply to emissions of particulate matter less than 10 microns (PM_{10}), $PM_{2.5}$,

[10] Spath, Pamela L. and Margaret K. Mann, *Biomass Power and Conventional Fossil Systems with and without Carbon Sequestration*. National Renewable Energy Laboratory. January 2004.

NO_x, SO_x, CO, VOCs, and ammonia (NH_3). A BACT/LAER analysis was conducted to demonstrate that the proposed controls meet the respective BACT and LAER requirements for the proposed Watertown Facility and to support the project's air permit application. A summary of BACT/LAER determinations for the Watertown Renewable Power project is included below:

Table 1: Summary of BACT/LAER Determinations

Pollutant	Proposed BACT/LAER Technology	Proposed BACT/LAER Permit Limit[11]	Compliance Demonstration Basis
Biomass-Fueled Close-Coupled Fluidized Bed Gasifier (FBG)			
$PM_{10}/PM_{2.5}$ (BACT)	Baghouse	0.02 lb/MMBtu (filterable)[12] 0.017 (condensable)[13] 0.037 (total)	Stack Test + Continuous Opacity Monitor (6-minute average)
CO (BACT)	FBG and good combustion control	0.1 lb/MMBtu (99.3 ppmvd @ 7% O_2)	CO CEMS (8-hour block average)
VOC (BACT)	FBG and good combustion control	0.01 lb/MMBtu (17.4 ppmvd @ 7% O_2)	Stack test + CO CEMS (as surrogate)
NO_X (LAER and BACT)	FBG and SCR	0.075 lb/MMBtu (45.3 ppmvd @ 7% O_2)	NO_X CEMS (24-hour block average)
NH_3 slip (BACT)	No add-on controls; optimization with SCR ammonia injection for NO_X control	20 ppmvd (uncorrected for O_2)	NH_3 CEMS (24-hour block average)
SO_X (BACT)	FBG bed additives and/or dry injection ahead of baghouse (only as needed to meet emission limit)	0.035 lb/MMBtu 15.2 ppmvd @ 7% O_2)	SO_2 CEMS (3-hour block average)
HCl	FBG bed additives and/or dry injection ahead of baghouse (only as needed to meet emission limit)	0.005 lb/MMBtu (3.8 ppmvd @ 7% O_2)	Stack test + SO_2 CEMS (as surrogate)
Wet Cooling Tower			
$PM_{10}/PM_{2.5}$ (BACT)	Drift eliminators		Inspection and maintenance of drift eliminators
Emergency Diesel Engine Generator and Fire Pump			
All pollutants	Emergency operation only, < 300 hours/year	Certified low-emissions equipment (EPA Tier 3)	Monitoring of operating hours

The BACT analysis was conducted consistent with the definition of BACT in R.C.S.A. § 22*a*-174-1(15), the requirements in § 22*a*-174-3a(j), and guidelines developed by the US

[11] Equivalent concentration limits (ppmvd @ 7% O_2) based on a wood F-factor of 9,240 DSCF/MMBtu.
[12] Filterable particulate matter (PM-10 and PM-2.5) as measured by EPA Reference Method 5 or 17.
[13] Condensable PM-2.5 and total PM-2.5, including condensables, are estimated based on EPA AP-42 emission factor for condensable PM from wood residue, Table 1.6-1, Fifth Edition, September 2003. Demonstration of compliance with PM-2.5 condensable emission limits shall be met by calculating the emission rates using the reference AP-42 emission factor.

Environmental Protection Agency (USEPA) and the Northeast States for Coordinated Air Use Management (NESCAUM) for conducting "top-down" BACT analyses. This methodology results in the selection of the most stringent control technology in consideration of the technical feasibility and the energy, environmental and economic impacts. Control options are first identified for each pollutant subject to BACT and evaluated for their technical feasibility. Options found to be technically feasible are ranked in order of their effectiveness and then further evaluated for their energy, economic and environmental impacts. In the event that the most stringent control identified is selected, no further analysis of impacts is performed. If the most stringent control is ruled out based upon economic, energy or environmental impacts, the next most stringent technology is similarly evaluated until BACT is determined.

The LAER determination for NO_x was conducted in accordance with the requirements of R.C.S.A. § 22*a*-174-3a(l)(3).

6.5.2 Instrumentation and Control Systems

The Watertown Project will be operated by extensive automation processes networked together by a state-of-the-art power plant control system. By utilizing remote instrumentation placed at locations within piping systems, on the fuel conveyance systems and linked to the plant electrical systems, the plant Distributed Control System (DCS) will provide plant personnel with real-time data in order to make informed facility operations decisions.

Instrumentation incorporated into the facility will be selected on the basis of functionality and reliability in order to provide the maximum level of safe automation. The instrumentation and controls systems will have appropriate redundancy so that a critical component failure will not jeopardize plant safety or reliability.

Through the use of the DCS system, the operations personnel will be able to initiate step changes in processes such as fuel feed into the boiler and generator output to the utility. As these processes are adjusted the operator will be able to monitor the effects to the systems and, if required, provide adjustments to ensure that the facility complies with its environmental permits and that safety is maintained.

6.6 Cooling System

The Watertown Project will employ a conventional wet cooling tower using water from the Watertown Municipal Water System for the purpose of condensing the steam exiting the turbine generator. A wet cooling tower using municipal water was selected after an analysis of alternative cooling technologies and alternative cooling water sources, described in detail below.

Alternative Water Sources

Alternative water supply sources, including withdrawal from the Naugatuck River were considered for the project. This would have necessitated obtaining property easements, extensive engineering and permitting work, construction of an intake structure in the river, installation of a 1 mile long pipeline along Echo Lake Road, and construction of a pumping station to accommodate the 500 foot elevation gain between the river and the plant. A substantial auxiliary load burden, resulting in lower plant performance and reduced efficiency, would also result.

If the Naugatuck River was chosen as a potential source for facility make-up water, an extensive and lengthy permit process would be required. A seasonal river flow analysis, impacts to aquatic life as well as visual impacts are factors that would be considered during the permitting process. Construction of a river intake structure/pumping station would involve disturbance of the watercourse and riparian surroundings. The impacts, both financial and

environmental of using a river water supply, outweigh any benefit that would be gained in avoiding the use of an established municipal water supply.

A second option is to pursue the installation of a series of wells to withdraw groundwater from the project site. This would be contingent upon finding an aquifer at a reasonable depth, of sufficient capacity and longevity to supply the project with water for at least 30 years. An additional important consideration for water withdrawn from a ground source is that it be of proper quality to use within the high pressure steam boiler and cooling tower. If water quality is low, extensive use of water treatment clean-up equipment and chemicals could be necessary.

Alternative Cooling Technology

A third option would be to eliminate wet cooling and install a dry cooling system using an air-cooled condenser. Dry condensers use air instead of water to recover steam exiting the turbine generator. During periods of high ambient temperature, dry cooled systems require a greater parasitic load to operate than do water cooled systems, meaning less power is delivered to the grid during critical summer load periods. Annual operating costs are also greater with a dry condenser. Dry cooled systems are less efficient than water cooled systems because they result in greater back pressure at the steam turbine outlet, meaning a larger turbine generator and more steam is required to produce the same amount of power. This reduces the plant's efficiency and increases air emissions on a per MW basis. According to calculations by the owner's engineer the reduced net output resulting from the use of a dry cooled system would result in a 1 – 2% increase in emissions of all criteria pollutants per MW of output. Finally, the capital costs of a dry cooled system are significantly greater than a water cooled system. The incremental cost for a dry cooled system at the Watertown Facility was estimated to be $2 million. The benefits of water cooled over dry cooled systems have also been recognized by the USEPA, which found

that the energy penalty for a dry cooling system over a wet cooling system could be as high as 8% of total plant output during peak summer load periods[14]. For all the reasons listed above, and the fact that municipal water supply is available and adequate, the Watertown Project has selected a water cooled system.

6.6.1 Water Supply

The Watertown Facility will require 500,000 – 600,000 gallons per day of water to support its steam turbine cooling system, boiler make-up and other domestic uses. The required water will be purchased from the Watertown Municipal Water System. Fire protection water will be supplied from the same system. In a letter of commitment dated October 5, 2007, the Watertown Water & Sewer Authority confirmed that it has "sufficient water sources and distribution capacity" to provide the required services for the life of the Watertown Facility, based upon a study of system reliability. Watertown Renewable Power expects to execute a Water and Sewer Services Agreement with the Watertown Water & Sewer Authority by December 31, 2007. The commitment letter, along with the facility water balance and details of the water requirements can be viewed in Appendix E.

The Watertown Water & Sewer Authority's Water Supply Master Plan dated February 2004 describes the current conditions of the Watertown Municipal Water System and outlines a plan for future growth. The Watertown Water & Sewer Authority has a long-term agreement with the City of Waterbury for the supply of 3.0 million gallons per day (MGD), while average daily water consumption has been just over 1 MGD, leaving room for significant expansion. This robust system serves approximately 12,000 industrial, commercial, and residential users in the Watertown area.

[14] *Technical Development Document for the Final Regulations Addressing Cooling Water Intake Structures at New Facilities*, EPA 821-R-01-036, November 2001.

6.6.2 Effluent Discharge

Sanitary waste and process wastewater, approximately 100,000 gallons per day, will be discharged via an underground pipeline to the Watertown sewer system main located along Echo Lake Road. Boiler and cooling tower blowdown will account for approximately 60% of the wastewater stream, with the remainder coming from equipment service water through an oil/water separator, and a small amount from sanitary wastewater. The blowdown will be within the limits established by the Watertown Water & Sewer Authority and the Waterbury publicly-owned treatment works (POTW), which receives all wastewater from Watertown. The facility water balance is included in Appendix E.

6.6.3 Water Supply Infrastructure

The 12-inch municipal water main that currently terminates 1200 feet west of the site along Echo Lake Road will be extended to the property. The Watertown Water & Sewer Authority indicates that sufficient pressure and capacity is available, and that the necessary upgrades can be complete by December 1, 2008 to support construction activities at the site.

6.7 Ash/Waste Disposal

A fluidized bed gasification system does not produce bottom ash. Periodically, sand captured from the fuel must be drained from the sand hopper. This excess sand is suitable for use as a building material. Fly ash will be generated at a rate of approximately 1.5 tons/hour. As the incoming fuel will be entirely clean wood, the resulting ash will be non-hazardous, and can have substantial benefits as a soil additive. The ash will be collected in a container or dumpster which will be sampled, hauled off-site periodically and may be used for soil amendment by farmers and

forest managers or other beneficial use such as an additive to concrete. Ash will be handled, stored and disposed of in accordance with all applicable laws and regulations.

6.8 Transmission Interconnection

Tamarack Energy filed a revised Large Generator Interconnection Application on December 22, 2006 with ISO-NE to tie into either CL&P's 115 kV Frost Bridge to Campville Line No. 1191 or the 115 kV Frost Bridge to Carmel Hill Line No. 1238. Both of these lines pass in the same right-of-way approximately 1000 feet north of the project site, line 1238 being the line located closest to the project site. A Feasibility Study is ongoing by ISO-NE. Originally targeted for completion in June 2007, the study continues to be delayed by ISO-NE and Northeast Utilities due to a substantial backlog in the interconnection queue. Based on recent conversations with these entities, the Feasibility Study is now expected to be released mid-November 2007.

The Feasibility Study will be followed by a System Impact Study and Facility Study to determine the impact, required upgrades, and cost associated with the interconnection. Because the project is relatively small, and an interconnection on a relatively robust section of the transmission system has been identified, it is not likely that major upgrades will be required. Following the System Impact Study the NEPOOL Reliability Committee and Transmission Committee will review and approve the studies, a process known as I.3.9 approval. Following this approval, a Large Generator Interconnection Agreement will be executed between CL&P and Tamarack Energy and the interconnection facilities will be installed during facility construction.

On October 3, 2007 Tamarack Energy received a Qualification Determination Notification Letter from ISO-NE for the Forward Capacity Market. The initial interconnection studies performed as part of this qualification process indicated no significant system upgrades

would be needed to complete this interconnection. These studies are independent from the Large Generator Interconnection Procedure studies but are an indication of what is expected.

