

Pine Valley Business Center  
c/o Prolman Realty  
100 Elm Street, Nashua, NH 03060

DE 12-208  
original

July 9, 2012

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



RE: Application for Certification as a Class IV Source

Dear Ms. Howland:

Attached please find an application for certification as a Class IV Source for the Pine Valley Business Center. As instructed, please find one original and two paper copies. An electronic version has also been sent. If you have any questions please feel free to telephone me at 617 901 8009, email me at [elevine@brownrecov.com](mailto:elevine@brownrecov.com) or send correspondence to the above address.

Sincerely,

*Eli Levine*

Eli Levine  
Manager



State of New Hampshire  
Public Utilities Commission

21 S. Fruit Street, Suite 10, Concord, NH 03301-2429



APPLICATION FORM FOR

**RENEWABLE ENERGY SOURCE ELIGIBILITY FOR CLASS IV**

**HYDRO SOURCES WITH A TOTAL NAMEPLATE CAPACITY OF ONE MEGAWATT OR LESS**

*Pursuant to New Hampshire Administrative Code Puc 2500 Rules, Puc 2505.02 Application Requirements  
Laws of 2012, Chapter 0272*

- Please submit one (1) original and two (2) paper copies of the completed application and cover letter to:

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

- Send an electronic version of the completed application and the cover letter electronically to [executive.director@puc.nh.gov](mailto:executive.director@puc.nh.gov).

The cover letter must include complete contact information and clearly state that the applicant is seeking certification as a Class IV source. Pursuant to Chapter 362-F:11 I, the Commission is required to render a decision on an application within 45 days upon receiving a completed application.

If you have any questions please contact Barbara Bernstein at (603)271-6011 or [Barbara.Bernstein@puc.nh.gov](mailto:Barbara.Bernstein@puc.nh.gov).

Please provide the following:

1. Applicant Name: 282 Route 101 LLC and 37 Wilton Road LLC d/b/a Pine Valley Mill Business Center

Mailing Address: c/o Prolman Realty, 100 Elm Street

Town/City: Nashua State: NH Zip Code: 03060

Primary Contact: Eli Levine

Telephone: 617 901 8099 Cell: 617 901 8009

Email address: elevine@brownfieldsdevelopment.com

2. Facility Name: Pine Valley Mill

(physical address) 37 Wilton Road

Town/City: Milford State: NH Zip Code: 03055

If the facility does not have a physical address, the Latitude N 42 50'20" & Longitude 71 43' 44"

(To qualify the electrical production for RECs, the facility must be registered with the NEPOOL – GIS).  
Contact information for the GIS administrator follows:

James Webb, Registry Administrator, APX Environmental Markets  
224 Airport Parkway, Suite 600, San Jose, CA 95110  
Office: 408.517.2174, [jwebb@apx.com](mailto:jwebb@apx.com)

3. The facility's ISO-New England asset identification number, if available. 891
4. The facility's GIS facility code, if available. UNDR 5 MW-HILLSBORO MILLS
5. A description of the facility including the following:
  - 5.a. The gross nameplate capacity 500 kilowatts
  - 5.b. The facility's initial commercial operation date 10/16/87 with a significant renovation and FERC permitting
  - 5.c. The date the facility began operation, if different than the operation date. The dam structure and power generating equipment was originally constructed in 1912
  - 5.d. A complete description of the facility including related equipment

The existing dam structure, which was originally constructed in 1912, consists of a run-of-the-river gravity structure with a concrete ogee spillway and concrete and stone masonry training and cutoff walls. A gate house is situated at the left (looking downstream) end of the dam, which houses the head gates for the 96 inch diameter corrugated metal pipe (CMP) penstock, which supplies the hydropower generator housed in the mill building downstream. A significant renovation was conducted in 1987 as part of the FERC permitting process with a FERC license granted on 10/16/1987.

The overall length of the dam is 200 feet. The dam crest elevation is BL 325 at the lowest ground elevation at the left abutment and EL 330 at the top of the railroad embankment on the left side of the dam.

The spillway consists of a concrete ogee section with a reported length of 128 feet, a height of 12 feet and a crest elevation of 319.6. The spillway crest is approved for and fitted with 48 inch high flashboards, which raise the normal impoundment level to BL 323.6. A timber cutoff wall was reportedly constructed below the heel (upstream side) of the spillway. There is a reportedly 3± to 4± foot thick concrete apron at the toe (downstream side) of the spillway, which was constructed in 1982/1983, along with a stone block apron extension to prevent undermining of the concrete.

The spillway also includes two outlet gates (a.k.a. "waste" gates), one located approximately 5± feet from the left abutment and the other approximately 3± feet from the right abutment. The left gate is reportedly 4 feet wide and 6 feet high, with an invert elevation of EL 311.60. The right gate is reportedly 3 feet high and 3 feet wide.

A fish passage consisting of a steel fish intake box mounted on the spillway crest and a steel discharge pipe extending and discharging downstream allowing downstream movement, was

installed at the left end of the spillway in 1990.

The left abutment structure consists of a 5.5 foot wide by 10 foot long gunite faced stone masonry spillway end wall with a 5± foot high concrete cap; a concrete upstream training wall (which includes the 27± foot long gatehouse intake); an upstream concrete cutoff wall extending from the upstream end of the training wall into the left bank at the upstream end of the upstream training wall; and a downstream training wall which consists of a 25± foot long section of gunite faced stone masonry at the upstream end, a 40± foot long reinforced concrete in the middle section (reportedly constructed in 1982/1983) and a mortared concrete masonry unit (CMU) section (reportedly constructed in 1988) at the downstream end. There is a concrete apron along the base of the downstream training wall.

The right abutment structure consists of a concrete upstream training wall; an upstream concrete cutoff wall which extends from the upstream end of the training wall into the right bank; and a gunite faced stone masonry downstream training wall with a concrete cap.

The gatehouse is a wood framed structure located at the left abutment. The structure is approximately 42± feet long and 28± feet wide, with a timber truss roof. The 27± foot long gatehouse intake is located in the left upstream spillway training wall, and is protected from debris intrusion by an inclined steel slat trash rack, which reportedly extends to at least 8 feet below the spillway crest elevation. The gate house foundation, which forms headworks for the penstock, consists of concrete walls and a concrete base. The base of the structure is reportedly at EL 312.66, and is approximately coincidental with the upstream end of the penstock. The gatehouse also houses the penstock headgate, which consists of an electrically operated 8 foot wide timber sluice gate. The gatehouse deck is concrete and timber. The penstock currently consists of an 8 foot diameter corrugated metal pipe with a reported three inch thick bituminous coating in the interior surface; which was installed in 1982/1983. The penstock is approximately 2,900± feet long, and includes three 30 inch diameter manhole access points.

The 500 kilowatt capacity hydropower generating facility is located in the northeast corner of the lower level of the Pine Valley Mill building. The facility consists of a cross-flow, impulse type turbine which includes a waterwheel enclosed in a steel pressure case, which is fed by the 8 foot diameter penstock; two steel outlet elbows/pipes; two General Electric generators and a control unit.

The tailrace consists of a concrete structure which begins below the generator and discharges into the Souhegan River approximately 95± feet downstream. The tailrace outlet consists of a reported 14± foot high concrete arch structure, with a reported invert elevation of 279.4±, which discharges into a concrete and stone masonry lined channel. A second concrete lined channel, which formerly served as an overflow discharge channel, also discharges into the tailrace outlet channel.

6. A copy of all necessary state and federal (FERC) regulatory approvals as **Attachment A**.
7. A copy of the title page of the Interconnection Agreement between the applicant and the distribution utility, the page(s) that identifies the nameplate capacity of the facility and the signature pages. *Please provide this information as Attachment B.*
8. A description of how the generation facility is connected to the distribution utility.

The inter-tie point is pole 2 off pole 132 on Elm Street in Milford, NH on PSNH circuit 30H2. The primary interconnection includes two RXE reclosers on Rte 101 (pole, crossarms, 6" disc etc), cutouts on 30H2 beyond tap and wire, insulators and fuses for the interconnection tap.

9. A statement as to whether the facility has been certified under another non-federal jurisdiction's renewable portfolio standard and proof thereof.

The facility has **NOT** been certified under another non-federal jurisdiction's renewable portfolio standard.

10. A statement as to whether the facility's output has been verified by ISO-New England.

The facilities output has been verified by ISO-New England.

11. An affidavit by the applicant attesting that the contents of the application are accurate. *Use either the Affidavit at the bottom of this page, or provide a separate document as Attachment C.*

12. The name and telephone number of the facility's operator, **if different from the owner.**

Facility Operator Name: R.A Greenwood and Sons

Phone: 603 924 5777

13. Other pertinent information that you wish to include to assist in classification of the facility provide as **Attachment D**.

CHECK LIST: The following has been included to complete the application:	YES
• All contact information requested in the application.	YES
• A copy of all necessary state and federal (FERC) regulatory approvals as Attachment A.	YES
• A copy of the title page of the Interconnection Agreement between the applicant and the distribution utility, the page(s) that identifies the nameplate capacity of the facility and the signature pages as Attachment B.	YES
• A signed and notarized attestation or Attachment C.	YES
• A GIS number has been provided or has been requested.	YES
• Other pertinent information has been provided (if necessary) as Attachment D.	YES

• This document has been printed and notarized.	YES
• The original and two copies are included in the packet mailed to Debra Howland, Executive Director of the PUC.	YES
• An electronic version of the completed application has been sent to <a href="mailto:executive_director@puc.nh.gov">executive_director@puc.nh.gov</a> .	YES

**AFFIDAVIT**

The Undersigned applicant declares under penalty of perjury that contents of this application are accurate.