The connection of the Watertown Facility to the transmission system will require an approximately 1000 foot long right-of-way (ROW) through the Mattatuck State Forest (see map in Appendix F). A ROW request was submitted to CTDEP and approved subject to several stipulations including a requirement that the interconnection line be underground (see letter in Appendix F). The use of an underground interconnection line will increase the project cost somewhat but will help to minimize the impacts on the State Forest. The cleared ROW area will be replanted and maintained as a meadow area. The interconnection route will not impact any wetland areas.

6.9 Estimated Project Costs

6.9.1 Plant and Fuel Costs

The total installed cost of the Watertown Project is expected to be between $100 to $105 million, which will be funded by a combination of equity and debt. The total hard costs of the power plant will be approximately $90 to $95 million for the facility including any potential transmission upgrades. Financing costs, including funding the debt service reserve account and paying interest during construction, account for the remaining $10 million.

Fuel costs will vary depending on fuel type, processing requirements, and proximity to the plant. Project-specific market studies indicate that fuel costs will range from $10 to $22 per green ton delivered, with an anticipated weighted average of $18 per green ton (2007 dollars).

6.9.2 Generating Costs/kWh

Annual operating costs for the Watertown Facility, including fuel, maintenance, and administrative expenses, are expected to be approximately $12 million (year 1). Assuming a capacity factor of 92%, the net output of the power plant will be approximately 217,500,000 kilowatt-hours (kWh) per year, meaning the variable generating costs will be 5.5¢ per kWh. In addition to operating costs, the Watertown Project will incur annual debt service payments, capital expenditure reserves, and income tax obligations.

6.9.3 Comparative Costs of Alternatives

With a total installed cost of $100 to $105 million and a gross power output of 30,000 kilowatt (kW), the Watertown Project will have a normalized cost of $3,333 to $3500 per kW. ISO-NE recently issued a report that evaluated multiple scenarios for meeting the growing demand for power in New England. Table 2, from that report, contains the capital costs of most other conventional and renewable energy generating technologies. The Watertown Project costs fall within the range that ISO-NE expects for biomass technology. While there are technologies listed in Table 2 that may have a lower cost per kW than biomass, they cannot be considered to be suitable alternatives. Other factors such as permitability, resource availability, air quality, and public need must be considered in the selection and siting of a particular technology of a particular size. In fact, the CCEF found that the Watertown Project had the lowest cost impact to ratepayers of all other biomass and renewable power applicants[15].

[15] *Project 100 Round II: CCEF Advisory Committee and CI Investment Committee Review*. Presentation, March 26, 2007. Slide 54.

Table 2: Capital Costs of Energy Generating Technologies[16]

Technology	Energy Source	Typical Unit Size (Nameplate MW)	Heat Rate (Btu/kWh)[a]	Equipment Availability (%)	Capital Costs (2006 $/kW)	Sources[b]
Nuclear	uranium	1,080	10,000	90	3,000–5,000	NEI, 2007; Westinghouse, 2007
Coal IGCC	Appalachian coal	600	8,600	80	2,500–3,500	DOE, 2007d; EPA, 2006; EPRI, 2005; MIT, 2007
Coal IGCC with carbon capture[c]	Appalachian coal	600	9,750	80	2,900–3,900	EPA, 2006; EPRI, 2005; MIT, 2007; UN, 2005
Natural gas combined cycle	natural gas	400	6,500	90	800–1,000	GE Energy, 2005
Natural gas combustion turbine	natural gas	100	8,500	90	500–700	GE Energy, 2005
Fuel cells[d]	natural gas	1	8,000	95	3,500–4,000	Fuel Cell Energy, 2007
Biomass	wood chips	40	14,000	90	2,500–3,500	CT Projects, 2007; NH DES, 2007
Hydro	water	5	N/A	90	3,000–4,000	NE Developer, 2007
Landfill gas	landfill gas	5	10,500	90	2,000–2,500	NE Developer, 2007
Combined heat and power[d]	natural gas	5	9,750	90	1,000–1,500	Solar Turbines, 2005
Solar photovoltaic	sun	1	20%[e]	98	4,000–6,000	UMASS RERL, 2007
Onshore wind	wind	1.5	N/A	90	1,500–2000	Levitan, 2007b, UMASS RERL, 2007
Offshore wind	wind	3.5	N/A	90	2,000–2,500	Levitan, 2007b, UMASS RERL, 2007

6.9.4 Life-cycle Costs

The Watertown Facility is expected to have a service life of more than 30 years. The total installed cost of the Watertown Project is expected to be between $100 to $105 million. In addition to the annual operating costs described above, the Watertown Project cost projections include maintenance reserve accounts for periodic SCR catalyst refurbishment and major equipment overhauls every 15 years.

7. FAA Determination

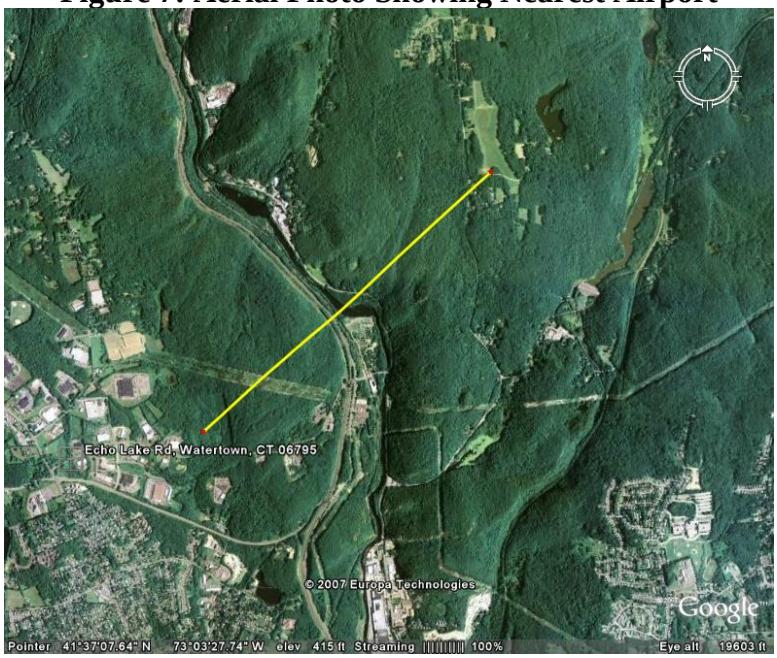
The Federal Aviation Administration (FAA) must be notified of any new construction that may affect navigable airspace if that construction is to be more than 200 feet tall, on or near an

[16] ISO-NE, New England Electricity Scenario Analysis, August 2, 2007.

airport, seaplane base, heliport, or military base, in a traverse way, or if requested by the FAA. The Watertown Facility does not meet any of these criteria, as the stack will be 170 feet tall, and the project site is not near an airport.

The Oxford Waterbury airport is located approximately 9 miles southwest of the Watertown Facility site. There is also an unpaved runway 2 miles northeast of the project site called the Waterbury airport. Figure 7 shows the project site and the Waterbury airport with a yellow line 2 miles in length indicating the distance between the Watertown Facility site and the runway. As the runway runs roughly north-south, the project site is not in the flight path. Further, the Waterbury airport is at an elevation of approximately 850 feet, or 220 feet above the base of the Watertown Facility stack.

Figure 7: Aerial Photo Showing Nearest Airport



The Watertown Facility does not meet any of the criteria that would require notification of, or review by, the FAA.

8. Alternatives Analysis

Watertown Renewable Power has evaluated several alternatives to the proposed project including alternative power generation technologies, alternative project sizes, and alternative methods of environmental control. The following sections detail how the considerable benefits of the proposed project outweigh the minimal environmental and social impacts. A discussion of alternative sites is included in Section 10: Site Identification and Evaluation Process.

8.1 Fossil Fuel Fired Generation Alternative

In 2003, the Connecticut Legislature recognized the need for the state to reduce its dependence on imported fossil fuel power plants, and passed a landmark renewable energy bill. This bill (now CT Public Act No. 03-135) promotes the development of clean, renewable power generation, and requires that a minimum of 100 MW of renewable power from Connecticut projects be purchased by the two Connecticut utilities.

The Watertown Project is a 30 MW biomass-fueled power plant that will provide Connecticut with renewable electrical power to meet the objectives of the Public Act 03-135. It will use wood from a variety of biomass sources such as tree thinnings, pallets and recycled clean waste wood. The energy created is renewable because its fuel is replenished annually, compared to the millions of years required to create fossil fuels.

The Watertown Project is being developed as a renewable biomass energy project specifically in response to Public Act 03-135; therefore, fossil fuel generation was not considered as an alternative during project development.

8.2 Alternative Biomass Power Generation Technologies

Potential biomass power generation technologies identified during project development include mass burn or spreader-stoker combustion and fluidized bed gasification. Mass burn or spreader-stoker combustion was ruled out early in the technology evaluation process as the technology is not considered state-of-the-art or capable of meeting the criteria for low-emission advanced renewable energy conversion technologies for Class I designation under Connecticut statutes. Emissions of combustion air pollutants, such as NO_x, CO and VOCs, are inherently lower with more advanced fluidized bed gasification technology than spreader-stokers or mass burn combustors. Emissions of SO_x and other acid gases from biomass combustion are also more effectively controlled with fluidized bed gasifiers than spreader-stokers or other mass burn combustors. Based on these considerations, Watertown Renewable Power is proposing close-coupled fluidized bed gasification technology for the Watertown Project.

8.3 Alternative Project Sizes

The Watertown Project's optimum size is a function of the economics of scale and the amount of available biomass fuel. Economic efficiencies occur above approximately 25 MW of electrical generation because of the corresponding unit's development, capital and operating cost. Units below this threshold tend to have a higher capital cost relative to net electrical generation and no savings in operating cost (other than fuel expense) when compared to the larger size units. Economics dictate the construction of larger units, which generate greater electrical production with relatively smaller capital cost to electrical generation ratios and similar operational cost (excluding fuel cost) when compared to smaller biomass units.

The other major determinant in size selection for biomass fueled units is the availability of wood fuel on reasonable economic terms. Watertown Renewable Power reviewed the

available fuel supply and corresponding pricing based on extensive discussions with potential fuel suppliers and study of available fuel resources, as described in Section 6.3. Based on this work, Watertown Renewable Power decided on a capacity of 30 MW. This capacity provides a number of benefits. It reduces the overall cost of electrical production and provides the project with sufficient financial viability to support the most current and effective pollution control technology.

9. Reliability and Safety Information

9.1 Reliability

9.1.1 Historic and Expected Availability of all Project Components

The Watertown Project will utilize a fluidized bed gasification system. This is a mature, proven technology that was originally designed for use in coal power plants, and has been used in biomass applications for over 20 years. Fluidized bed gasification was introduced as a preferred option to traditionally combusting biomass fuels on a stoker grate. The principal advantages of the fluid bed technology are lower combustion zone furnace temperatures (1400-1600 degrees F) compared with stoker boilers and no moving grate. The fluid bed gasifier has a large bed of sand at the bottom of the furnace and, therefore, no moving grate. Because of the sand bed's high thermal inertia, it is much easier to maintain a uniform and consistent temperature within the furnace. Lower and more consistent bed temperatures allow for load stability which leads to greater operational control and less NO_x and CO formation. Further, fuel particles are captured by the sand and have a longer furnace residence time resulting in more complete combustion and less particulate carry-over. Due to the sand bed having a large thermal mass, the fluid bed gasification system is able to handle a wide range of woody fuels that contain varying moisture

contents while maintaining a relatively low furnace temperature. This fuel flexibility enables the Watertown Project to draw from a more diverse fuel supply without the concern of operational issues that would be associated with a boiler using stoker technology.

In addition to the biomass gasification system, the facility will incorporate a 30 MW steam turbine generator for power production; a material handling system for wood fuel receiving, storage and conveyance to the boiler; an electrical switchgear and distribution package; a state-of-the-art Distributed Control System (DCS); and various ancillary equipment including pumps, compressors and heat exchangers. All of these components integrated into the Watertown Project will be proven technologies used for decades in industrial and power production projects throughout the world.

Fuel will be supplied from multiple sources and suppliers. A diverse mix of fuel from whole tree chips, mill waste, urban wood waste, and pallets will reduce the effects of seasonal fluctuations and weather events on the fuel supply. The Watertown Facility will receive fuel up to six days per week throughout the year. Access to different fuels, proximity to a quick and efficient roadway transport system and the six day receiving schedule enhances the Watertown Project's reliability by providing a supply pipeline of wood fuel on a regular basis.