Applicant's Signature *Ch. Rice* Date 7/11/12

Subscribed and sworn before me this 11th Day of July (month) in the year 2012

County of Hillsborough State of New Hampshire

*Joni Guilbert*  
 Notary Public / Justice of the Peace  
 JONI GUILBERT  
 Notary Public - New Hampshire  
 My Commission Expires February 18, 2014

My Commission Expires \_\_\_\_\_

**Attachment A**

**FERC license dated 10/16/1987**

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Winslow H. MacDonald

Project No. 9282-000

ORDER ISSUING LICENSE  
(Minor Project)

(Issued October 16, 1987)

Winslow H. MacDonald has filed a license application under Part I of the Federal Power Act (Act) to construct, operate, and maintain the Pine Valley Project, located in Hillsborough County, New Hampshire, on the Souhegan River. The project would affect the interests of interstate or foreign commerce.

Notice of the application has been published. No protests or motions to intervene were filed in this proceeding, and no agency objected to issuance of this license. Comments received from interested agencies and individuals have been fully considered in determining whether to issue this license, as discussed below.

Recommendations of Federal and State Fish and Wildlife Agencies

Section 10(j) of the Act, as amended by the Electric Consumers Protection Act of 1986 (ECPA), Pub. L. No. 99-495, requires the Commission to include license conditions based on recommendations of federal and state fish and wildlife agencies for the protection, mitigation, and enhancement of fish and wildlife. The environmental assessment (EA) for the Pine Valley Project addresses the concerns of the federal and state fish and wildlife agencies, except as indicated below, and makes recommendations consistent with those of the agencies.

The New Hampshire Fish and Game Department (FGD) recommends that the terms and conditions of the license be conveyed by sale or lease of the project to protect the fish and wildlife resources. This recommendation is outside the scope of section 10(j) because it does not involve specific measures to protect fish and wildlife resources. This license, however, includes provisions that would convey the terms and conditions of the license by sale or lease of the project.

Comprehensive Plans

Section 10(a)(2) of the Act, as amended by ECPA, requires the Commission to consider the extent to which a project is consistent with comprehensive plans (where they exist) for improving, developing, or conserving a waterway or waterways affected by the project. The plans must be prepared by an agency

established pursuant to federal law that has the authority to prepare such a plan or by the state in which the facility is or will be located. The Commission considers plans to be within the scope of section 10(a)(2), only if such plans reflect the preparers' own balancing of the competing uses of a waterway, based on their data and on applicable policy considerations (i.e., if the preparers consider and balance all relevant public use considerations). With regard to plans prepared at the state level, such plans are within the scope of section 10(a)(2), only if they are prepared and adopted pursuant to a specific act of the state legislature and developed, implemented and managed by an appropriate state agency. 1/

The staff identifies no comprehensive plans of the types referred to in section 10(a)(2) of the Act relevant to this project. The staff reviewed four resource plans 2/ that address various aspects of waterway management in relation to the proposed project as part of a broad public interest examination under Section 10(a)(1) of the Act. No conflicts were found.

Based upon review of the agency and public comments filed in this proceeding, and our independent analysis as discussed herein, we conclude that the Pine Valley Project is best adapted to a comprehensive plan for the Souhegan River taking into consideration the beneficial public uses described in Section 10(a)(1) of the Act.

#### Summary of Findings

An EA was issued for this project. Background information, analysis of impacts, support for related license articles, and the basis for a finding of no significant impact on the environment are contained in the EA attached to this order. Issuance of this license is not a major federal action significantly affecting the quality of the human environment.

---

1/ See Fieldcrest Mills, Inc., 37 FERC ¶61,264 (1986).

2/ New Hampshire Fish and Game Department's Waterfowl and Their Management in New Hampshire - 1975; New Hampshire Water Resources Board's Water Resources Management Plan - 1984; New Hampshire Fish and Game Commission's Fish and Wildlife Plan - 1983; U.S. Fish and Wildlife Service's Strategic Plan for the Restoration of Atlantic Salmon to the Merrimack River Basin - 1985.

The design of this project is consistent with the engineering standards governing dam safety. The project will be safe if constructed, operated, and maintained in accordance with the requirements of this license. Analysis of related issues is provided in the Safety and Design Assessment attached to this order.

The Director, Office of Hydropower Licensing, concludes that the project would not conflict with any planned or authorized development, and would be best adapted to the comprehensive development of the waterway for beneficial public uses.

The Director orders:

(A) This license is issued to Winslow H. MacDonald (licensee). For a period of 40 years, effective the first day of the month in which this order is issued, to construct, operate, and maintain the Pine Valley Project. This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, enclosed by the project boundary shown by Exhibit G:

<u>Exhibit G-</u>	<u>FERC No. 9282-</u>	<u>Showing</u>
1	7	Site Plan
2	8	Site Plan

(2) Project works consisting of: (1) a 23-foot-high, 200-foot-long concrete, stone, and masonry dam; (2) an ogee spillway, 128 feet long and 12 feet high; (3) a reservoir with a water surface area of 7 acres, a storage capacity of 70 acre-feet, and a water surface elevation of 323.6 feet m.s.l. with; (4) 4-foot-high flashboards; (5) a wooden gatehouse, 42 feet long and 28 feet wide; (6) two waste gates in the spillway; (7) an 8-foot-diameter, 2,700-foot-long steel penstock; (8) a generating unit located at the dam having a generating capacity of 30 kW; (9) a powerhouse, located in a former mill building, containing one existing generating unit with a capacity of 525 kW; (10) a 155-foot-long tailrace; (11) two transmission lines, 200 feet and 1,580 feet long; and (12) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of Exhibits A and F recommended for approval in the attached Safety and Design Assessment.

(3) All of the structures, fixtures, equipment or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project and located within or outside the project boundary, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The Exhibit G described above and those sections of Exhibits A and F recommended for approval in the attached Safety and Design Assessment are approved and made part of the license.

(D) The following sections of the Act are waived and excluded from the license for this minor project:

4(b), except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army; 6, insofar as it relates to the acceptance and expression in the license of terms and conditions of the Act that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15\*; 3/ 16; 19; 20; and 22.

\* At the expiration of this license, any license application filed, including the licensee's, will be treated as an original license application. The municipal preference provisions of Section 7(a) of the Federal Power Act will apply.

(E) This license is subject to the articles set forth in Form L-15, (October 1975), entitled "Terms and Conditions of License for Unconstructed Minor Project Affecting the Interests of Interstate or Foreign Commerce," except Article 15. The license is also subject to the following additional articles:

Article 201. The licensee shall pay the United States the following annual charge, effective the first day of the month in which this license is issued:

For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 740 horsepower.

Article 202. The licensee shall clear and keep clear to an adequate width all lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which result from maintenance, operation, or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of lands and disposal of unnecessary material shall be done with due diligence to the satisfaction of the authorized representative of the Commission and in accordance with appropriate federal, state, and local statutes and regulations.

Article 301. The licensee shall commence construction of project works within two years from the issuance date of the license and shall complete construction of the project within four years from the issuance date of the license.

Article 302. The licensee shall at least 60 days prior to start of construction, submit one copy to the Commission's Regional Director and two copies to the Director, Division of Inspections, of the final contract drawings and specifications for pertinent features of the project, such as water retention structures, powerhouse, and water conveyance structures. The Director, Division of Inspections, may require changes in the plans and specifications to assure a safe and adequate project.

Article 303. The licensee shall review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction and shall ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days prior to start of construction of the cofferdam, the licensee shall submit to the Commission's Regional Director and Director, Division of Inspections, one copy each of the approved cofferdam construction drawings and specifications and the letter(s) of approval.

Article 304. The licensee shall within 90 days of completion of construction file, for approval by the Commission, revised Exhibits A, F, and G to describe and show the project as built.

Article 401. The licensee shall operate the Pine Valley Project in an instantaneous run-of-river mode for the protection of fish and wildlife resources. The licensee, in operating the project in an instantaneous run-of-river mode, shall at all times maintain a discharge from the project so that flow in the Souhegan River, as measured immediately downstream of the project tailrace, approximates the instantaneous sum of inflow to the project. Instantaneous run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee and for short periods upon mutual agreement between the licensee and the U.S. Fish and Wildlife Service and the New Hampshire Fish and Game Department.

Article 402. The licensee shall discharge from the Pine Valley Project dam a continuous minimum flow of 24 cubic feet per second, as measured immediately downstream from the project dam, or inflow to the project, whichever is less, for the protection of fish and wildlife resources in the Souhegan River. This flow may be temporarily modified if required by operating emergencies beyond the control of the licensee and for short periods upon mutual agreement between the licensee, the U.S. Fish and Wildlife Service and the New Hampshire Fish and Game Department.

Article 403. The licensee shall construct and maintain, and operate from April 1 to June 1, downstream fish passage facilities for the Pine Valley Project. The licensee, after consultation with the U.S. Fish and Wildlife Service (FWS) and the New Hampshire Fish and Game Department (FGD), and within 6 months from the date of issuance of this license, shall file with the Commission for approval, a downstream fish passage plan that includes the following: (1) functional design drawings of downstream fish passage facilities; (2) a schedule for construction, operation, and maintenance of the facilities; (3) a description of a program to monitor the effectiveness of the downstream fish passage facilities; (4) a schedule for implementing the monitoring program and for filing the results and any recommended changes in the structure and operation of the downstream fish passage facilities with the consulted agencies and with the Commission; (5) provisions for permitting personnel of the FWS and FGD to inspect the fish passage facilities and related project records upon showing proper credentials. The plan shall include documentation of consultation with the aforementioned agencies and their comments on the plan. The Director, Office of Hydropower Licensing, reserves the right to require changes in the plan. The licensee shall file as-built drawings of the downstream fish passage facilities with the Commission within 6 months after completion of construction.

Article 404. The licensee, after consultation with the New Hampshire Fish and Game Department and the U.S. Fish and Wildlife Service, shall develop a plan to install a streamflow gage in the Souhegan River to monitor the minimum flow release required by Article 403. The plan shall include the location and design of the gage, a schedule for the installation of the gage, an identification of the method of flow data collection, and a provision for providing the flow data to the agencies. The Commission reserves the right to require modifications to the plan. The plan shall be filed with the Commission for approval within 1 year from the date of issuance of this license and shall include comments from the consulted agencies on the plan.

Article 405. The licensee, before starting any land-clearing or land-disturbing activities within the project boundary, other than those specifically authorized in this license, shall consult with the State Historic Preservation Officer (SHPO). If the licensee discovers previously unidentified archeological or historic properties during the course of constructing or developing project works or other facilities at the project, the licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the properties and consult with the SHPO. In either instance, the licensee shall file with the Commission a cultural resource management plan prepared by a qualified cultural resource specialist after having consulted with the SHPO.

The management plan shall include: (1) a description of each discovered property indicating whether it is listed on or eligible to be listed on the National Register of Historic Places; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for mitigating effects and conducting additional studies. The Commission may require changes to the plan.

The licensee shall not begin land-clearing or land-disturbing activities, other than those specifically authorized in this license, or resume such activities in the vicinity of a property, discovered during construction, until informed that the requirements of this article have been fulfilled.

Article 406. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain other types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of

protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the uses and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the uses and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certificates or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director,

within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

(F) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission.

(G) This order is issued under authority delegated to the Director and is final unless appealed under Rule 1902 to the Commission by any party within 30 days from the issuance date of this order. Filing an appeal does not stay the effective date of this order or any date specified in this order. The licensee's failure to appeal this order shall constitute acceptance of the license.



Fred E. Springer  
Acting Director, Office  
of Hydropower Licensing

ENVIRONMENTAL ASSESSMENT  
DIVISION OF ENVIRONMENTAL ANALYSIS, OFFICE OF HYDROPOWER LICENSING  
FEDERAL ENERGY REGULATORY COMMISSION

August 4, 1987

Project name: Pine Valley Dam Hydroelectric FERC No. 9282-000

A. APPLICATION

1. Application type: Minor license Date filed: 6/10/85
2. Applicant: Winslow H. MacDonald, Trustee, Milford Elm Street Trust
3. Water body: Souhegan River River basin: Merrimack
4. Nearest city or town: Wilton and Milford
5. County: Hillsborough State: New Hampshire

B. PURPOSE AND NEED FOR ACTION

1. Purpose: The project would generate an estimated 2,473,000 kilowatthours of electric energy annually. The power would be sold to the New Hampshire Public Service at a rate approved by the New Hampshire Public Utility Commission.
2. Need for power: The power from the project would be useful in meeting a small portion of the need for power projected for the New England Power Pool (NEPOOL) area of the Northeast Power Coordinating Council (NPCC) region. From the time the project goes into commercial operation, it would be available to displace fossil-fueled, electric power generation in the NPCC region, thus conserving nonrenewable fossil fuels and reducing the emission of noxious byproducts caused by the combustion of fossil fuels.

C. PROPOSED PROJECT AND ALTERNATIVES

1. Description of the proposed action: The proposed project would consist of:  
(1) an existing 23-foot-high, 200-foot-long concrete, stone, and masonry dam;  
(2) a reservoir with a water surface area of 7 acres, a storage capacity of 70 acre-feet, and a water surface elevation of 323.6 feet mean sea level with;  
(3) 4-foot-high flashboards; (4) two existing steel intake gates; (5) a new 8-foot-diameter, 2,700-foot-long steel penstock; (6) a new generating unit located at the dam and having a generating capacity of 30 kilowatts (kW);  
(7) an existing powerhouse on the left bank containing one existing generating unit with a capacity of 525 kW; (8) an existing 155-foot-long tailrace;  
(9) two new transmission lines, 200 feet long and 1,500 feet long; and  
(10) appurtenant facilities.
2. Applicant's proposed mitigative measures.
  - a. Construction: None.

b. Operation: The applicant proposes to release a minimum flow, consisting of 24 cubic feet per second (cfs) from the diversion structure, to provide downstream fish passage facilities, and to permit reasonable public access to the site for fishing and boating.

3. Federal lands affected.

X No. \_\_\_ Yes.

4. Alternatives to the proposed action.

a. X No reasonable action alternatives have been found.

b. Alternative of no action: No action, denial of a license, would preclude the applicant from constructing the proposed project. No action would involve no alterations to the existing environment and would preclude the applicant from producing electrical power at the site.

D. CONSULTATION AND COMPLIANCE

1. Fish and wildlife consultation (Fish & Wildlife Coordination Act).

- a. U.S. Fish & Wildlife Service (FWS) : X Yes \_\_\_ No
- b. State(s) : X Yes \_\_\_ No
- c. National Marine Fisheries Service (NMFS): X Yes \_\_\_ No

2. Section 7 consultation (Endangered Species Act).

- a. Listed species: Except for occasional transient bald eagles migrating through the project area, no listed species are known to occur here.
- b. X Not required.

3. Section 401 certification (Clean Water Act).

\_\_\_ Not required. X Received. \_\_\_ Waived. \_\_\_ Requested. 12/30/85

4. Cultural resource consultation (Historic Preservation Act).

- a. Register status: X None. \_\_\_ Eligible or listed.
- b. State Historic Preservation Officer (SHPO): X Yes \_\_\_ No
- c. National Park Service (NPS): X Yes \_\_\_ No
- d. Council: X Not required.
- e. Further consultation: X Not required. \_\_\_ Required.

5. Recreation consultation (Federal Power Act).

- a. U.S. Owners: \_\_\_ Yes X No
- b. NPS: X Yes \_\_\_ No
- c. State(s) : X Yes \_\_\_ No

6. Wild and scenic rivers (Wild and Scenic Rivers Act).

Status: X None. \_\_\_ Listed.

7. LWCF lands and facilities affected (Land and Water Conservation Fund Act).  
Status: X None.      Designated.

E. COMMENTS

1. The following agencies and other entities provided comments on the application in response to the public notice dated 1 / 6 / 86.

<u>Commenting agencies and other entities</u>	<u>Date of letter</u>
Department of the Interior	3 / 5 / 86
New Hampshire Fish and Game Department	2 / 3 / 86
Environmental Protection Agency	3 / 11 / 86
Department of the Army, District Corps of Engineers	3 / 4 / 86
Hillsborough County Conservation District	3 / 7 / 86
Soil Conservation Service	3 / 7 / 86
New Hampshire Office of State Planning	2 / 25 / 86

2. X The applicant responded to the comments or motion(s) to intervene by letter dated 4 / 3 / 86.

F. AFFECTED ENVIRONMENT

1. General description of the locale.

a. Description of the Merrimack River Basin: The Souhegan River Drainage is a subdrainage of the large Merrimack River Basin. The Merrimack River Basin contains 5,010 square miles and is formed by the confluence of the Pemigewasset and Winnepesaukee Rivers in New Hampshire. The mainstem Merrimack River has a total length of 116 miles and flows from south-central New Hampshire, south to Massachusetts and then east through Massachusetts, to the Atlantic Ocean.

2. Descriptions of the resources in the project impact area. (Source: application, exhibit B, unless indicated otherwise.)

a. Geology and soils: The project area is underlain by igneous and highly metamorphosed bedrock. The soils are glacial outwash deposits that are composed of stratified sands and gravels.

b. Streamflow:

<u>low flow:</u>	2.2 cfs;	<u>flow parameter:</u>	minimum recorded discharge
<u>high flow:</u>	9,683.7 cfs;	<u>flow parameter:</u>	maximum recorded discharge
<u>average flow:</u>	164.0 cfs.		

Flow parameters were extrapolated from recorded flows at a USGS gage located downstream of the project. High flows occur in March and April; low flows occur in July and August.

c. Water quality: The Souhegan River in the project vicinity has a dissolved oxygen level no less than 6 milligrams per liter, a fecal coliform count of not more than 240 coliforms per 100 milliliter, and a pH range of 6.5 to 8.0. The water quality in the project vicinity meets B classification of the New Hampshire Water Supply and Pollution Control Commission B classification for the Souhegan River.

d. Fisheries:

Anadromous: Current restorative plans call for stocking Atlantic salmon fry in the Souhegan River to accelerate the development of a Merrimack River stock of salmon. There are no plans at this time to provide access for adult salmon in the Souhegan River in the vicinity of the proposed project.

Resident: Species include brook, brown, and rainbow trout, smallmouth bass, white perch, eastern chain pickerel, yellow perch, red brest sunfish, and white sucker.

e. Vegetation:

<u>Cover type</u>	<u>Dominant species</u>
Northern Hardwoods	red maple, silver maple, paper birch, gray birch, eastern hemlock, white pine, and oak species

f. Wildlife: Species inhabiting the project area include white-tailed deer, red fox, gray squirrel, cottontail rabbit, and muskrat.

g. Cultural:

National Register: (listed and eligible) properties have not been recorded.

There are properties listed on or eligible for listing on the National Register of Historic Places in the area of the project's potential environmental impact.

h. Visual quality: The views bordering the project area range from residential and commercial buildings to lightly wooded open areas.

i. Recreation: The existing recreation uses of the area include hunting, fishing, canoeing, and picnicking.

j. Land use: Land use in the project area includes open space, transportation, commerce, and low-density residential development. The Boston and Maine Railroad parallels the impoundment area and crosses the penstock about 1/4 mile downstream of the dam gatehouse.

k. Socioeconomics: There are 636 manufacturing establishments in Hillsborough County, employing about 53,500 workers. Major products include electronic computing equipment, electrical components for televisions and radios, plastic products, and instruments for measuring electricity.

## G. ENVIRONMENTAL ISSUES AND PROPOSED RESOLUTIONS

Mitigative measures recommended by the staff are in addition to those proposed by the applicant, Section C(2), and any conditions identified in Section C(3). There are eight issues addressed below.

### 1. Public access to the project area:

The Department of the Interior (Interior) recommends that the applicant allow public access to the project area for recreational purposes within safety and liability limitations. The New Hampshire Fish and Game Department (FGD) recommends that the applicant provide access to the project area, particularly the bypass reach, for the public use of fish and wildlife. The applicant agrees. A standard article in the license would require the licensee to allow reasonable public access to project lands and waters for recreational purposes within safety limitations.