The Watertown Facility will be subject to routine, annual planned maintenance outages during the spring and/or fall seasons which are the non-peak or "shoulder" months for electricity demand. Dependent on operating conditions, particularly fuel quality, the Watertown Project will need to be off-line for scheduled maintenance for two to three weeks during the year. Additionally, there may be unplanned outages that will likely total one week per year. It is therefore expected that the Watertown Project will be out of service for up to 28 days per year for planned and unplanned outages, corresponding to nearly 8% down time. Consequently, the

facility should be on line for 337 days, operating at full capacity around the clock, resulting in a capacity factor of 92 %.

9.1.2 Availability of Off-site Resources

The Watertown Project will require wood fuel, water and wastewater disposal, natural gas, and a connection to the electrical transmission system to operate. In the development of this project arrangements are being made to ensure uninterrupted, long-term access to these resources.

The long-term availability of wood fuel for the project has been substantially documented by several wood fuel studies, including a project-specific study conducted by an established wood fuel supplier, and is described more fully in Section 6.3.1 of this petition. Watertown Renewable Power will enter into a long-term contract for the supply of wood fuel to the project. A list of potential wood fuel suppliers representing well in excess of the project's fuel requirements is presented in Appendix C. Sufficient wood fuel will be stored on-site for 17-20 days of plant operation to provide a buffer against potential short-term fuel supply interruptions. Watertown Renewable Power will also contract with select wood fuel suppliers for the maintenance of additional reserves.

Water will be provided by the Watertown Municipal Water System. A commitment letter from the Watertown Water & Sewer Authority is included in Appendix E, demonstrating their intention to provide this service for the life of the Watertown Facility. Watertown Renewable Power expects to execute a Water and Sewer Services Agreement with the Watertown Water & Sewer Authority by December 31, 2007.. According to the 2004 Watertown Water Supply Master Plan, "the existing water distribution system is in relatively good condition, not requiring significant improvements or changes in operation."

The gas service connected to the plant will be from a reliable main controlled by Yankee Gas. A natural gas services agreement is currently being negotiated with Yankee Gas.

The Watertown Facility will be a base-loaded power production facility directly connected to a robust section of the ISO-NE 115 kV high voltage transmission system that links to a major Northeast Utilities substation (Frost Bridge, approximately 1 mile from the site) so the likelihood of an outage due to grid failure is extremely remote.

9.1.3 Mechanisms for Contingency

A comprehensive maintenance plan, including long-term preventative maintenance, will minimize outage times for all of the plant systems and provide the availability to support a capacity factor of 92%.

While certain components will experience failures, the Watertown Project will design in redundancy where practical; such as spare processors, controls stations and a redundant data highway for the DCS. Where not practical, such as a fuel conveyor, the Watertown Project will carry sufficient spare parts in its on-site inventory and have trained maintenance staff capable of addressing part failures in addition to having contracts in place with local mechanical and electrical contractors and supply houses that offer rapid response times. As the facility utilizes a fluid bed, the thermal mass will continue to provide sufficient heat for steam production even if the fuel feed system experiences an outage lasting 2-3 hours. If there is a prolonged outage during critical load periods, the natural gas start-up burners can be dispatched to provide part load (approximately 40%) while maintenance crews work to correct problems.

A long-term, diversified, and sustainable supply of wood fuel is available for this project. Short-term supply interruptions will be accommodated by wood fuel storage on and off-site.

9.2 Safety

The Watertown Project will be designed, constructed, and operated in accordance with all applicable local, state, and federal laws, codes, and standards and in compliance with good engineering and operating practices to promote safety. A Distributed Control System (DCS) will allow the plant operator to monitor and control virtually all power plant and fuel yard systems from a station in the control room. Built-in redundancy and fail safe procedures are essential to the safe and efficient operation of the facility.

9.2.1 Emergency Management, Safety & Evacuation Planning

The plant control system (as described in Section 6.5.2) will function to notify plant operators of any issues and automatically shut down the gasifier in the event of an emergency. The technology employed by the Watertown Project is inherently safe, and an incident would be unlikely to pose a significant threat to off-site locations. Biomass power facilities do not lend themselves to the release of hazardous materials or to the creation of conditions that could necessitate the evacuation of nearby areas.

Watertown Renewable Power will work with local Watertown emergency management officials and agencies in developing and implementing an Emergency Management and Response Plan. Prior to commercial operations, members of local emergency management and response agencies will also be invited to the plant to allow them to become familiar with the plant, its operations, and procedures for dealing with emergencies.

During construction, all contractors will comply with applicable local, state and federal health and safety requirements. A project safety manager will be identified to monitor on-site safety. Gates and fencing will be used as appropriate to support site security and safety.

At the start of commercial operations, Watertown Renewable Power will identify a safety manager who is part of the operations team with the responsibility of implementing and maintaining the Emergency Management and Response Plan. Key elements of this plan and other operating procedures that will contribute to project safety are listed below:

- Training for all operating staff in the procedures of the Emergency Management and Response Plan and safe plant operation. Additional health and safety training will occur as appropriate in areas such as confined space work, handling of toxic or hazardous chemicals, electrical work, spill prevention and response, and first aid. Fire prevention and suppression training will also be provided to all plant staff.
- Automatic emergency shutdown for all key plant systems including the gasifier, steam turbine, and fuel handling and feed equipment.
- An emergency generator with an automatic transfer switch that will come on-line immediately after a loss of power within the facility. The emergency generator will provide power for the DCS, lighting, communications, and safety equipment as well as other systems required to ensure a safe plant shutdown.
- A diesel-fueled emergency boiler feed pump will be provided to comply with National Fire Protection Association (NFPA) requirements. The pump will continue to supply water to the boiler after a power failure such that the boiler, which will continue to generate heat after an outage, is not exposed to excessive heat due to poor water circulation.
- Regular maintenance and inspection programs will be implemented that will ensure that all equipment is in good operating condition at all times.

- The Watertown Project will be designed to provide fire detection, suppression, and ease of access by emergency vehicles and equipment.

Specific elements of the Emergency Management and Response Plan will include:

- Communications during emergency conditions including mustering area and head count.
- Appropriate operating systems and response equipment for each of the two basic operations at the site – operation of the gasification and power generation equipment, and operation and management of the wood fuel storage area.
- Communications to local, state, and federal emergency response personnel as appropriate.
- Means of notifying all employees of emergency conditions.
- Identification of all parties to be notified in the event of an emergency, and the sequence in which they are to be contacted.
- Consideration of natural and man-made emergencies, including internal sources of emergencies.
- As applicable, means to rescue, evacuate, and treat operating employees impacted in emergency conditions.
- Identification of responsible parties to implement each response action.

Watertown Renewable Power does not expect that an event will require the evacuation of the Watertown community. As such, the Watertown Project does not anticipate that an evacuation plan will be needed. Additionally, the area contains a robust network of major roads, including Route 8.

9.2.2 Provisions for Emergency Operations & Shutdowns

The Watertown Project is being designed with a modern plant DCS, which will automatically, in concert with operations staff, assist in the efficient shutdown of the fluid bed gasifier and related equipment.

Normal shutdowns for routine maintenance will be carried out in accordance with a Plant Operating Procedures manual. This will involve the shutdown of the fuel feed system to the boiler (the truck dumpers and storage system will continue to receive fuel) allowing the surge bin fuel inventory to be exhausted. As the remaining wood is gasified, the steam load will gradually taper off and the steam turbine will be reduced in output until such time that the generator can be taken off-line. Feedwater and cooling water systems will continue to operate to reject residual heat until such time the operators deem it safe to remove the pumps from service. As systems are shutdown, operators will lock-out and tag-out valves, disconnect switches and other shut-off devices so that maintenance work can proceed safely.

Emergency shutdowns require immediate operator attention and usually the rapid initiation of system isolation. Many of these functions will be initiated through the DCS. There are occasions, however, which require the operators to manually shut down a system. Plant personnel will be required to have the appropriate experience and proper site-specific training to deal with all emergency shutdowns of the plant.

In the event that a site emergency results in the suspension of fuel deliveries, acceptance of biomass will be terminated until plant operators and, as applicable, emergency personnel have determined that the emergency condition has been addressed and that it is safe to resume accepting deliveries.

Hand held radios will be used at the site for instant communications between operating personnel. In addition, telephone service will be available at the site, in the event off-site emergency personnel need to be contacted. The plant operators will also contact ISO-NE to report a shutdown and provide an estimated time for restart and synchronization.

9.2.3 Fire Suppression Technology

The Watertown Facility will employ both automatic and manual fire protection systems, with targeted systems and emergency procedures for the gasifier, steam turbine, electrical systems, fuel handling systems and the wood fuel storage area. All components of the Watertown Project will be designed to minimize the occurrence of a fire emergency, gain rapid alarm notice of any emergency and to protect the plant staff.

The power block (gasifier and steam turbine) and related electrical systems will be designed in accordance with appropriate recommendations from the National Fire Protection Association (NFPA). In addition, the Watertown Facility's design will be reviewed by the local Fire Marshall and the insurer's technical staff. Key features of the fire protection measures include:

- Alarms – The alarm system will be designed in accordance with NFPA standards and will assist in the prompt notification of the fire department and plant operating staff in the event of an emergency.
- Power block – The power block will include detection and active fire suppression measures as appropriate. These will include minimum standards for fire-rated construction and separation distances for offices, storage areas and warehouses, control rooms, electrical rooms, fuel handling systems, turbine generator, fire pump and diesel generator.

- Gasification system – Key equipment components will be designed in accordance with NFPA and good engineering practice.
- Lube oil systems – These systems will be designed to provide fire protection and suppression, including oil containment for environmental and fire protection purposes.
- Cable trays – The trays will be designed and located to minimize the potential for fire hazards.
- Underground hydrant system – A water main supply system with underground piping and strategically located hydrants will be incorporated into the project's design.
- On-site water supply systems – All on-site water supply systems, including sprinkler supply, will be designed to meet NFPA standards for supply capability in excess of the largest system demand.
- Operating personnel will be trained as to the location of chemical fire extinguishers, which will be located throughout the facility.
- Several fire hydrants, supplied by the municipal water system will be located on-site.
- Watertown Renewable Power will work with the local fire department to develop and implement an emergency plan to respond to any fire emergency condition.

Fire prevention, detection, and protection related to biomass deliveries to the site will be addressed as follows:

- Incoming deliveries of wood fuel will be initially screened at the scale to identify any evidence of fire or smoldering. No materials other than biomass wood will be accepted.
- As biomass is received at the truck dumper, and conveyed to the storage area, it will be visually inspected. Should there be any evidence of smoldering or fire, the hopper drag

chain and associated conveyor will be stopped and the issue addressed. Any smoldering biomass will be immediately segregated and doused with water.

- Four high capacity deluge-type nozzles will be strategically located around the biomass storage area so that the wood pile and conveyors can be subjected to high-volume water delivery in the event of a fire.
- To avoid any long-term on-site storage of wood fuel the pile capacity will be limited to approximately 20 days. For the type of biomass used at the Watertown Facility, fuel storage in excess of 45 days would require closer monitoring for potential self ignition. An under-pile reclaim system will ensure a first-in, first-out inventory management system. In the event of a prolonged outage, fuel deliveries will be diverted to alternative locations.
- The appropriate structures will have smoke/fire detectors, including the scale house and oversize material processing building.

9.2.4 Safety Warning System

As described throughout this section, the technology employed by the Watertown Project is inherently safe, and an incident would be unlikely to pose a significant threat to off-site locations. Biomass power facilities do not lend themselves to the release of hazardous materials or to the creation of conditions that could necessitate the evacuation of nearby areas, and therefore a public warning plan is not necessary.

9.2.5 Proximity to Municipal Fire Stations

The Watertown Fire Department is located at 935 Main Street, Watertown, less than three miles from the project site. An introductory meeting was held with Watertown Fire Chief Larry Black

on August 1, 2007 to initiate discussions about the project. No particular concerns were expressed at that time.

9.2.6 Protective Gear & Control Systems

The operations supervisor for the Watertown Project will be the corporate compliance officer with respect to health and safety issues. This person will ensure that all on-site operations are performed in accordance with applicable regulations and implement informational programs for employees with respect to job-related health and safety on an as needed basis.