### 2. Mode of project operation:

The applicant proposes to operate the project in a run-of-river mode so that outflow below the tailrace equals inflow to the project and to at all times act to minimize water level fluctuations in the reservoir. Operation of the project in an instantaneous run-of-river mode would stabilize the reservoir water level and downstream flow releases, thereby minimizing adverse impacts to the aquatic resources of the reservoir and downstream of the project. For protection of the fish and wildlife resources in the Souhegan River, the licensee should operate the project in an instantaneous run-of-river mode.

### 3. Minimum flow release:

Interior and the FGD recommend that the applicant discharge a continuous minimum flow of 24 cfs, as measured immediately downstream from the project dam for protecting and enhancing fish and wildlife resources in the Souhegan River. The applicant agrees to release a 24-cfs minimum flow through a small turbine at the dam. Operating the project would reduce flows in the 3,300-foot-long bypass reach and would reduce the quantity of habitat available to indigenous fish species. Maintaining a minimum flow in the bypass reach would minimize adverse effects on the fishery resources during project operation. The recommended 24-cfs minimum flow would provide habitat adequate to protecting the fishery resources in the Souhegan River. The licensee should release at the dam a minimum flow of 24 cfs or inflow to the project, whichever is less, for protecting fishery resources in the bypass reach.

### 4. Minimum flow monitoring:

Interior recommends that the applicant monitor and record flow releases from the dam to ensure compliance with the 24 cfs minimum flow requirement. In addition, Interior recommends that the applicant provide the resource agencies with discharge records upon request. The applicant agrees to monitor the minimum flow release initially, but would consult further with Interior concerning flow measurements in the bypass reach after demonstrating compliance with the required flow. Protecting the aquatic resources in the Souhegan River during project operation would require that the maintenance of suitable streamflows in the bypass reach be ensured. Therefore the licensee should install the appropriate streamgages in the bypass reach to monitor the minimum flow release.

5. Downstream fish passage:

Interior and FGD recommend that the applicant, after consulting with the Interior and FGD on the design of downstream fish passage facilities, should construct, operate, and maintain such facilities at the project. Interior states that the facilities should be operational before construction is completed, and that the applicant should coordinate the annual operation of the downstream fish passage facilities with FGD and FWS. FGD states that the facilities should be operational when the project goes on line and that the downstream fish passage facilities should be operated yearly from April 1 to June 1, when juvenile Atlantic salmon are outmigrating. Fish moving downstream that enter the project intake would incur project-induced injury or mortality. If the approach velocity of water entering the intake exceeds the swimming speed of Atlantic salmon fry that are shorter than 40 millimeters, the fish could become entrained. Mortality studies of juvenile salmonids' swimming ability show that fish with a fork length of 36 to 38 millimeters can withstand a maximum water velocity of 0.4 feet per second for 6 minutes (Odenvieller and Brown). Studies of Francis turbine prototypes at the Shasta Dam Hydroelectric Project indicate that turbine-related injury or mortality may result from both the mechanical effects of shearing force and rapidly decreasing pressure (Department of the Army, District, Corps of Engineers, 1963). At Shasta dam, the average mortality rate was 21.5 percent for juvenile chinook salmon and 31.5 percent for juvenile steelhead. The results of these and other studies (Ruggles et al., 1981, and Semple, 1979) demonstrate that the passage of fish through the proposed Francis turbines would result in substantial mortality and would adversely affect the fishery resources in the Souhegan River. Operating downstream fish passage facilities would make passage through the project turbines safe for fish. The licensee, therefore, should provide appropriately designed fish passage facilities at the project that are operational before project startup to facilitate the movement of fish downstream and to prevent turbine-induced fish losses. The licensee, furthermore, should coordinate the operation of these facilities each year with the FWS and the FGD to ensure that Atlantic salmon smolts are protected while migrating downstream.

6. Upstream fish passage:

Interior and FGD recommend that provisions be made in the license requiring the licensee to construct upstream fish passage facilities at the project if adult salmon are restored to the Souhegan River. The applicant agrees. Efforts to restore adult salmon to the Souhegan River may require the construction of upstream fish passage facilities at the project. Standard terms and conditions of the license, if issued, would provide for constructing, operating, and maintaining upstream fish passage facilities at the project in the future for developing and conserving fish and wildlife resources.

7. Archeological and historic properties identified during land-clearing and land-disturbing activities, or affected by changes in the design or location of the project, or in the mode of project operation:

Eligible archeological and historic properties could be adversely affected either because their presence in the project area was unknown prior to construction being commenced, or because there were changes in the design or location of project facilities; or in the mode of project operation. Therefore, the licensee, before commencing land-clearing or land-disturbing activities within the project boundaries, other than those specifically authorized in the licensee, and those

for which SHPO comments have been received, and before resuming such activities in the vicinity of properties discovered during construction, the licensee should file a plan, including a schedule, for the necessary studies and the SHPO's written comments concerning the plan. The licensee should secure official notification that these requirements have been fulfilled.

8. Cumulative impacts:

The staff concludes that the proposed projects in the Merrimack River Basin contribute to cumulative adverse impacts on two target resources: anadromous fish and resident recreational fisheries (Federal Energy Regulatory Commission, 1987a and 1987b). The staff conclude that the Pine Valley Project has the potential to contribute to cumulative adverse impacts on Atlantic salmon, but that the contribution potential would be minor, provided that the outmigration of Atlantic salmon smolts is monitored, and that changes in project operation are affected on the basis of the results of monitoring (Federal Energy Regulatory Commission, 1987b).

H. ENVIRONMENTAL IMPACTS

1. Assessment of adverse and beneficial impacts expected from the project as proposed by the applicant (P); the proposed project with the staff's recommended mitigation (Ps) [Section G]; and any other alternative considered (A).\*

Resource	Impact			Remarks
	P	Ps	A	
a. Geology/Soils	1AS			a. Project construction is nearly complete and the site is well protected from erosion.
b. Streamflow	1AS			b. Project operation would result in a reduction of streamflow in the bypass reach.
c. Water quality:				
Temperature	0			
Dissolved oxygen	0			
Turbidity and sedimentation	1AS			d. Turbine-related fish mortality might occur during project operation. Streamflow reduction in the bypass reach would reduce the amount of available fish habitat.
d. Fisheries:				
Anadromous	1AL			
Resident	1AL			
e. Vegetation	1AS			
f. Wildlife	1AS			
g. Cultural:				
Archeology	0			
History	0			
h. Visual quality	1AL			
i. Recreation	0			
j. Land use	0			
k. Socioeconomics	1BL			k. Earnings of onsite construction personnel would benefit the local economy. The completed project would generate annual local property taxes.

\* The assessment reflects the adoption of any federal land management agency's conditions, in addition to the applicant's proposed mitigation. Assessment symbols indicate the following impact levels:

0 = No impact; 1 = Minor impact; 2 = Moderate impact; 3 = Major impact;  
 A = Adverse; B = Beneficial; L = Long-term impact; S = Short-term impact.

2. Impacts of the no-action alternative.

Under the no-action alternative, there would be no construction of project facilities or changes to the existing physical, biological, or cultural components of the area. Electrical power that would be generated by the proposed hydroelectric project would have to be generated from other available sources or offset by conservation measures.

3. Recommended alternative (including proposed, required, and recommended mitigative measures):  Proposed project.  Alternative action.  No action.

4. Reason(s) for selecting the preferred alternative.

The goals of the proposed project can be achieved without significantly affecting the quality of the human environment.

I. UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS OF THE RECOMMENDED ALTERNATIVE

Fewer than 3 acres of vegetation would be disturbed. Increased noise levels and human activity during construction would disturb local wildlife populations. Minor erosion would result during project construction. Visual resources would be degraded somewhat by construction activities and by the presence of additional manmade structures in the area. Project operation would result in minor, long-term adverse impacts to the fishery resource because of reduced available habitat in the bypass reach and because of turbine-induced fish mortality.

J. CONCLUSION

Finding of No Significant Impact. Approval of the recommended alternative [H(3)] would not constitute a major federal action significantly affecting the quality of the human environment; therefore, an environmental impact statement (EIS) will not be prepared.

Intent to Prepare an EIS. Approval of the recommended alternative [H(3)] would constitute a major federal action significantly affecting the quality of the human environment; therefore, an EIS will be prepared.

K. LITERATURE CITED

1. Department of the Army, Walla Walla District Corps of Engineers. 1963. Fish passage through turbines: tests at Shasta hydroelectric plant. progress report no. 5. Walla Walla, Washington.
2. Federal Energy Regulatory Commission. 1987a. Environmental assessment for the Merrimack River Basin, FERC Docket No. EL85-19-113, Washington, D.C., January 28, 1987. 33 pp.
3. \_\_\_\_\_ . 1987b. Environmental assessment of cumulative impacts associated with hydropower development at seven proposed project sites in the Merrimack River Basin in New Hampshire. Washington, D.C., July 10, 1987. 16 pp.
4. MacDonald, Winslow H. 1985. Application for license for the Pine Valley Project, a minor water power project, Pine Valley Dam Project, FERC Project No. 9262, New Hampshire. June 10, 1985.
5. Odenweller, D. B., and R.L. Brown. Delta fish facilities program report through June 30, 1982. Interagency ecological study program for the Sacramento-San Joaquin estuary. technical report no. 6. December 1982.
6. Ruggles, C.P., H.B. Collins, and R.H. Thicke. 1981. Fish passage through hydroelectric turbines. Paper presented at the spring meeting of the Canadian Electrical Association, Toronto, Canada. 30 pp.
7. Semple, J.R. 1979. Downstream migration facilities and turbine mortality evaluation, Atlantic salmon smolts at Malay Falls, Nova Scotia. Fisheries and Environment, Canada, Halifax, Nova Scotia, Canada. Fisheries and Marine Service manuscript report. 1941. 15 pp.

L. LIST OF PREPARERS

<u>Name</u>	<u>Position title</u>
James T. Griffin	Archeologist (Coordinator)
Alan Mitchnick	Wildlife Biologist
Angelo Colianni	Soil Conservationist
Suzanne E. Brown	Environmental Protection Specialist
David C. Starkie	Landscape Architect
James Hastreiter	Fishery Biologist
Mary Nowak	Editor
Dennis Tarney	Project Engineer
Robert H. Grieve	Fishery Biologist (Cumulative Impact)

SAFETY AND DESIGN ASSESSMENT  
PINE VALLEY DAM HYDROELECTRIC PROJECT  
FERC NO. 9282-000 - NEW HAMPSHIRE

DAM SAFETY

The Pine Valley dam is located on the Souhegan River, Hillsboro County, New Hampshire. It was constructed in 1912. The concrete gravity dam is about 200 feet long and 23 feet high.

The Pine Valley dam site was inspected by the Commission's New York Regional Office on July 29, 1985. The Regional Office classified the dam as low hazard. The dam failure would not pose any threat to downstream life or cause significant property damage.

The spillway capacity of 13,100 cfs is adequate.

PROJECT DESIGN

The ELI Corporation, applicant for the Pine Valley Dam Hydroelectric Project, would rehabilitate the existing structures. The rehabilitation will include: (1) completing the lining of the existing 8-foot-diameter steel penstock, (2) finishing installation of the final lengths of the penstock at the dam site and under the Boston-Maine railroad, (3) refurbishing the existing 525 kW turbine-generator unit, (4) installing new electrical controls in the powerhouse, (5) reinstalling the 4-foot high flashboards, (6) installing a waste gate in the right spillway sluiceway, (7) installing a low head 30 kW turbine-generator unit at the dam in order to utilize the released minimum flow, (8) improving the existing gatehouse, and (9) completing minor repairs to the existing dam.

ECONOMIC FEASIBILITY

Based on 1985 dollars, the applicant estimates that the project would cost \$1,300,000. The cost of the proposed work was checked by staff and found reasonable.

The Pine Valley project is potentially feasible so long as its projected levelized cost is less than the long-term levelized alternative energy cost of the utility in the region. The staff has identified projected incremental energy costs in the region at 96.8 mills/kWh. Since the levelized cost of energy from the project is estimated to be 80.4 mills/kWh, the staff is reasonably confident that there will be a market for the project power at a price sufficient to support the project's construction and operation.

The power value used in staff's economic analysis is based on an estimated long-term potential rate for sale of energy and capacity to the Granite State Electric Company.

WATER RESOURCE PLANNING

The Merrimack River Basin Planning Status Report includes no projects, either proposed or constructed on Souhegan River that this project would impact. The project would not conflict with any pending applications for exemption, license, or preliminary permit.

The comments from agencies reviewing the project were general in nature, however, state agencies recommended a minimum flow of 24 cfs and ordered repair of dam which was completed during the 1993 dry season. The required minimum flow would be utilized by installing a low head 30-kW turbine-generator at the dam. State agencies concluded that this would not adversely affect the environment.

No other comments or recommendations were made by the State or Federal agencies addressing flood control, navigation, or irrigation requirements in the basin.

Staff made an independent study of hydropower potential at the Souhegan River site and found that the size of the plant is reasonable for near optimum development of the site. Installation of additional capacity is not economically feasible at this time.

Based on the above, staff concludes that the proposed Pine Valley Hydroelectric Project adequately utilizes the available flow and head at the site and would not conflict with any other planned development.

EXHIBITS

The following portions of Exhibit A and the following Exhibit F drawings conform to the Commission's rules and regulations and should be included in the license:

Exhibit A. Pages 6-16 and 19-20 of the application describing the proposed mechanical, electrical and transmission equipment filed June 10, 1985.

<u>Exhibit F</u> <u>Drawings</u>	<u>FERC No.</u> <u>9282-</u>	<u>Description</u>
1	1	Project Boundary Plan
2	2	Western Portion of Impoundment
3	3	Penstock Plan
4	4	Penstock Plan (continued)
5	5	Penstock Plan (continued)
6	6	Details: Inlet structure and Power Plant

FEDERAL POWER COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR UNCONSTRUCTED  
MINOR PROJECT AFFECTING THE INTERESTS OF  
INTERSTATE OR FOREIGN COMMERCE

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission; Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project works shall be constructed in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes

made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations shall be subject to the inspection and supervision of the Regional Engineer, Federal Power Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any feature or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall allow said representative and other

officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative.

The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 7. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 8. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 9. The operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Commission may prescribe for the purposes hereinbefore mentioned.

Article 10. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 11. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 12. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall

permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 13. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 14. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 15. The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, the Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition,

all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. Upon approval of the clearing plan all clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 16. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 17. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 18. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

**Attachment B**

**Interconnection Agreement**

**Between the Applicant and the Distribution Utility**

ATTACHMENT A  
Interconnection Agreement  
Milford Elm Street Trust - PSM  
Date 10/29/87

PSNH INTERCONNECTION REPORT FOR  
CUSTOMER GENERATION

HILLSBORO HILLS

SESD SITE NO. 021

P. C. Christensen  
March 9, 1987

INDEX

- I. INTRODUCTION
- II. DESCRIPTION OF MAJOR COMPONENTS
  - A. DESCRIPTION OF FACILITIES
  - B. MECHANICAL COMPONENTS
  - C. ELECTRICAL COMPONENTS
- III. PSNH REQUIREMENTS - GENERAL
  - A. SAFETY CONSIDERATIONS
  - B. SERVICE QUALITY CONSIDERATIONS
  - C. METERING CONSIDERATIONS
- IV. PSNH REQUIREMENTS - SPECIFIC
  - A. SYSTEM CONFIGURATION AND PROTECTION
  - B. SYSTEM METERING
  - C. PRIMARY INTERCONNECTION
  - D. SYSTEM OPERATION
- V. PSNH PRICE ESTIMATES
  - A. SYSTEM PROTECTION
  - B. SYSTEM METERING
  - C. PRIMARY INTERCONNECTION
- VI. INTERCONNECTION EQUIPMENT OWNERSHIP, OPERATION, AND MAINTENANCE
  - A. DELIVERY POINT
  - B. DESCRIPTION OF RESPONSIBILITIES
- VII. DRAWINGS
  - A. PARTIAL ONE-LINE DIAGRAM (SK-PCC-021-1)

## I. INTRODUCTION

A study has been performed to determine the impact of this proposed facility on the PSNH system. All technical analysis was based on the equipment listed under Section II, and the facility arrangement illustrated on partial one-line diagram SK-PCG-021-1. Where actual site-specific data was not readily available, estimated or "typical" values were utilized in any required calculations. Any deviation from the listed equipment or the illustrated configuration may have significant safety and/or technical ramifications. Consequently, if changes are anticipated now or in the future, PSNH should be informed immediately so that the requirements and recommendations contained within the report may be revised where necessary. This procedure will ensure that the Developer is informed of PSNH requirements in a timely fashion and should eliminate the delays and expense which could otherwise be experienced by the Developer.

## II. DESCRIPTION OF MAJOR COMPONENTS

### A. Description Of Facilities

Hillsboro Mills is a hydroelectric generation facility located on the Souhegan River in Wilton, N.H., NHWRB No. 254.01. There are three generators - Unit 1 a 375 kVA synchronous, Unit 2 a 335 kVA synchronous, Unit 3 a 65 kVA induction - all stepped up from 480V to 4160V and connected to the PSNH system on a tap off pole 122 of circuit 30H2 on Route 101. Station service is taken from the same tap off the 30H2 circuit and transformed to 120/208 V. Partial one-line diagram SK-PCG-021-1 shows the facility in a one-line fashion.

### B. Mechanical Components

#### 1. Turbines

- a. Unit 1 - SMS Double Francis, horizontal shaft in pressure-case, 750 HP.
- b. Unit 2 - Same as unit 1.
- c. Unit 3 - Flygt 7555, 80 HP.

#### 2. Governors - DC motor drive for units 1 and 2.

### C. Electrical Components

#### 1. Generators

- a. Unit 1 - General Electric three phase synchronous, 375 kVA at 480V, 60 Hz, 300 RPM, serial no. 181761, type ATB, class 24, Form 9, 0.8 PF.

- b. Unit 2 - Electric Machinery three phase synchronous, 335 kVA at 480V, 60 Hz, 300 RPM, 0.8 PF.
  - c. Unit 3 - Flygt three phase induction, 65 kVA at 480V, 60 Hz, 1200 RPM, 0.56 PF.
2. Exciters - Electronic (units 1 and 2), unknown make and model.
  3. Voltage Regulators - Basler, unknown model number.
  4. Circuit Breakers
    - a. Generator Breakers - For units 1 and 2, G.E. AK-150 ACB's with 125 VDC shunt trip capability and 50,000 A interrupting capacity.
    - b. Contactors - For unit 3, unknown make and model.
    - c. High Side Interrupter - G.E. AM-13.8-500A-4 metal-clad air circuit breaker with 125V DC shunt trip capability and 18,000 A interrupting capacity at 4.16 kV.
  5. Generator Stepup Transformer (GST) - Three Standard type W6 one-phase, 333 kVA, wired to give a 480 V delta to 4160/2400V reactance grounded wye configuration at 2.3% impedance.
  6. Power Factor Correction Capacitors - for Unit 3, 480V, switched. PSNH requires the capacitors to be sized to be approximately equal to the motoring reactive requirements of the generator.
  7. High Side Disconnect Switch - 4160V, three-phase, unfused, gang-operated disconnect on the line side of the high side interrupter.

### III. PSNH REQUIREMENTS - GENERAL

#### A. Safety Considerations

1. The connection of the facility to the PSNH system must not compromise the safety of PSNH's customers, personnel, or the owner's personnel.
2. The generating facility must not have the capability of energizing a de-energized PSNH circuit.
3. An emergency shutdown switch with facility status indicator lights, and a disconnecting device with a visible open shall be made available for unrestricted use by PSNH personnel. The operation of the switch shall cause all of the facility's generation to be removed from service, and shall block all automatic startup of generation until the switch is reset.