An essential element of this safety program will be the effective design and construction of the project and equipment to comply with good engineering practices and applicable codes and regulations. Further, the Watertown Project will implement administrative controls and work practices to protect employees from the risk of injury at the facility. The safety program will place an emphasis upon procedures and precautions typically associated with high pressure steam systems, combustions systems, industrial equipment operations, and heavy equipment operations.

An important element of the training for each new employee will include information regarding workplace hazards and safety procedures to be complied with at the site. The training will cover use and fitting of personal protective equipment (PPE), education and responsibility of supervisors and employees, recordkeeping requirements, fire protection equipment and devices, and emergency response procedures. New employees that will be operating heavy equipment, such as in the fuel storage area, will be subject to an extensive training program to ensure each individual is qualified to operate the assigned equipment.

The Watertown Project will be designed to comply with all applicable safety codes, including, as applicable, National Fuel Gas Code, the Occupational Safety and Health

Administration (OSHA), American Society of Mechanical Engineers and other agencies. Prior to the start of operations, a project specific safety plan will be prepared and instituted for the Watertown Project. The plan will include administrative controls, training, equipment and related safety issues. Further, this plan will identify required engineering controls including enclosures, shields, and installed equipment such as eyewash stations and emergency showers. Finally, the Watertown Project will be subject to an insurance inspection by its underwriter on a periodic basis.

Supervisors will be responsible for the implementation of PPE requirements, including provision of appropriate PPE and replacement of damaged PPE, ensuring employees are trained, maintaining records on training, and notification and assistance in evaluation of new hazards as introduced to the facility. Employees will be responsible to wear PPE as appropriate to their job functions, attend training programs, and ensure PPE is in good working condition. PPE will consist of ear and eye protection, hard hats, safety shoes and appropriate hand protection.

9.2.7 Hazardous Materials Management

Chemicals will be utilized on the site for various purposes, including biocides/chlorine for algae control, corrosion inhibitor, and scale inhibitor for the non-contact cooling water system. Bulk quantities of these chemicals will be contained in totes or drums and will be set in an appropriately sized polyethylene or fiberglass containment basins.

Pumps, compressors and similar rotating equipment will be set on housekeeping concrete pads within the power plant building. It is not uncommon for bearings and seals on rotating equipment to leak a small amount of lubricating fluid. This mixes together with condensate or seal water from the equipment and is routed to floor drains. All of the floor drains will join together in a common header which will then be routed to an oil-water separator. The separator

will have level instrumentation that sends an alarm to the control room when the oil separator tank level rises. The operators will then dispatch a waste collector to pump down the separator tank.

Tanks and other large storage containers utilized on-site will be designed to comply with the following regulations as applicable: ASME Boiler and Pressure Vessel Code, Connecticut's Underground Storage Tank Regulations, National Fire Prevention Association Regulations, US EPA's 40 CFR Part 112: Oil Pollution Prevention Regulations, state and local fire and zoning regulations, and CT DEP storm water management regulations and best management practices. Large tanks will typically be double-walled with leak detection monitoring devices, or single-walled tanks with secondary containment. Leak inspections will occur daily. Secondary containment areas will be designed to hold 110% of the largest volume held within the area.

The only significant liquid fuel will be diesel for the emergency generator and emergency diesel fire pump, which will be stored in a double-walled tank supplied as part of the packaged system.

EPA's Risk Management Plan (RMP) Rule, codified in 40 CFR Part 68, requires that facilities with large quantities of highly hazardous chemicals prepare and implement a program to prevent the accidental release of those chemicals. Watertown Renewable Power is proposing to use a dilute (19 percent by weight) solution of aqueous ammonia for the SCR NO_x control system in lieu of anhydrous or higher concentration aqueous ammonia solutions, which are regulated under RMP if used or stored in amounts greater than 10,000 pounds (anhydrous ammonia) or 20,000 pounds (aqueous ammonia in concentrations of 20 percent or greater). Therefore, the RMP regulations will not be applicable to the Watertown Facility.

A Spill Prevention Control and Countermeasures Plan meeting the requirements of these regulations will be implemented. The types, locations, and expected quantities of hazardous materials will be identified, as well as procedures for preventing and responding to spills.

10. Site Identification and Evaluation Process

In selecting a suitable site for the project, Watertown Renewable Power evaluated properties located throughout the state of Connecticut using the following site selection criteria:

- Need for power
- Proximity to biomass fuel sources
- Suitable truck access routes that avoid residential and commercial areas
- Proximity to electricity transmission grid
- Availability of water resources
- Proper zoning
- Acceptability of impacts on environmental resources (air, water, visual, etc.)
- Distance from population centers
- Acceptable topography, geology and land cover

Table 3 below summarizes the evaluation of the ten highest rated prospective sites that were selected from nearly 30 that were initially considered.

Table 3: Prospective Sites

Town	Location	Transmission Access	Highway Access	Land Use	Nearby Residential	Comment
Bloomfield	Dudleytown Road	Good	Fair	Industrial	Yes	Too close to residential properties
Enfield	Rainbow Road	Fair	Poor	Agriculture	Yes	Traffic concerns
Franklin	Route 32	Good	Good	Commercial	Yes	Small site with potential wetlands issues
Mansfield	UCONN Depot Campus	Fair	Fair	Brown Field	Institutional	UCONN has other plans for site
Hartford	MDC Property	Good	Good	Industrial	No	MDC has other use planned
Middletown	Boardman Lane	Good	Good	Commercial	Yes	Near by residential properties
Plainfield	Tarbox Road	Excellent	Excellent	Industrial	Some	Owner anticipated another use
Southington	Lazy Lane	Good	Fair	Commercial	Some	Access through heavily developed commercial area
Watertown	Echo Lake Road	Excellent	Excellent	Heavy Industrial	No	Preferred Site
Watertown	262 and Route 8	Good	Excellent	Commercial	No	Partially in flood plain - Property sold
Willington	Ruby Road	Poor	Excellent	Industrial	Some	Transmission access questionable

Ultimately, the 33-acre site off Echo Lake Road in Watertown, Connecticut was selected for the Watertown Project. Site control has been achieved through the execution of a purchase option agreement with the currrent owner. The Echo Lake Road site is more thoroughly described in Section 6.1 of this document. The advantages of the proposed site with respect to each of the site selection factors are further summarized below:

- **Need for power** – Connecticut is currently experiencing a significant power generation deficit. Estimates of the near term need for power generation in Connecticut from LaCapra Associates, London Economics and ISO-NE range from 312 MW to 1,200

MW[17]. Connecticut faces over $500 million in Federally Mandated Congestion Control charges and an aging power generation fleet. The Watertown Project will lessen this power generation deficit and contribute to the fuel diversity used in Connecticut's power generation.

- **Proximity to wood fuel resources –** CCEF commissioned a wood fuel resource study by the Antares Group[18] which identified two optimum locations within Connecticut for siting a biomass plant. One of these locations was in Western Connecticut near Watertown. The study reviewed the available wood sources, location, fuel quality, logistics and potential purchase economics. Additionally, a project-specific study conducted by an established wood fuel supplier further confirmed that there is sufficient wood fuel available in the Watertown area. Details on wood fuel supply can be found in Section 6.3
- **Suitable truck access routes –** The Echo Lake Road site is approximately one mile from exit 37 off Route 8. The neighboring uses include a Connecticut Resources Recovery Authority regional waste transfer facility, UPS and Federal Express terminals, several scrap yards, and other manufacturing facilities. Trucks delivering fuel to the Watertown Project would not pass through any residential areas between Route 8 and the project site. Residential and commercial traffic generally passes from Route 8 to Watertown along Route 262 which runs parallel to and about a mile south of Echo Lake Road, thus bypassing the project site. The results of a detailed Traffic Impact Analysis are provided in Section 11.2.

[17] Connecticut Department of Public Utility Control. Docket 05-07-14PH02
[18] Fuel Supply Assessment for Waterbury and Plainfield Areas, prepared for Connecticut Clean Energy Fund, Connecticut Innovations; prepared by ANTARES Group Inc., August 25, 2004.

- **Proximity to the electricity transmission grid –** The point of interconnection for the Watertown Project will be one of two existing 115kV transmission lines passing the site approximately 1000 feet to the north. A right-of-way through the neighboring Mattatuck State Forest has been approved by CTDEP, as described in Section 6.8.
- **Availability of water resources –** Watertown Renewable Power will obtain process water from the Town of Watertown and discharge wastewater to the sanitary sewer system. A commitment letter has been obtained from the Watertown Water & Sewer Authority indicating their willingness and ability to provide the necessary services, as described in Section 6.6.
- **Proper zoning** – The town of Watertown had previously classified the site General Industrial, I G-80, with permitted uses that include the installation of "public utility buildings and facilities."[19]
- **Acceptability of impacts on environmental resources -** The environmental impacts of the Watertown Project will be in compliance with all local, state and federal requirements. Air quality impacts will be minimized by use of the most stringent air emission control technology available for biomass power generation facilities. Similarly, water discharge will be carefully monitored to meet all environmental permit requirements. The project site has been laid out to make maximum use of the eastern portion of the 33-acre site, while minimizing impacts upon Turkey Brook and its associated wetlands that occupy the south central portion of the property. The Watertown Facility's visual and noise impacts will be significantly reduced by the site's topography.

[19] Town of Watertown Planning and Zoning Commission Zoning Regulations. Effective December 24, 1993.

The depressed terrain of the site will serve to further screen it from view from the surrounding properties.

- **Distance from population centers –** The proposed site is bounded on the north and east sides by the Mattatuck State Forest, on the south side by Echo Lake Road and two industrial-zoned parcels, and on the west by an industrial-zoned property. The closest residence is located on industrial-zoned property approximately one quarter mile from the site, and the nearest residential-zoned area is approximately three quarters of a mile from the proposed site.
- **Acceptable topography, geology and land cover –** As mentioned previously, the Watertown Facility will make use of the natural topography to reduce the visual impact to the surrounding area and region. Existing tree lines will be maintained as much as possible to enhance this effect. The depressed terrain of the site will serve to further screen it from view from the surrounding commercial facilities.

11. Potential Environmental Effects

The Watertown Renewable Power Facility, as proposed, will comply with all CTDEP air emission regulations and will not constitute a substantial adverse environmental impact. Further, the facility will not pose an undue safety or health hazard to persons or property in the area of the project site or associated utility interconnection. Compliance with all applicable regulatory requirements, as described in this section, will help to ensure the protection of public health and safety.

11.1 Air Quality

The primary emissions source at the proposed power plant will be a close-coupled fluidized bed gasification process producing a gas stream derived from biomass to generate steam to drive a conventional steam turbine generator. Fluidized bed gasification of solid fuels will result in inherently lower air pollutant emissions than alternative grate or spreader-stoker type combustion systems. In addition, the Watertown Facility will employ state-of-the-art air pollution control systems, including SCR for control of NO_x, limestone/reagent injection into the fluidized bed gasifier and/or ahead of the baghouse (as needed) for control of SO_x and a baghouse for PM and metals emissions control. Process and emissions data used to estimate potential emissions from the proposed project were developed through discussions with potential vendors of biomass-fueled fluidized bed gasification power plants. The proposed controlled potential emissions of regulated pollutants are summarized in Table 4**.**

CTDEP and US EPA ambient air quality standards, emissions standards, and permitting requirements are designed to ensure protection of public health and safety, even for the most sensitive individuals, including the elderly and the young. Compliance with the all applicable regulatory requirements, as summarized in Section 11.1.1, must be demonstrated as part of the CTDEP air permitting process. A substantially complete application for an air permit to construct and operate was submitted to the CTDEP on September 7, 2007 including demonstrations of compliance with Best Available Control Technology (BACT) and Lowest Achievable Emission Rates (LAER) control technology requirements and Maximum Allowable Stack Concentrations (MASCs) for DEP-regulated hazardous air pollutants.