The status lights, mounted with the shutdown switch, shall be located outdoors at a position acceptable to PSNH operating division personnel. A red light shall indicate that the facility has generation connected to the PSNH system. A green light shall indicate that all generation is disconnected from the PSNH system. The lights shall be driven directly from auxiliary switches located on the facility's high side interrupting device. A disconnecting device with visible open shall be located between the PSNH system and the facility's generation.

4. The settings for all protective relays required by PSNH will be developed by PSNH at the Developer's expense.
5. A crew of PSNH relay technicians will apply settings to and verify the proper functioning of those protective systems required by PSNH. This work will be performed at the Developer's expense.
6. The generating facility has full responsibility for ensuring that the protective system and the associated devices are maintained in reliable operating condition. PSNH reserves the right to inspect and test all protective equipment at the interconnecting point whenever it is considered necessary. This inspection may include tripping of the breakers.
7. The short circuit interrupting device(s) must have sufficient interrupting capacity for all faults that might exist. The PSNH system impedance at the facility will be supplied on request.
8. All shunt-tripped short circuit interrupting devices applied to generators must be equipped with reliable power sources. A D.C. battery with associated charging facilities is considered a reliable source.
9. All synchronous generator facilities must be equipped with battery-tripped circuit breakers.
10. Any protection scheme utilizing AC control power must be designed in a fail-safe mode. That is, all protective components must utilize contacts which are closed during normal operating conditions, but which open during abnormal conditions or when control power is lost to de-energize the generator contactor coil. These schemes may be utilized only with non-latching contactors and may not be used with synchronous generators.
11. A complete set of AC and DC elementary diagrams showing the implementation of all systems required by PSNH must be supplied for PSNH review. These drawings should be supplied as soon as possible so that any non-conforming items may be corrected by the Developer without impacting the scheduled completion date of the facility.

12. All voltage transformers driving PSNH-required protection systems must be rated by the manufacturer as to accuracy class, and must be capable of driving their connected burdens with an error not exceeding 1.2 percent.
13. All current transformers driving PSNH-required protection systems must be rated by the manufacturer as to accuracy class and must be capable of driving their connected burdens with an error not exceeding 10 percent.
14. All PSNH-required protective relays, and any other relays which PSNH will be requested to test, must be equipped with test facilities which allow secondary quantity injection and output contact isolation.
15. It is not the policy of PSNH to maintain a stock of protective relays for resale to facility developers. Since many protective devices have delivery times of several months, Developers are strongly advised to order them as soon as possible after PSNH type-approval is received.
16. Protection of the generating facility equipment for problems and/or disturbances which might occur internal or external to the facility is the responsibility of the Developer.
17. No operation of the facility's generation is allowed until all requirements in Sections III and IV of this report have been met, and all systems required therein, are in place, calibrated, and, if applicable, proven functional. This requirement may be waived by PSNH for a given system if generation is required to demonstrate the proper functioning of that system.

#### B. Service Quality Considerations

1. The connection of the facility to the PSNH system must not reduce the quality of service currently existing on the PSNH system. Voltage fluctuations, flicker, and excessive voltage and current harmonic content are among the service quality considerations. Harmonic limitations should conform to the latest IEEE guidelines and/or ANSI standards.
2. In general, induction generators must be accelerated to "synchronous" speed prior to connection to the PSNH system to reduce the magnitude and duration of accelerating current and resulting voltage drop to PSNH customers to acceptable levels.
3. In general, synchronous generators may not use the "pull-in" method of synchronizing due to excessive voltage drops to PSNH customers.
4. Power factor correction capacitors may be required for some facilities either at the time of initial installation, or, at some later date. The installation will normally be done by the Developer at his expense.

5. Certain facilities having installed capacity similar in magnitude to connected circuit load may require that control modifications be made to tap changers in the electrical vicinity. Should they be necessary, the modification will be made at the Developers' expense.
6. Automatic reclosing of the PSNH circuit after a tripping operation may occur after an appropriate time delay. If voltage blocking of automatic reclosing is required, it will be added at the Developers' expense.

#### C. Metering Considerations

1. Except for metering and protection/control voltage sensing and generator and/or capacitor contactor supply voltage, no un-metered AC power shall be taken from the PSNH system.

### IV. PSNH REQUIREMENTS - SPECIFIC

#### A. System Configuration and Protection

1. The facility must be arranged and equipped as per partial one line diagram SK-PCC-021-1.
2. The following protective devices must be supplied and must be utility grade as approved by PSNH:
  - 32 - Reverse Power (one for each unit)
  - 51V - Voltage Restrained Overcurrent (units 1 and 2)
  - 50/51 - Phase Overcurrent (high side)
  - 51N - Ground Overcurrent (high side)
  - 27 - Undervoltage
  - 59 - Overvoltages
  - 81/L - Underfrequency
  - 81/H - Overfrequency

The 32 devices will trip their respective generator breaker, the 51V, 50/51, and 51N will trip the high-side interrupter, and the 27, 59, and 81's will trip all three generator breakers.

3. The facility generator stepup transformer (GSU) must have a delta (LV) to reactance grounded-ye (HV) configuration.
4. A three (3) ohm reactor must be installed on the neutral leg of the GSU. Based on available generator and GSU specifications, this device should be rated to carry 25A continuously and 1200 symmetrical amps momentarily.
5. A high side interrupter must be installed between the GSU and the three phase disconnect to interrupt ground fault current. This device must be capable of interrupting the maximum available fault current under possible X/R ratios (system impedance information available on request). This device must have a remote trip capability.

6. A high side, three-phase, ganged disconnect is required at the tap.
7. A set of fused cutouts must be installed, at the developer's cost, on the 30H2 line immediately beyond the developer's tap.
8. The fuse links in the cutouts presently mounted on pole 132 of the 30H2 circuit must be replaced with 80T links.
9. An electronic recloser of PSNH specification must be installed, at the developer's cost, on pole 108 of the 30H2 circuit, in place of the fused cutouts presently used to isolate faults on the leg of the 30H2 to which the developer interconnects.
10. An electronic recloser of PSNH specification must be installed, at the developer's cost, at West Milford substation in place of the hydraulic recloser that presently feeds the 30H2 circuit.

#### B. System Metering

1. The facility must be equipped with the metering system as shown on partial one line diagram SK-PCC-021-1.
2. The metering must consist of the following components:
  - Item 1) 2 - General Electric type JVP-1 voltage transformers, ratio 480/120 volts, .6 kV class, catalog #761X30G9
  - Item 2) 2 - General Electric type JAK-0 current transformers, ratio 800/5 amps., .6 kV class, catalog #750X33G316
  - Item 3) 1 - General Electric type VR-65-S polyphase watt-hour meter with TM-81 time of use register.
  - Item 4) 1 - Anchor Electric 13 terminal transformer rated meter socket, catalog #T88-13-2-PSHO
  - Item 5) 1 - Meter Devices 10 pole test switch, catalog #A-1898C

- Notes:
- 1) Substitutions for the above metering are acceptable, provided they are equivalent and advance approval is obtained from Public Service Company.
  - 2) Instrument transformers must be housed in a suitable electrical equipment enclosure.
  - 3) The developer is responsible for providing the metering equipment, physically mounting the equipment, installing necessary conduit, and wiring the primary side of the instrument transformers.

- 4) The magnetic tape recorder shown on the one line diagram, in conjunction with the generation meter, is for Public Service Company purposes only. For this reason, it will be supplied and installed by Public Service Company at the expense of Public Service Company.
- 5) Item 3, generation watt-hour meter, includes a pulse initiator with a price add on of \$175.00 and is meant for Public Service Company purposes. To offset this added cost to the developer, Public Service Company agrees to provide the initial acceptance testing and register programming, at no charge to the developer.
- 6) Public Service Company will wire the metering secondaries, verify the metering connections by vector analysis, and provide overall supervision of the metering installation, at the request of the developer. The cost of this service is estimated to be \$250.00 and would be billed to the developer.
- 7) The GSU transformer losses will be estimated and subtracted from gross generation by meter calibration.
- 8) Station service will be provided via a separate service and the metering associated with this service will be provided by Public Service Company.
- 9) If the developer wishes to design his own metering system, advance review and approval must be obtained from Public Service Company, prior to ordering the equipment. Any alternatives must, however, be based upon standard utility industry metering practices with respect to accuracy, reliability, applicability, and electrical configuration.
- 10) The metering equipment can be obtained from the following vendors:

METERING VENDORS

Items 1, 2 and 3

General Electric Company  
399 E. Industrial Park Drive  
Manchester, NH 03103

603/669-2600

## Item 4

Westinghouse Supply Company  
140 Hayward Street  
Manchester, NH 03104

603/625-5456

## Item 5

Alex Stohn Associates  
10 Industrial Park Road  
Hingham, MA 02043

C. Primary Interconnection

The inter-tie point is pole 2 off pole 132 on Elm Street in Milford, N.H. on PSNH circuit 30H2. Pole 1 off 132 is an existing structure while pole 2 off 132 will be a new structure upon which the gang operated switch will be mounted. The hydro owner(s) will own and be responsible for all equipment beyond pole 1 off 132 including structure 2 off 132, the gang operated switch, and any wire and insulators between poles 1 off 132 and 2 off 132. Any work performed on such equipment by Public Service of N.H. will be fully reimbursed by the owner(s) of the hydro.

The estimate of interconnection costs includes wire, insulators, and labor to connect structure 2 off 132 to PSNH pole 1 off 132. The developer(s) will be responsible for all other pole plant and equipment beyond pole 1 off 132. If the hydro developer wishes PSNH to perform any work beyond pole 1 off 132, it will be necessary to evaluate the work when design of the hydro station is finalized. PSNH reserves the right to refuse any such work.

All equipment purchased by the developer must be approved by PSNH if the equipment can impact the PSNH distribution system. In particular, the gang operated switch must be inspected and approved before interconnection to circuit 30H2 can take place.

All estimates were based on 1986 labor costs and/or the April 3, 1986 mass units installed costs schedule. All costs are subject to change. In addition, this interconnection study is valid only for the present time. If circuit changes take place between now and the developer's on-line date, all estimates and requirements are subject to change.