Table 4: Proposed Controlled Potential Emissions

Pollutant	Biomass FBG Controlled Emission Factor (lb/MMBtu)	Biomass FBG Controlled Potential Emissions (lb/hr)	Biomass FBG Controlled Potential Emissions (TPY)	Diesel Engine Emergency Generator (TPY)	Diesel Engine Emergency Fire Pump (TPY)
PM/PM_{10}	0.02	8.71	38.15	0.044	0.026
PM2.5 filterable	0.02	8.71	38.15	0.037	0.013
PM2.5 condensable	0.017	7.40	32.43	0.006	0.002
PM2.5 Total	0.037	16.12	70.59	0.043	0.015
NO_X	0.075	32.67	143.08	2.414	1.16
SO_X	0.035	15.24	66.77	0.001	0.0004
CO	0.10	43.56	190.77	0.553	0.25
VOC	0.01	4.36	19.08	0.071	0.093
Pb	1.0E-04	0.04	0.19	7.0E-06	2.4E-06
HCl	5.0E-03	2.18	9.54		
H_2SO_4	2.8E-03	1.22	5.34		
NH_3	1.3E-02	5.54	24.29		
Hg	7.33E-06	0.0032	0.014		
Dioxins	7.30E-11	3.2E-08	1.4E-07		

Pollutant	Cooling Tower (TPY)	Total Premise Controlled Potential Emissions (TPY)	CTDEP Major Stationary Source Threshold (TPY)	PSD Significant Emissions Rate (TPY)	
PM/PM_{10}	0.22	38.45	100	25/15	
PM2.5 filterable	0.22	38.43			
PM2.5 condensable		32.44			
PM2.5 Total	0.22	70.87	100	15	
NO_X		146.66	50	40	
SO_X		66.77	100	40	
CO		191.58	100	100	
VOC		19.24	50	25	
Pb		0.19	10	0.6	
HCl		9.54	10		
H_2SO_4		5.34	100	7	
NH_3		24.29			
Hg		0.014	10	0.1	
Dioxins		1.4E-07	10	3.5E-06	

An air quality impact analysis using analytic dispersion models was submitted as a separate document to CTDEP on October 31, 2007. The air quality impact modeling analysis includes emissions from the proposed Watertown Project and other sources in the area (as necessary) and

must demonstrate compliance with state and federal Ambient Air Quality Standards (AAQS) and applicable Prevention of Significant Deterioration (PSD) Increments. In addition, the modeling analysis must provide an assessment of the impact of new emissions on environmental resources such as soils and vegetation and must evaluate the potential for impacts due to secondary growth.

All modeling analyses were performed in accordance with procedures specified in the CTDEP Ambient Impact Analysis Guideline or as otherwise recommended by CTDEP. Results of the AAQS and PSD Increment analyses are summarized in Table 5. Maximum modeled impacts were compared to EPA Significant Impact Levels, AAQS and allowable PSD Increments. Based on these results and additional impact analyses, the following conclusions were made:

- Potential emissions of all criteria pollutants (PM_{10}, $PM_{2.5}$, NO_2, SO_2, CO, Pb and dioxins) from the proposed Watertown Facility will not result in ambient impacts above any applicable Significant Impact Levels for these pollutants. Therefore, the source is presumed to not cause or significantly contribute to a PSD Increment or AAQS violation and is not required to perform multiple source cumulative impact assessments for these pollutants.
- Emissions from the Watertown Facility will not impair visibility in any nearby Class I areas.
- Emissions from the Watertown Facility will not have any adverse effects on sensitive soils and vegetation in the area.
- No significant additional emissions or air quality impacts from secondary growth are anticipated due to construction or operation of the Watertown Project.

Table 5: Summary of AAQS Analysis Results

Pollutant	Averaging Period	Max. WRP Impact[20] (µg/m³)	Signif. Impact Level (µg/m³)	Max. Multi-Source Impact (WRP Significant) (µg/m³)	Background Conc. (µg/m³)	Max. Total Conc. (µg/m³)	Ambient Standard (µg/m³)
PM_{10}	24-hour	1.8	5	NR[21]	47	NR	150
	Annual	0.3	1	NR	21	NR	50
PM2.5	24-hour	1.8	2	NR	33	NR	35
	Annual	0.3	0.3	NR	13	NR	15
NO_2	Annual	0.8	1	NR	33	NR	100
SO_2	3-hour	7	25	NR	73	NR	1300
	24-hour	3	5	NR	42	NR	260
	Annual	0.3	1	NR	8	NR	80
CO	1-hour	182	2,000	NR	20,000	NR	40,000
	8-hour	61	500	NR	5,000	NR	10,000
Pb	3-Month	0.01	0.3	NR		NR	1.5
Dioxins	Annual	6.5E-10	1.00E-07	NR		NR	1.00E-06

11.1.1 Compliance with Air Quality Regulations and Standards

The Watertown Project must comply with requirements under USEPA and CTDEP regulations for permitting and control of air pollutant emissions from stationary sources. The Watertown Project will also include a wet mechanical draft cooling tower, and a small diesel engine powered emergency generator and fire pump, which are exempted from CTDEP permitting requirements based on estimated potential emissions (cooling tower) and a permit exemption available for emergency engines in the R.C.S.A. § 22*a*-174-3b(e). Therefore, the remainder of this section summarizes the air pollution control regulatory requirements applicable to the biomass fluidized bed gasification process and the respective compliance demonstrations.

New Source Review Requirements

The New Source Review (NSR) provisions of the Clean Air Act (CAA) apply to new Major Stationary Sources under two separate programs. For Major Stationary Sources located in areas

[20] All Watertown Project (WRP) sources, including FBG, emergency fire pump, emergency generator and cooling tower.
[21] NR = Not required because maximum Watertown Project impacts are less than Significant Impact Levels

designated as attainment with respect to a specific regulated criteria pollutant, the requirements of the PSD program (40 CFR Part 52.21) apply. For Major Stationary Sources located in non-attainment areas, the requirements of the Non-attainment New Source Review (NNSR) Program (40 CFR Parts 51 and 52) apply. Administration of the PSD and NNSR programs is provided by CTDEP's State Implementation Plan (SIP) promulgated under R.C.S.A. § 22*a*-174-3a(k) and (l), respectively. Wood-fired boilers with greater than 100 million British thermal units per hour (MMBtu/hour) heat input must also meet Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 60, NSPS – subpart Db). In addition, boilers and process heaters that are located at new or existing Major Stationary Sources of hazardous air pollutants (HAPs) must also meet National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories (40 CFR Part 63), commonly referred to as Maximum Achievable Control Technology (MACT) standards[22].

PSD Requirements

CTDEP's SIP provides the authority to issue air permits that are at least as stringent as the federal PSD regulations (40 CFR Part 52.21). The PSD regulations are designed to ensure that the air quality in current attainment areas does not significantly deteriorate beyond baseline concentration levels. PSD regulations specifically apply to the construction of CTDEP-defined Major Stationary Sources in areas designated as attainment or unclassified attainment for at least one of the following criteria pollutants: SO_2, NO_2, PM_{10}, CO, O_3, and Pb. For CTDEP PSD applicability purposes, a Major Stationary Source is defined as a source with the potential to emit 100 tons per year (TPY) or more of any criteria pollutant, with the exception of NO_x and VOC in

[22] The "Boiler MACT" rule (40 CFR 63, Subpart DDDDD) has been vacated as of July 30, 2007 and Major Sources of HAPs previously subject to this rule are presently required to propose case-by-case MACT determinations in accordance with R.C.S.A. § 22a-174-3a(m). The Watertown Facility will not be a Major Stationary Source of HAPs or subject to the requirements of CAA 112(g) or (j).

a serious ozone non-attainment area such as Watertown, for which the Major Stationary Source threshold is 50 TPY[23]. Pollutants specifically subject to PSD review requirements at new Major Stationary Sources are those that have the potential to be emitted above Significant Emission Rate Thresholds listed in Table 3a(k)-1 of the R.C.S.A.

Based on the attainment status of the Watertown area (serious nonattainment for ozone, attainment or unclassified for all other criteria pollutants) and the estimated potential emission levels, the proposed Watertown Project will be considered a Major Stationary Source with respect to the PSD regulations and will be subject to PSD review for all regulated pollutants with the exception of lead, hydrogen chloride, sulfuric acid, mercury and dioxins[24].

PSD review for Major Stationary Sources includes the following requirements: an assessment of the existing air quality; the use of analytic dispersion models to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) and applicable PSD Increments; a demonstration that BACT has been applied to the subject emission sources; and an assessment of the impact of new emissions on environmental resources such as soils and vegetation. If the source is located within 100 kilometers (62 miles) of a federal Class I area, the impacts must be evaluated at these areas based on the more stringent Class I PSD Increments.

The PSD permit will contain emission limits and other operating, monitoring, record keeping, and reporting requirements based on air quality modeling. The air quality modeling includes emissions from the proposed Major Stationary Source or Major Modification and other sources in the area to ensure protection of the NAAQS and to prevent emission increases beyond a specified amount, called a PSD Increment. The emission limits contained in the PSD permit

[23] Certain pollutants, such as lead, are potentially regulated under both PSD and federal HAP regulations. Major Source thresholds for HAPs are 10 TPY for each individual HAP and 25 TPY for all HAPs emitted by a source in aggregate.

[24] total tetra-through octa-chlorinated dibenzo-p-dioxins and furans

are required to represent BACT. BACT is determined on a case-by-case basis, taking into account energy, environmental, and economic impacts. A summary of the required BACT analysis is provided in Section 6.5.1.

Non-attainment New Source Review Requirements

The Clean Air Act Amendments of 1990 established more stringent provisions for New Source Review of Major Stationary Sources proposed to be located in non-attainment areas. CTDEP regulations implementing those provisions are codified in R.C.S.A. § 22*a*-174-3a(l). Because the Watertown Project will be a Major Stationary Source of NO_x emissions (> 50 TPY) located in a serious ozone nonattainment area, the project is subject to certain NNSR requirements.

Applicable NNSR requirements include an emission limitation which specifies the LAER for the source, obtaining NO_X emission reductions (offsets) from existing sources in the area in the ratio of 1.2 to 1 for sources located in a serious nonattainment area, and an alternatives analysis to demonstrate that the benefits of the proposed source significantly outweigh the environmental and social impacts. A summary of the required LAER analysis for NO_X and the Alternatives Analysis are presented in Section 6.5.1 and Section 8, respectively.

Watertown Renewable Power will require approximately 176 tons of NO_X Emission Reduction Credits (ERCs) in accordance with § 22*a*-174-3a(l)(4) to offset the potential NO_X emissions from the project by a ratio of at least 1.2:1. Watertown Renewable Power is currently in the process of securing options for these ERCs and will have them in place before CTDEP issuance of the Permit to Construct and Operate.

New Source Performance Standards Requirements

As a wood-fired boiler with a heat input greater than 100 MMBtu/hour, the proposed FBG with boiler is subject to Standards of Performance for Industrial-Commercial-Institutional Steam

Generating Units (NSPS, 40 CFR Part 60, Subpart Db). Subpart Db includes emission standards for SO_2, PM and NO_x and requires certain emissions and/or operational monitoring and testing procedures. The standards applicable to a wood-fired boiler are summarized in Table 6.

Table 6: New Source Performance Requirements

Pollutant/Parameter	Regulatory Limit	Citation
SO_2	No applicable limit for facility that combusts only wood and/or natural gas or propane	NSPS - 40 CFR 60, Subpart Db (§ 60.42b)
PM	0.1 lb/MMBtu for a facility that combusts wood or wood with other fuels and has an annual capacity factor greater than 30 percent for wood.	NSPS - 40 CFR 60, Subpart Db (§ 60.43b(c)(1))
NO_X	No applicable limit as long as the annual capacity factor for natural gas will be less than 10% and the facility will be subject to a federally enforceable limit. Natural gas will only be used for FBG startup, when necessary to ensure good combustion and to supplement biomass fuel when the biomass fuel supply is interrupted. Natural gas will be limited to less than a 10% annual capacity factor. In the event that the annual capacity factor for gas will be greater than 10%, the applicable NO_X limit is 0.2 lb/MMBtu.	NSPS – 40 CFR 60.44b(l)(1)

Based on the estimated emissions rates, the proposed fluidized bed gasifier with boiler would easily meet the applicable emissions standards. Watertown Renewable Power will monitor the system emissions or parameters consistent with Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.