D. System Operation

The following information must be supplied to PSNH:

1. Nameplate ratings for KW, KVA and power factor.
2. Net headwater to the top of flashboards and turbine efficiency when operated at rated full load.

3. Dates for planned annual inspection along with any flexibility in the planned period in accordance with NEPEX Operating Procedure #5.
4. Using monthly meter readings, submit a bill for generation supplied to PSNH.

#### V. PSNH PRICE ESTIMATES

The following estimates for labor, materials, and overheads are supplied as an aid to the Developer for financial planning purposes. Should the Developer elect to have PSNH perform any of the work described in the estimates, he will ultimately be billed for the full actual cost of any work performed.

Authorization for PSNH to perform any of the work or supply any of the equipment described below must be forwarded to the Supplemental Energy Sources Department along with a minimum payment covering 50% of the estimated labor and materials cost. PSNH will neither perform work nor order materials until this requirement has been met.

##### A. System Protection

- |  |                         |
|--|-------------------------|
| 1. Materials - All system protection equipment is to be provided by the Developer  | \$ 0.00                 |
| 2. Labor, Overheads, Miscellaneous - Developing settings for and testing PSNH required relays, performing trip tests, reviewing drawings, meetings, etc. | \$4600.00               |
| <b>SUB TOTAL</b>   | <b><u>\$4600.00</u></b> |

##### B. System Metering

- |   |                         |
|---|-------------------------|
| 1. Materials - All system metering equipment is to be provided by the Developer         | \$ 0.00                 |
| 2. Labor, Overheads, Miscellaneous - Testing and installation (see part IV.B.2, note 7) | \$ 250.00               |
| <b>SUB TOTAL</b>  | <b><u>\$ 250.00</u></b> |

##### C. Primary Interconnection

- |  |             |
|--|-------------|
| 1. Materials - Includes two RXE reclosers and installed costs of equipment to install the recloser on Rte. 101 (pole, crossarms, 6" discs, etc.), cutouts on 30H2 beyond tap, and the wire, insulators, and fuses for the interconnection tap (see part IV.C.) | \$24,700.00 |
|--|-------------|

2. Labor, Overheads, Miscellaneous - Includes labor to install reclosers and controls.	\$2200.00
SUB TOTAL	<u>\$26,900.00</u>
GRAND TOTAL (A + B + C)	<u>\$31,750.00</u>

VI. INTERCONNECTION EQUIPMENT OWNERSHIP, OPERATION, AND MAINTENANCE

A. Delivery Point

For the purpose of establishing ownership, operation, and maintenance responsibilities, the location of facility energy delivery to PSNH (the "Delivery Point") is defined as the customer side of pole 1 off 132.

B. Description of Responsibilities

A description of the facility's ownership, operation, and maintenance responsibilities relative to the operating point is included in section IV.C. and IV.D.

VII. DRAWINGS

Attached is PSNH partial one-line diagram SK-PCC-021-1.



## **Attachment D**

### **Other Pertinent Information:**

- 1. Pine Valley Business Center, Milford, NH Wheeling Agreement with PSNH**
- 2. Pine Valley Business Center, Milford, NH, FERC License Transfer dated 5/15/09**

**Attachment D**

**Other Pertinent Information:**

- 1. Pine Valley Business Center, Milford, NH Wheeling Agreement with PSNH**

**OPERATING AGREEMENT  
FOR  
PURPOSES OF WHEELING AND POWER SALES**

AGREEMENT, dated *April 21*, 2009 by and between 282 Route 101 LLC and 37 Wilton Road, Milford LLC (hereinafter referred to as the "Interconnector"), and Public Service Company of New Hampshire, a New Hampshire corporation having its principal place of business in Manchester, New Hampshire (hereinafter referred to as "PSNH").

WHEREAS, Interconnector's Pine Valley Hydro electric generating facility (the "Facility"), (SESD # 021) located on the Souhegan River in Milford, New Hampshire, is interconnected with the electric system of PSNH in accordance with applicable New Hampshire Public Utilities Commission ("NHPUC") Orders and federal law; and

WHEREAS, Interconnector intends to certify its generator as a Qualifying Facility ("QF") as defined by the Public Utilities Regulatory Policies Act ("PURPA") as it may be amended from time to time; and

WHEREAS, Interconnector desires to, and PSNH agrees to, provide for the interconnection of the Facility with the electric system of PSNH, its successors and permitted assigns, and Interconnector may have the right to sell the electric output of the Facility to PSNH and/or to such other third party purchasers with which Interconnector may make sales arrangements; and

WHEREAS, to provide for the continued interconnection of the Facility, it is necessary that certain agreements be made to ensure the safety, reliability and integrity of PSNH's electric system and the operation of the Facility; and

WHEREAS, Interconnector and PSNH wish to provide for certain other matters pertaining to discretionary power sales from the Facility;

NOW, THEREFORE, the parties hereby agree as follows:

Article 1. Interconnection and Voltage Characteristics.

The delivery point shall continue to be that point at which the Facility presently interconnects with the 4.16 KV electric system of PSNH. Under this Agreement, the Interconnector shall receive and pay for the services necessary for the purpose of connecting, and providing the continued connection of, the Facility with the PSNH electrical system, including Pool Transmission Facilities ("PTF") as defined by the New England Power Pool ("NEPOOL"), and non-PTF.

Unless PSNH converts its interconnection circuit, all electric energy delivered to PSNH's system from the Facility shall be 4.16 KV, three-phase, sixty hertz.

Article 2. Metering.

The metering shall continue to be configured so as to represent the electric power output delivered to the PSNH electric system as specified in the Interconnection Report ("Report"), dated March 9, 1987 attached as Attachment A. The metering may be installed on the generation side of the transformer provided that transformer losses are subtracted from the measured generation by a suitable method. Interconnector shall be responsible for all costs associated with the metering required for sales to PSNH and/or other third parties from the Facility.

Interconnector has installed, and will own, and maintain all metering equipment as referenced in Article 5, to measure the physical flow of electrical energy from the Facility into the PSNH electric system. If at any time the meter is found to be in error by more than two percent fast or slow (+ or - 2%), Interconnector shall cause such meter to be corrected and the meter readings for the period of inaccuracy shall be adjusted to correct such inaccuracy so far as the same can be reasonably ascertained, but no adjustment prior to the beginning of the preceding month shall be made except by agreement of the parties. All tests and calibrations shall be made in accordance with New Hampshire Code of Administrative Rules, Chapter PUC 300 Rules and Regulations for Electric Service, as amended, and any applicable Rules and Regulations of ISO-New England, Inc. ("ISO"). Interconnector is responsible for assuring that meter tests are performed as required at Interconnector's expense. The PSNH Meter Laboratory should be contacted in advance to arrange for said meter testing.

Interconnector shall cause the meter to be tested at any time upon request of either party and,

at PSNH's option, in the presence of a representative of PSNH. If such equipment proves accurate within two percent fast or slow (+ or - 2%), the expense of the test shall be borne by the requesting party.

PSNH reserves the right to secure or seal the metering installation, but upon the written request of Interconnector will provide such information regarding, and access to, the metering installation as Interconnector requests. Interconnector is required to record electrical energy physically delivered to the PSNH electric system on an hour-by-hour basis, and to electronically make available to PSNH, Interconnector's generation in kilowatt-hours for each hour during the prior 24 hours.

To the extent necessary for Interconnector to receive credit and compensation for power sales to entities other than PSNH of electric energy and/or other power products generated at the Facility, PSNH shall cooperate with and assist Interconnector to ensure that the metering installations applicable to the Facility meet the required specifications and operational characteristics as necessary to accomplish such sales.

### Article 3. Wheeling Arrangements.

If requested by Interconnector in connection with any sales of energy or other electric products to entities other than PSNH, PSNH (or other Northeast Utilities system companies) shall transmit the electric output of the Facility, or such portion(s) thereof as are identified by Interconnector, to an appropriate PTF point or to such purchasers (as applicable to the transaction) under the terms and conditions and rates set forth in the NORTHEAST UTILITIES SYSTEM COMPANIES Open Access Transmission Service Tariff No. 9 (the "NU OATT") filed with the Federal Energy Regulatory Commission ("FERC"), or its successor tariff, as those tariffs may be amended or supplemented from time to time hereafter. The wheeling of generation shall also be subject to any regulatory approved and applicable local transmission and distribution wheeling tariffs.

Article 4. Power Sales, Billing and Payment.

(a) PURPA Sales

This Agreement is contingent upon the Facility's continuing eligibility for status as a QF as defined by PURPA. As a QF, Interconnector may make sales to PSNH and PSNH shall purchase all or a portion of the electric energy and other electrical products generated at the Facility pursuant to the requirements of the PURPA, the New Hampshire Limited Electrical Energy Producers Act ("LEEPA"), and ISO.

Pursuant to PURPA, and as approved by the NHPUC in Docket No. DE 99-099, in accordance with the Settlement Agreement between PSNH and the State of New Hampshire, the rates paid to Interconnector for short-term, as available power sales to PSNH shall be the applicable market clearing price for such energy and/or other electrical product(s) or such replacement pricing methods as determined by the ISO or any successor entity for each period during which Interconnector has delivered such energy and/or other electrical power products for sale to PSNH. The above short-term prices shall be adjusted for line losses, wheeling costs, and administrative costs as they may be determined by PSNH or the NHPUC and as modified from time to time. The parties agree to abide by the ISO rules for recognition and determination of energy and capacity credit.

Facilities delivering all of their output to the PSNH grid will be assigned a Line Loss Adjustment Factor (the "LLAF"). The initial LLAF for the Facility is 1.0. If a recalculation of the LLAF is required, PSNH shall calculate a new LLAF to represent the change in PSNH's electrical system losses attributable to the generator characteristics and physical location of the Facility. The LLAF shall be applied to that portion of the generation output from the Facility which is sold to PSNH during a billing month by multiplying the LLAF times the kilowatt output. PSNH shall not have the right to use a new or materially different methodology for conducting any such LLAF study except as ordered by the NHPUC. The LLAF may be less than one or greater than one.