National Emissions Standards for Hazardous Air Pollutants Requirements

The NESHAPs, codified in 40 CFR Part 61, regulate HAP emissions. Part 61 was promulgated prior to the 1990 Clean Air Act Amendments (CAAA) and regulates only eight types of hazardous substances (asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides, and vinyl chloride). Biomass gasification or wood-fired power plants do

not fall under any of the source categories regulated by Part 61; therefore, the requirements of Part 61 are not applicable to the Watertown Project.

National Emissions Standards for Hazardous Air Pollutants for Source Categories Requirements

Boilers and process heaters that are located at new or existing Major Stationary Sources of HAPs must also meet National Emission Standards for Hazardous Air Pollutants for Source Categories, commonly referred to as MACT standards. Major Stationary Sources of HAPs are those that emit 10 TPY or more of a single HAP or 25 TPY or more of a combination of HAPs that are specifically listed in or pursuant to section 112(b) of the CAA. Based on estimated potential emissions of identified HAPs from the proposed sources the Watertown Project will not be a Major Stationary Source of HAPs and, therefore, will not be subject to any specific standards or requirements in 40 CFR Part 63.

Title V Operating Permit Requirements

Under CTDEP's Title V Operating Permit regulations (R.C.S.A. § 22*a*-174-33), a Title V permit is required for Major Stationary Sources. For Title V applicability purposes, a Major Stationary Source is defined differently than a Major Stationary Source under PSD review, with potential emissions thresholds established at 10 TPY for any individual HAP, 25 TPY for any combination of HAPs, 50 TPY for NO_X or VOC in a serious ozone nonattainment area and 100 TPY for any other regulated air pollutant. Based on the estimated potential emissions from the Watertown Project the project will be a Major Stationary Source subject to Title V permitting. The purpose of the Title V operating permit is to combine, into a single document, all the state and federal air quality requirements applicable to all sources located on the same premise. Title V does not impose new substantive requirements above and beyond the applicable state and

federal requirements. The Title V Operating Permit application will be due within twelve months of commencing operation or within 90 days of receiving notice from the CTDEP Commissioner that an application is required.

Acid Rain Program Requirements

The Acid Rain Program is codified in 40 CFR Parts 72 through 78. This program aims to reduce acid rain by reduction of SO_2 and NO_X from utility units that have a nameplate electricity generation capacity greater than 25 MW. A "unit" is defined as a "fossil fuel-fired combustion device" and "fossil fuel-fired" is defined as "the combustion of fossil fuel, alone or in combination with any other fuel, independent of the percentage of fossil fuel consumed in any calendar year". Although fossil fuel (natural gas) will only be used for fluidized bed gasifier startup, when necessary to ensure good combustion, and to supplement biomass fuel if the biomass fuel supply is interrupted during a critical grid load period, this requirement will still apply as the nameplate capacity of the generator will be greater than 25 MW. Sources subject to the Acid Rain regulations are required to file an Acid Rain permit application at least 24 months before the unit commences operation. An affected unit is also required to follow the continuous emissions monitoring requirements of 40 CFR Part 75 and to hold sufficient SO_2 allowances to cover expected emissions of SO_2 when operation commences.

CTDEP Emission Standards and Regulatory Requirements

In addition to the requirements of the CTDEP Permit to Construct and Operate and applicable USEPA regulations, state emission standards and other requirements were evaluated for applicability to the proposed Watertown Facility emission sources. Applicable CTDEP emission standards and other requirements are summarized in Table 7 along with the compliance demonstrations.

Table 7: Applicable CTDEP Emission Standards and Other Requirements

Pollutant/Parameter or Requirement	Regulatory Limit / Compliance Demonstration	Citation
BACT for Ammonia	In addition to criteria pollutants emitted at greater than Significant Emission Rates at a Major Stationary Source, CTDEP BACT requirements apply to noncriteria pollutants with potential emissions greater than 15 TPY. BACT analyses were performed for VOC and NH_3 emissions and are presented in Section 6.5.1.	R.C.S.A. § 22a-174-3a(j)
Air pollution emergency episode procedures	An emissions source with potential uncontrolled emissions greater than 100 TPY must prepare a standby plan for reducing air pollutant emissions during each of the three stages of an industrial air pollution episode. An emergency episode standby plan was submitted with the air permit filing.	R.C.S.A. § 22a-174-6
Particulate emissions control	PM emissions from the gasifier (0.02 lb/MMBtu) will be in compliance with the applicable regulatory limit (0.1 lb/MMBtu) based on the proposed PM/PM_{10} controls (baghouse).	R.C.S.A. § 22a-174-18(e)(1)
Control of Sulfur Compound Emissions	The maximum fuel sulfur content will be in compliance with the applicable regulatory limit (1% wt.).	R.C.S.A. § 22a-174-19(a)(2)(i)
Control of Nitrogen Oxides Emissions	The proposed emission rate from the gasifier with SCR (0.075 lb/MMBtu) will comply with the applicable limit (0.3 lb/MMBtu for other than fossil fuel).	R.C.S.A. § 22a-174-22(e)(2)(A)
Post-2002 NO_X Budget Program	Not applicable. Proposed project is not a "new electricity generating unit" as defined in the regulation, because it will not combust more than 50% fossil fuel on an annual basis.	R.C.S.A. § 22a-174-22b
Hazardous air pollutants	Estimated worst case stack concentrations of HAPs are demonstrated to comply with applicable Maximum Allowable Stack Concentrations (MASC).	R.C.S.A. § 22a-174-29

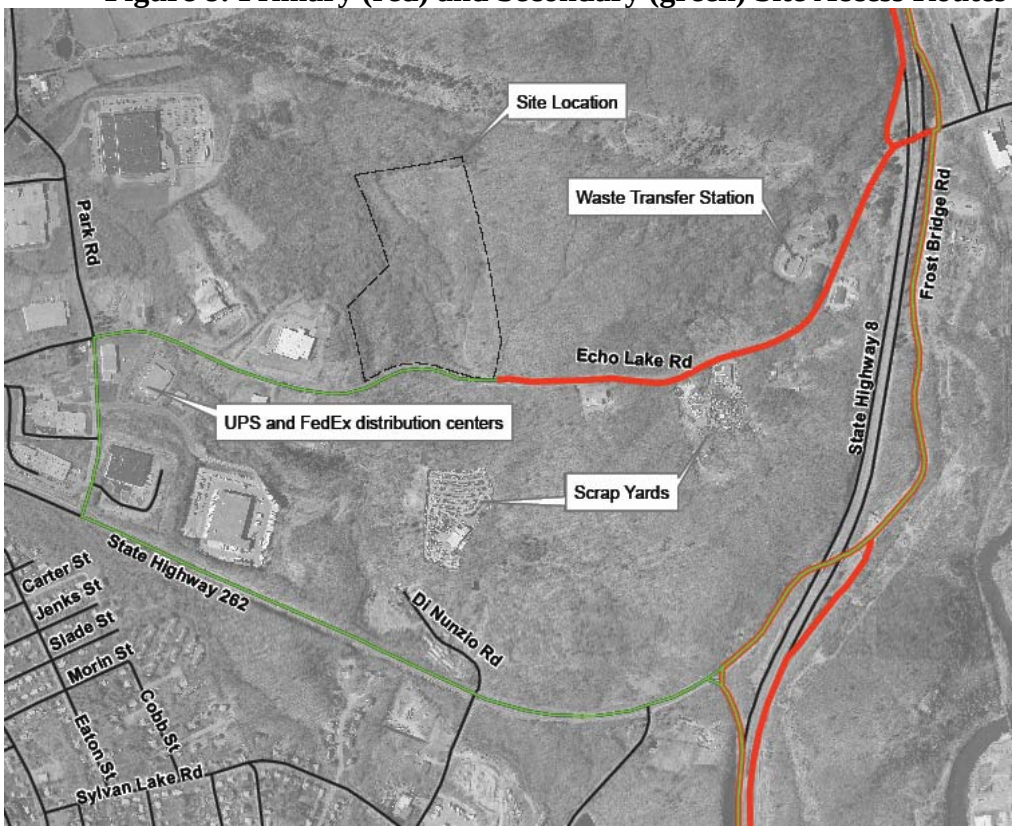
11.2 Traffic Impact Analysis

Because the fuel for the project will be delivered by tractor trailer trucks, proximity to established truck traffic routes and the avoidance of residential and commercal traffic areas were significant factors in selecting this site. The Echo Lake Road site is approximately one mile from exit 37 off Route 8. The neighboring uses include a Connecticut Resources Recovery Authority

regional waste transfer facility, UPS and Federal Express terminals, several scrap yards, and other manufacturing facilities. There are no residential zones located along Echo Lake Road between Route 8 and the Watertown site. Residential and commercial traffic generally passes from Route 8 to Watertown along Route 262 which runs parallel to and about a mile south of Echo Lake Road, thus bypassing the project site.

Trucks will access the site via Route 8 from the north or south, and then follow Echo Lake Road to the West. A small number of trips (primary local employees) may access the site from the west on Echo Lake Road. Figure 8 shows primary (red) and secondary (green) routes to access the site.

Figure 8: Primary (red) and Secondary (green) Site Access Routes



Truck deliveries to the site will be limited to the hours of 7 AM to 7 PM, six days per week (Monday – Saturday) to minimize nighttime traffic and noise. It is expected that 40 to 50 trucks

per day will typically be required to deliver the necessary wood fuel to the Watertown Facility. Additionally, the plant will be staffed around the clock by four operators in two or three shifts, and four to six maintainance and administrative staff will work weekdays from 9 AM to 5 PM.

A professional Traffic Impact Analysis has been conducted by an experienced traffic engineer. This study includes turning movement counts at impacted intersections, a directional machine count along the site frontage, analysis of sightlines from the sight access point, and modeling of additional traffic due to the facility. This study concludes that the addition of traffic generated by the Watertown Project, assuming a worst case of 65 trucks per day will not negatively impact the operating Level of Service at any nearby intersections. It is noted that the sight distances available at the intersection of the site access road with Echo Lake Road are currently not sufficient for trucks, and a full-way stop has been recommended for this intersection to promote safety. This is largely due to the fact that observed traffic speeds are greatly in excess of the posted 25 mph speed limit. The full traffic study is available in Appendix G.

As the fuel delivered to the plant is clean and biodegradeable, there is no unique fuel spill risk associated with the operation of a biomass facility.

11.3 Noise Impact Analysis

An environmental acoustic survey and a noise impact analysis were conducted for the proposed project by an experienced noise consultant. The results of the quantitative sound survey, the estimated noise emissions from the proposed plant and proposed mitigation strategies for installation of the Watertown Facility are summarized here.

The environmental acoustic field survey was performed in July and August 2007, to measure and quantify the baseline background noise environment near the proposed project site.

The key locations for this survey included the east property line at the Mattatuck State Forest, and near the south property line along Echo Lake Road. The survey was conducted in accordance with the acoustic test requirements specified in R.C.S.A. § 22*a*-69.

In addition, a noise impact analysis (NIA) was performed to determine the potential impacts that noise generated by the proposed facility may have on the nearest receptor, the State Forest. It is noted that other than the State Forest, the surrounding land uses are industrial, and that there are no residences within 1/4 miles of the proposed facility. The information derived from the background noise survey was used as part of this NIA.

The source noise of each significant piece of operating equipment was characterized by that equipment's sound pressure level at a specific distance by standard frequency octave bands, its physical location, and its circumstances of installation and use. The sound emission data for each unit were identified with each proposed source location on the site. The source noise and location data were used as input to a computer modeling procedure which calculated the propagation of that sound through the atmosphere to the nearest receptor position, the site east property line. The sound propagation calculation procedure accounts for the effects of the equipment installation, barriers, and also distance and atmospheric conditions, in accordance with International Standard on the attenuation of sound during propagation outdoors, ISO 9613-1.

Regulatory noise levels are based upon the land use designation of the nearest and most sensitive receptor, the Mattatuck State Forest. The Mattatuck State Forest supports a variety of recreational uses including hiking, hunting, and other passive outdoor recreation. Based upon actual land use, the Mattatuck State Forest can be classified as a park and, as such is designated as a Class B land use under the applicable noise regulations. Designation of the Mattatuck State

Forest as a "Park" in the proposed Watertown Plan of Conservation and Development[25] further supports Class B designation for the facility's nearest and most sensitive receptor.

Results

Based on the analyzed field survey test data, the noise from existing background noise sources was determined to range from about 24 to 77 dBA at the test locations. These data indicate that the proposed facility is located in an area of elevated noise levels typical of an active environment. The background noise in the area is primarily generated by transportation noise sources, including nearby and distant road vehicle traffic, stationary noise sources, such as industrial operations and natural sources such as birds and insects.

The NIA of the noise emissions from the project at the nearest receptor was based on noise calculations for the types of equipment proposed for on-site activities, including wood (biomass) fuel delivery, oversize material processing and storage, fuel conveying, steam boiler, turbine, and condensing and electricity generation, as applicable. The individual source noise signatures for each piece of operating equipment were used to calculate the resultant noise levels at the nearest receptor. The dominant noise emissions are those for the cooling towers and boiler exhaust induced draft (ID) fan, followed by the wood delivery (truck dumping) and oversize processing operations. The resulting worst case combined noise level for all of the plant activities occurring simultaneously at the nearest receptor was calculated to be 62 dB(A), with the use of appropriate mitigation measures. Without the use of appropriate mitigation measures, the noise levels would be significantly higher, up to 76 dB(A). Significantly, the expected noise levels from all power facility activities are below the Class B land use noise limit of 66 dB(A), as specified in R.C.S.A. Section 22a-69.

[25] Included in Bulk Filing

Also, the expected noise levels are consistent with the existing background noise levels found in these areas during the environmental acoustic survey described above. Therefore, with the use of certain mitigation measures, the proposed renewable power plant activities will have little or no potential impact on nearby receptor areas. Further, the plant will have little or no impact on residential areas.

Proposed Noise Controls

Based on the noise signatures for the equipment assumed to be used, noise control measures will be required for some of the facility component operations in order to comply with the requirements of R.C.S.A. Section 22a-69. Suitable engineering controls may take the form of noise attenuating enclosures on specific pieces of equipment, or on particular equipment components such as motors or pumps. Noise control measures may also include special mufflers or silencing devices, or prefabricated noise barriers.

Prior to initiating final design and construction activities, an updated list of equipment and noise specifications will be reviewed to identify appropriate noise controls that may be required to achieve the limits imposed by the R.C.S.A.

While construction and plant commissioning are ongoing, a Health and Safety Inspector will take periodic environmental noise measurements at the locations used for the noise survey. The Health and Safety Inspector will determine the appropriateness of the noise abatement measures applied, if any.

11.4 Visual Impact Analysis

The site is bounded on the north and east sides by Mattatuck State Forest lands, on the south side by Echo Lake Road and on the west by a parcel of industrial zoned property. The depressed

terrain and surrounding heavy forest will serve to help screen the facility from view from the surrounding community.

The primary components of the Watertown Facility include the wood storage pile (60 feet tall), the wood processing building (40 feet tall), the boiler building (140 feet tall), and the exhaust stack (170 feet tall). A visibility analysis based on topography, and not accounting for the screening by forest cover, is presented in Appendix H. This includes a viewshed map showing areas within a one mile radius from which the stack may be visible. Also included are topographical cross sections and photo simulations demonstrating the view from three locations within this viewshed. As the project site is surrounded by tall trees, it is expected that the facility, and particularly the builings, will be further screened from view.

11.5 Ecology

A detailed study of terrestrial ecology at the chosen site has been conducted by an established ecological consultant. The report, presented in Appendix I, characterizes the plant communities, habitats, and wildlife species present at the site (including wetland areas), describes the expected impacts resulting from the construction and operation of the proposed facility, and presents mitigation strategies. Minor impacts will occur to the site flora and fauna as a result of construction and operation of the facility, including air emissions. It is important to note that existing plant and wildlife communities exhibit signs of significant previous disturbance, as a large portion of the site was clear cut approximately ten years ago by the land owner. Mitigation strategies proposed include soil stabilization, planting plans, erosion and sedimentation control plans, and the creation of stormwater detention basins, in addition to the use of the relevant best management practices.

C.G.S § 26-310 requires that any activity authorized by a state agency must not threaten the continued existence of any endangered or threatened species. In this regard, a project is deemed to have no conflict if it is located at least ½ mile from any shaded area on the Natural Diversity Data Base (NDDB) maps produced by the CTDEP.[26] A review of the most recent NDDB maps indicates that there are no shaded areas within ½ mile of the Watertown Facility. Further discussion of this review, including a site survey confirming the lack of habitat for endangered or threatened species, is also included in the terrestrial ecology study (Appendix I).

Based on the findings of the study, together with the proposed mitigation measures, no substantial adverse impact on the ecological integrity of the site is anticipated from the development of the Watertown Project.

11.6 Wetlands and Watercourses

Wetlands and watercourses present on the project site have been delineated by a Connecticut certified soil scientist and are shown on the site plan (Appendix D). Associated flora and fauna were evaluated as a part of the terrestrial ecology study (Appendix I).

Turkey Brook and the associated forested riparian wetland was the only wetland area identified on the site, covering 6.96 acres. This wetland occupies the center of the site and is driven largely by groundwater discharge which emanates from a large wetland complex located to the north of the property. Although the wetland is primarily associated with Turkey Brook, there is a narrow and shallow swale that extends well into the upland in the southeastern region of the site. The primary hydrologic input for the swale appears to be groundwater seepage.

The facility has been designed to avoid wetland impacts to the maximum extent possible; however, it will be necessary to fill 4000 square feet (0.09 acres) of the shallow swale in the

[26] "Instructions for Completing a Connecticut Natural Diversity Data Base Review Request Form" CTDEP. March, 2007.

southeastern portion of the property. The wetland soil will remain and an underdrain will be added to provide for the continued flow into the Turkey Brook wetland, maintaining the existing hydrology. Additionally, there will be some intrusion into the regulated setback for the western driveway.

Watertown Renewable Power filed an application for an Inland Wetlands Permit on July 26, 2007 with the Watertown Conservation Commission. A site walk was conducted with members of the Commission on September 8, 2007 and, on September 13, 2007, the Commission declared the proposed activities "significant", necessitating a public hearing. A public hearing was held on October 11, 2007 and no major issues were identified. One question was raised regarding the fate of rainwater contacting the on-site wood fuel storage pile. A written response (Appendix L) was provided to the Conservation Commission explaining why the impacts from wood pile leachate are minimal. The public hearing was continued to the next regular meeting on November 15, 2007 where approval is anticipated.

Mitigation measures in the form of two forebay sediment traps and a water quality basin are proposed. Additionally, the use of revegetation planting plants, standard best management practices, and other mitigating measures are more completely described in the terrestrial ecology report in Appendix I.

11.7 Storm Water Management

Storm water runoff will be discharged to Turkey Brook in accordance with a storm water discharge plan, which was submitted as part of the Inland Wetlands Permit filing to the Watertown Conservation Commission. The proposed water quality basin will serve as a detention basin reducing peak runoff from the site. A small portion of the post-development

runoff will move undetained through a level spreader and into the southern portion of the wetland.

For the construction period, a CTDEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (DEP-PERD-GP-015) will be obtained. This will put into effect a detailed storm water management plan covering soil erosion and sedimentation control following state guidelines.

In addition, a CTDEP General Permit for the Discharge of Stormwater Associated with Industrial Activities (DEP-PERD-GP-014) must be obtained prior to commercial operation of the facility. The filing for this permit will include a Stormwater Pollution Prevention Plan.

11.8 Archaeological and Historic Resources

A survey of cultural resources at the project site has been completed by an archaeologist approved by the State Historic Preservation Office (SHPO). This survey used an extensive background research program, pedestrian surface survey and a stratified-systematic subsurface testing pattern to document any prehistoric or historic cultural resources in the project area. Based on the results of this study, SHPO concluded that no further archaeological investigations are warranted, and that the development of the Watertown Renewable Power Facility will have no effect upon Connecticut's archaeological heritage (see Appendix J).

11.9 Electric and Magnetic Fields

Design and operation of the Watertown Project and associated utility interconnection will be consistent with the Siting Council's "Best Management Practices for Electric and Magnetic Fields." The project will result in low levels of electric and magnetic fields at the boundaries of the project site and interconnection ROW.

A professional EMF analysis, including measurements of existing EMF levels and modeling of expected EMF levels generated by the project, is currently underway. A final EMF report is pending completion of the interconnection Feasibility Study.

11.10 Cooling Tower Impact Analysis

As part of the visibility analysis, a cooling tower plume analysis was performed to assess the frequency and extent of visible plumes from the cooling tower as well as potential effects of fogging and icing on local roadways, and on switchyard and transmission lines and towers. The results of this analysis are summarized as follows.

The Watertown Project will employ a mechanical draft evaporative cooling tower to remove waste heat from the steam condenser cooling water. Mechanical draft cooling towers can produce a liquid water plume coming directly from the tower (known as “drift”), as well as secondary liquid water formation caused by the condensation of water vapor (“fogging”). These phenomena may cause local shading of the sun, fogging at ground level and ice build-up, and deposition of dissolved salt particles.

A detailed modeling analysis of cooling tower impacts was performed to evaluate the potential for these effects from operation of the Watertown Project using the Seasonal/Annual Cooling Tower Impact (SACTI) model (Version 11-01-90). The SACTI model was funded by the Electric Power Research Institute (EPRI). It is based on studies conducted by Argonne National Laboratory that evaluated the theory and performance of over 30 cooling tower plume and drift models. The SACTI model was used for this analysis because it is a validated cooling tower plume and drift model that has been widely used in preparing environmental assessments of cooling towers for regulatory purposes. The SACTI model uses cooling tower design and

operational data along with hourly meteorological data to predict the probable impact of cooling tower plumes.

The complete report summarizing the inputs and results of the SACTI modeling analysis is provided in Appendix K. The results of the analysis are summarized in Table 8.

Table 8: Summary of Cooling Tower Impacts

Cooling Tower Impact Description	Estimated Impacts (units based on 5 years of hourly meteorology)	Estimated Location and Extent of Impacts
Plume Fogging	2.5 hours per year on average	Predominantly within 1,000 meters southwest of the cooling tower.
Rime Icing	1 hour per year on average	South of the cooling tower (< 0.5 hour of icing over 5 years on Echo Lake Road).
Salt Deposition	Maximum 2.47 kg/km^2-month	Predominantly within 200 meters of tower and on site.
Plume Shadowing	110 hours/year on average	Predominantly within 200 meters of tower and on site.
Plume Visibility	Offsite visible plume estimated to occur less than 10 percent of the time, not accounting for nighttime hours, hours of precipitation and low visibility periods.	Visible plume predominantly contained on-site with dimensions less than 100 meters in length, 30 to 40 meters in height and 15 meters in radius.

In summary, the Watertown Project cooling tower was evaluated for adverse environmental impacts using the SACTI model. Based on this analysis, no adverse off-site environmental effects are expected.

11.11 Local, State, and Federal Land Use, Conservation, and Development Plans

The selected property on Echo Lake Road in Watertown, Connecticut has been zoned for general industrial use (I G-80) by the Watertown Planning and Zoning Commission. This zoning is

intended to "accommodate basic industrial uses and heavy commercial operations incompatible with residential environments…" including "public utility buildings or facilities."[27]

The Town of Watertown Plan of Conservation and Development is currently being updated. The August 2007 draft of this document identifies the area of the project site as industrial[28]. Several discussions with members of the local Planning and Zoning and Economic Development Commissions have revealed their strong desire to see this area developed.

In accordance with Sections 16a-24 through 16a-33 of the C.G.S, the Office of Policy and Management (OPM) is required to prepare a State Plan of Conservation and Development on a recurring five-year cycle. The Plan serves as a statement of the development, resource management and public investment policies for the state. The Plan is used as a framework for evaluating plans and proposals submitted to OPM for review through mandated review processes. The resulting "Conservation and Development Policies Plan for Connecticut 2005-2010" adopted by the state legislature in 2005 identifies the Watertown site as a "growth area."

The Watertown Project, as proposed, is consistent with local and state land use plans and zoning, and does not conflict with any known federal plan for the site.

11.12 Effects on Adjacent Land Use

The chosen site is currently undeveloped. Nearby properties include both developed and undeveloped industrial properties and the Mattatuck State Forest. Current neighboring industries include manufacturing, auto salvage, a Connecticut Resource Recovery Authority waste transfer station, and FedEx and UPS distribution centers.

The Watertown Facility has been sited and designed to minimize any impacts on adjacent properties. Recreational activities associated with the Mattatuck State Forest are more sensitive

[27] Town of Watertown Planning and Zoning Commission Zoning Regulations. Effective December 24, 1993.
[28] Included with Bulk Filing.

than neighboring industrial uses. Special care must be taken to ensure that these activities are not disturbed. A narrow ROW approximately 1000 feet long through the Mattatuck State Forest will be cleared to make way for the proposed underground transmission interconnection line. This area of disturbance is significantly removed from existing state forest trails.

The nearest residence is located approximately ¼ mile from the Watertown Project's western property boundary and should not suffer from any substantial adverse effects created by its operation.

11.13 Public Water Supply Watershed and Aquifer Areas

The Watertown Project site is not located within or near to a public water supply watershed or aquifer protection area (see Appendix N.11). The nearest aquifer protection or reservoir area is located 1.8 miles from the project site.

12. Proposed Mitigation Measures

A number of proposed mitigation measures have been described throughout this petition. They are summarized below:

12.1 Air Quality

To ensure compliance with all applicable air quality regulations and standards, the Watertown Facility will burn only clean waste wood and will utilize state-of-the-art pollution control technology. In addition to the advanced fluidized bed gasification system, the Watertown Facility will employ SCR for NO_x control, limestone/reagent injection (as needed) for SO_x control, and a baghouse for control of PM and metals emissions.

12.2 Traffic Impact

A professional traffic study conducted for the Watertown Project concludes that sight distances are not sufficient at the intersection of the proposed site access road and Echo Lake Road to safely allow trucks to enter and exit the property. This is largely due to the fact that observed traffic speeds are greatly in excess of the posted 25 mph speed limit. The proposed mitigation for this condition is the establishment of an all-way stop controlled intersection to promote safety.

12.3 Noise

Noise control measures will be required for some of the facility component operations in order to comply with applicable noise regulations. Suitable engineering controls may take the form of noise attenuating enclosures on specific pieces of equipment, or on particular equipment components such as motors or pumps. Noise control measures may also include special mufflers or silencing devices, or prefabricated noise barriers.

Prior to initiating final design and construction activities, an updated list of equipment and noise specifications will be reviewed to identify appropriate noise controls that may be required to achieve the limits imposed by the R.C.S.A.

While construction and plant commissioning are ongoing, a Health and Safety Inspector will take periodic environmental noise measurements at the locations used for the noise survey. The Health and Safety Inspector will determine the appropriateness of the noise abatement measures applied, if any.

12.4 Visual Impact

The minimum stack height supporting compliance with all applicable air quality regulations and standards will be used to minimize the visual impact on the community. In addition, to the maximum extent possible, trees on the project site will not be disturbed to provide a visual barrier.

12.5 Ecology

With respect to the ecological integrity of the project site, mitigation measures will include soil stabilization, planting plans, erosion and sedimentation control plans, and the use of standard best management practices.

12.6 Wetlands and Watercourses

To mitigate the disturbance to the on-site wetlands, new wetland areas will be created to offset the disturbed area, in the form of two forebay sediment traps and a water quality basin. In the area requiring fill, the wetland soil will remain and an underdrain will be added to maintain the existing hydrology. In addition, wetland planting plans and standard best management practices will be used to further minimize impacts.

12.7 Storm Water Management

Storm water runoff will be controlled in an adequately-sized detention basin in accordance with a storm water discharge plan that was submitted as a part of the Inland Wetlands Permit filing to the Watertown Conservation Commission.

13. Government Approvals

Table 9 below outlines permits that may be required for the construction and operation of the Watertown Renewable Power Project in addition to approval from the Siting Council. A brief discussion of permit status or schedule is also presented here.

Table 9: Permits Potentially Required

PERMIT NAME	*ACTIVITY REQUIRING PERMIT*	*REVIEW AGENCY*	*AUTHORITY*	*STATUS*
AIR				
Permit to Construct and Operate	Operation of a major stationary source which may emit air pollutants	CTDEP, Bureau of Air Management	Title 22a-174, Chapter 446C C.G.S; R.C.S.A. 22a-174-3a	Filed 9/7/2007 (Air Quality Impact Analysis submitted 10/31/07)
Title V Operating Permit	Major stationary source or source subject to 40 CFR 60, 61, 63, 68 or 72 through 78	CTDEP, Bureau of Air Management	R.C.S.A. 22a-174-33	Anticipated Filing: 2Q09
Title IV Acid Rain Permit	New electrical generating facility with >25MWe capacity	CTDEP, Bureau of Air Management and USEPA	40 CFR 72	Anticipated Filing: 2Q08
WATER RESOURCES				
Town Inland Wetlands and Watercourses Agency (IWWA) Permit	Development within wetlands or upland review area	Watertown Conservation Commission/Inland Wetland Agency as part of the Siting Council location Approval process	July 20, 1990 Town Inland Wetlands and Watercourses Regulations, C.G.S Section 22a-36 to 22a-45(a)	Filed 7/26/2007 Declared "significant" activity 9/13/2007 1st public hearing 10/11/2007 Decision expected 11/15/2007
Water Quality Certification	Proposed development within riparian wetlands viewed as sensitive resources	CTDEP, Bureau of Water Management, (State Administered Federal Law)	Section 401(a)(1) of the Federal Clean Water Act	Anticipated Filing: 1Q08 (if required)
Department of the Army Programmatic General Permit (PGP), State of Connecticut Permit No: GP-41. "Category I eligibility"	Impact to inland wetlands less than 0.11 acres	U.S. Army Corps of Engineers (COE) New England District and the CTDEP	Section 404 of the Federal Clean Water Act	No reporting required, but must comply with PGP Category I requirements

PERMIT NAME	*ACTIVITY REQUIRING PERMIT*	*REVIEW AGENCY*	*AUTHORITY*	*STATUS*
Certificate of Public Notice Convenience and Necessity *–(if necessary)*	Supplies piped water to the facility for public consumption. Serves over 25 persons daily at least 60 days of the year	Department of Public Utility Control	State Regulations, Section 16-262m	Not necessary
WATER DISCHARGES				
Individual Permit for Wastewater Discharges (DEP-PERD-INST-100)	Discharge to POTW	CTDEP, Bureau of Water Management	Section 22a-430b, C.G.S	Anticipated Filing: 1Q09
General Permit for Stormwater and Dewatering Wastewaters from Construction Activities (DEP-PERD-GP-015)	All discharges of stormwater and dewatering wastewater from construction activities which result in the disturbance of one or more total acres of land area on a site	CTDEP, Bureau of Water Management	Section 22a-430b, C.G.S	File at least 30 days prior to start of construction.
General Permit for Stormwater Associated with Industrial Activities (DEP-PERD-GP-014)	All discharges of stormwater directly related to manufacturing, processing or material storage areas at an industrial activity.	CTDEP, Bureau of Water Management	Section 22a-430b, C.G.S	File at least 30 days prior to commercial operation.
General Permit for Water Treatment Wastewaters (DEP-PERD-GP-002) – *if necessary*	Discharges of wastewater generated by treatment of water supplies for potable or industrial water, if necessary.	CTDEP, Bureau of Water Management	Section 22a-430b, C.G.S	Not necessary
OTHER				
Notice of Proposed Construction – Stack Height Approval	If stack height is greater than 200 feet.	Federal Aviation Administration (FAA)	Federal Aviation Regulations, Part 77	Not necessary
Coordination with State Historic Preservation Bureau	"Category II eligibility" Department of the Army Programmatic General Permit	State Historic Preservation Officer	Section 106 of the Historic Preservation Act	Survey complete and approved by SHPO
Erosion and Sedimentation Plan	More than 0.5-acre disturbed area	Local Zoning Commission as part of the Siting Council location approval process	C.G.S Section 22a-325 through 22a-329	See Inland Wetlands Permit above

PERMIT NAME	*ACTIVITY REQUIRING PERMIT*	*REVIEW AGENCY*	*AUTHORITY*	*STATUS*
Planning Commission Approval	New Development	Local Zoning Commission as part of the Siting Council location approval process	Town of Watertown Zoning Regulations	Not required

14. Community Relations

The Watertown Project has received a positive, welcoming response from local government and community leaders. This is due in large part to the open dialogue that has been maintained with the community since the project's conception.

Although not specifically required for a Petition filing, a community consultation document was assembled in accordance with Siting Council's pre-application process (C.G.S 16-50*l*(e)) which requires the Applicant to "provide the chief elected official (of the host community) with any technical reports concerning the public need, the site selection process and the environmental effects of the proposed facility." The community consultation document was delivered to approximately 60 Watertown stakeholders and made publicly available at several locations and on Tamarack Energy's website. The submittal of this document initiated a 60-day period during which members of the Watertown community were able to review the proposed facility and ask questions concerning its construction and operation. A public notice of document availability was published in local newspapers. A copy of the community consultation document is presented in Appendix L.

A community open house for the further dissemination of information about the Watertown Project was conducted on October 4, 2007, at the mid-point of the 60-day comment period. A public notice with the date, time, and location of the open house was published in local newspapers. About 13 members of the Watertown community attended the open house,

perused informational posters, and spoke with Tamarack Energy representatives. A sign-in sheet and several photographs from the open house event are presented in Appendix L.

Other key meetings with the community include a tour of the Fitchburg (Biomass) Power Station in Westminster, Massachusetts with members of the Watertown Economic Development Commission, presentations to the Watertown Chamber of Commerce and Watertown Rotary Club, and several voluntary information-sharing sessions with the Watertown Planning and Zoning Commission. A log of the frequent discussions with local officials and other interested parties has been maintained and is presented in Appendix L.

All questions from the community review period were addressed promptly and were considered in the preparation of this Siting Council application. Only two questions have required a written response.

1. Members of the Watertown Planning and Zoning Commission requested that calculations be provided to support the project's truck traffic assertions. To the satisfaction of the Commission, calculations were provided that show typically 40 to 50 trucks per day will be needed to deliver the required fuel at the expected moisture content (40%) and up to 65 trucks per day may be required for 50% moisture wood fuel. The traffic impact analysis takes into account the worst-case condition and concludes that there will be no decrease in Level of Service at any of the intersections between the project site and route 8.
2. Members of the Watertown Conservation Commission during their wetlands application review expressed concerns about the fate of rainwater contacting the on-site wood fuel storage pile. A written response (Appendix L) was provided explaining why the impacts from wood pile leachate are minimal.

15. Loads and Resources

The Watertown Renewable Power is a 30 MW gross (27 MW net) electricity generating facility. 15 MW of the Watertown Facility's energy, capacity and associated renewable attributes will be sold to CL&P under the terms of a 15-year electricity purchase agreement that resulted from the first round of the CCEF Project 100 solicitation. The balance of the plant power output will be sold directly to ISO-NE or via separate, long-term contracts. Associated renewable attributes will be sold under separate bilateral agreement(s) and the capacity will be sold in the FCM. The Watertown Facility will operate as a base load unit connected at 115 kV, on one of two transmission lines, near CL&P's Frost Bridge substation.

16. Other Relevant Information – Solid Waste Position

It is the position of Watertown Renewable Power that the project will not require a solid waste permit. A letter to this effect was submitted to the CTDEP on behalf of Watertown Renewable Power on August 21, 2007. The Watertown Facility is a biomass gasification facility that will utilize only clean wood that is processed off site. The ruling of the DPUC that the Watertown Project will qualify as a Class I renewable resource further supports this position. The letter, with DPUC Class I ruling attached, is included in Appendix M. Watertown Renewable Power is currently seeking an audience with CTDEP to discuss their response to this position.

17. Notice, Service and Other Filing Requirements

Although not required with the filing of a petition, Watertown Renewable Power has provided notice of this filing to the federal, state, and local government officials, identified in C.G.S § 16-50*l*(b), as well as all abutting landowners. The notice and distribution list is included in

Appendix O. Copies of the application will be provided upon request and the Petition will also be made publicly available in the Watertown public libraries.

18. Petition Filing Fee

The filing fee for a Petition for a declaratory ruling from the Council is $500. A check for this amount payable to the Council accompanies this Petition.

19. Bulk Filing of Municipal Documents

A bulk filing of four copies of the Watertown zoning and inland wetlands regulations and the proposed 2007 Plan of Conservation and Development is being provided to the Council.