Should PSNH no longer be the load holding entity for the entire retail load connected to its System, the LLAF shall be proportionally reduced to reflect the percentage of retail load supplied by PSNH. This adjustment shall become effective with the billing months of February and August based upon the percentage of retail load supplied by PSNH over the previous six (6) month period

ending in December and June, respectively. The LLAF may be recalculated at the request of either party. The requesting party shall pay for the cost of performing the line loss study. Upon the completion of the updated LLAF study, the new LLAF shall be used at the start of the next billing month.

In addition, Interconnector shall have the right and option at any time to engage a third party consultant to validate and verify the methodology and results of any LLAF study performed by PSNH under this Agreement, at Interconnector's expense. If the review performed by such consultant concludes that the results of any study performed by PSNH are incorrect, then PSNH shall perform a new study, at its expense, to determine the correct LLAF. Any dispute between the parties related to such studies shall be resolved by the NHPUC.

PSNH shall read the meter, installed in accordance with Article 2, once each month and shall promptly send Interconnector an invoice showing the billing month's net generation and amount owed for energy and other electrical products generated for any sales to PSNH hereunder. Interconnector shall then return to PSNH the approved invoice for payment. PSNH shall make payments to Interconnector electronically for the total amount due within 23 days of the meter reading date, provided that PSNH receives a timely return of the approved invoice.

(b) Bilateral and Power Exchange Sales

At all times during the term of this Agreement, Interconnector shall have the right to sell any or all of the Facility's electric power output, including electric energy, installed capacity, spinning reserves, other operating reserves and/or automatic generation control and other products, to entities other than PSNH, either through bilateral transactions or through the markets administered by the ISO. With respect to any such bilateral or market sales by Interconnector, Interconnector may request that PSNH function as "Lead Participant", and/or "Designated Entity" (as those terms are defined and amended or replaced from time to time by the ISO) and/or other similar role (or function necessary to process and implement such sales) on Interconnector's behalf and, subject to Interconnector's instructions, perform any and all functions in such roles as are necessary to implement and consummate such sales, and shall submit to ISO and/or other appropriate entities (on Interconnector's behalf) all information, including, without limitation, standard or non-standard contracts, self-schedules, unit characteristics, bid submissions and metering data, required to effect

such transactions, provided that Interconnector provides PSNH with all information and direction reasonably required for the submission of such information by PSNH but no later than 9:30 am on the last business day prior to the commencement of such transaction or bid, unless PSNH can accommodate the transaction in less time.

As PSNH's full compensation when it acts as the "Lead Participant" for performing the administrative services described in this subsection, Interconnector shall pay to PSNH for each such month an amount equal to the greater of \$500 or 0.0126¢/kwhr of Interconnector's sales of generation for which PSNH is "Lead Participant" during such month made pursuant to this Article 4 (b). The foregoing shall only be due to PSNH when PSNH actually acts as "Lead Participant" in such sale.

Any contractual arrangements for the sale of electricity with others shall be in accordance with the requirements of the Federal Power Act, the rules of FERC and the rules of ISO New England as they all may be amended from time to time. The price and products associated with such sale shall be identified in the contractual arrangements.

#### Article 5. Interconnection and Protection Requirements.

Interconnector has installed all interconnection, protection, metering, and control equipment as specified in the Report to ensure the continued safe and reliable operation of the Facility in parallel with the PSNH system. The Interconnector has assumed responsibility for all study costs associated with the development of the Report, and those costs associated with the equipment and its installation, required by the Report. No additional studies are required to be performed, and no additional or different interconnection facilities, system upgrades or protection systems are required to be constructed, installed or implemented, in order to maintain the interconnection of the Facility with the PSNH System.

Up to the delivery point, all equipment shall remain the sole property of Interconnector. Interconnector shall have sole responsibility for the operation, maintenance, replacement, and repair of the Facility, including the interconnection equipment owned by the Interconnector.

Prior to the interconnection to PSNH's system under this Agreement, Interconnector tested, and every twelve months thereafter, Interconnector shall continue to test, or cause to be tested, all protection devices including verification of calibration and tripping functions; and Interconnector

shall provide PSNH with a copy of the tests and results.

If either party reasonably determines that the operation or use of any portion of the protection system will or may not perform its protective function, Interconnector shall immediately open the interconnection between PSNH's system and the Facility. Interconnector shall promptly notify PSNH of this action and the reason for this action. The interconnection shall remain open until Interconnector has satisfactorily cured the defect. Any repair or replacement of Interconnector's equipment shall be at no cost to PSNH, except PSNH shall be responsible for any loss or damage requiring repair or replacement of all or a portion of the Interconnector's equipment as a result of the negligence or misconduct of PSNH, its agents or employees.

#### Article 6. Right of Access.

Upon prior written or oral notice to Interconnector, PSNH shall have the right to enter the property of Interconnector at mutually agreed upon reasonable times and shall be provided reasonable access to Interconnector's metering, protection, control, and interconnection equipment to review for compliance with this Agreement. PSNH shall provide Interconnector with a copy of any notes, reports or other documents made relating to any such inspection or review.

#### Article 7. Modification of Facility.

If Interconnector plans any modifications to its Facility as described in Attachment A, which modifications would reasonably be expected to affect its interconnection with the PSNH System, Interconnector shall give PSNH prior written notice of its intentions.

#### Article 8. Term of Agreement.

This Agreement shall become effective between the parties on the date of execution of this agreement but no earlier than the date PSNH receives notification from Interconnector that its status as a QF has been filed with FERC. This Agreement shall remain in full force and effect subject to the suspension and termination rights contained in this Article 8. [PSNH acknowledges that it has received a certificate of insurance as required by Article 9, and that the interconnection equipment as set forth in Attachment A has been properly installed and tested.]

Interconnector may terminate this Agreement by giving PSNH not less than sixty (60) days

prior written notice of its intention to terminate, PSNH may terminate the interconnection under this Agreement by giving not less than sixty (60) days prior written notice should Interconnector fail to substantially perform with the interconnection, metering and other safety provisions of this Agreement, and such failure continues for more than sixty (60) days from date of notice without cure. The PSNH notice shall state with specificity the facts constituting the alleged failure to perform by Interconnector. If the parties are unable to reach agreement within 60 days on a cure for the Interconnector's failure to perform, either party may elect to submit the dispute to the NHPUC for resolution.

If changes in applicable federal or state statutes, regulations or orders; or changes in applicable ISO or NEPOOL requirements occur which materially affect this Agreement, the parties shall negotiate in good faith to modify this Agreement to accommodate such changes. If the parties are unable to reach agreement within 60 days, either party may elect to submit the dispute to the NHPUC for resolution.

PSNH may also terminate its obligation contained in this Agreement if all laws, regulations and orders mandating interconnections or purchases from qualifying facilities are repealed, or declared invalid by a Court or Regulatory Agency, and no revised law is enacted providing for such interconnection or sales on a similar basis.

After termination of this Agreement, both parties shall be discharged from all further obligations under the terms of this Agreement, excepting any liability (including without limitation the obligation to pay for power delivered prior to any such termination which obligation shall survive the termination of this Agreement) which may have been incurred before the date of such termination. Any reasonable costs incurred by PSNH to physically disconnect the Facility as a result of the termination of this Agreement shall be paid by the Interconnector. Termination of this Agreement shall not effect the parties' obligation to pay for power delivered prior to termination of that purchase obligation.

#### Article 9. Indemnification and Insurance.

Each party will be responsible for its equipment and the operation thereof and will indemnify and save the other harmless from any and all loss by reason of property damage, bodily injury, including death resulting therefrom suffered by any person or persons including the parties

Article 9. Indemnification and Insurance.

Each party will be responsible for its equipment and the operation thereof and will indemnify and save the other harmless from any and all loss by reason of property damage, bodily injury, including death resulting therefrom suffered by any person or persons including the parties hereto, employees thereof or members of the public, (and all expenses in connection therewith, including attorney's fees) whether arising in contract, warranty, tort (including negligence), strict liability or otherwise, caused by or sustained on, or alleged to be caused by or sustained on, equipment or property, or the operation or use thereof, owned or controlled by such party, except that each party shall be solely responsible for and shall bear all costs of its negligence, and willful misconduct, and claims by its own employees or contractors growing out of any workers' compensation law. The foregoing paragraph shall survive the termination of this Agreement and such termination will not extinguish any liabilities or obligations in respect of reimbursements under this paragraph, incurred up to the time of termination.

The Interconnector shall, at its own expense, continue to maintain throughout the term of this Agreement Comprehensive General Liability Insurance with a combined single limit of not less than \$3,000,000 for each occurrence.

The insurance policy specified above has named and shall continue to name PSNH, Northeast Utilities and its subsidiaries, officers, directors and employees, as additional insured with respect to any and all third party bodily injury and/or property damage claims arising from Interconnector's performance of this Agreement. It is further agreed that PSNH shall not by reason of its inclusion as an additional insured incur liability to the insurance carrier for the payment of premium for such insurance. The policy shall not be canceled, terminated, altered, reduced or materially changed without at least thirty (30) days prior written notice to PSNH.

Evidence of the required insurance has been provided to PSNH in the form of a Certificate of Insurance prior to the actual physical interconnection of the Facility, and annually thereafter. During the term of this Agreement, the Interconnector, upon PSNH's reasonable request, shall furnish PSNH with certified copies of the actual insurance policies described in this Article.

The insurance coverage is and shall continue to be primary and is not in excess to or contributing with any insurance or self-insurance maintained by PSNH or its affiliates and shall

In no event shall either party be liable, whether in contract, tort (including negligence), strict liability, warranty, or otherwise, for any special, indirect, incidental, punitive or consequential losses or damages, suffered by the other party or any person or entity and arising out of or related to this Agreement including but not limited to, cost of capital, cost of replacement power, loss of profits or revenues or the loss of the use thereof. This paragraph of Article 9 shall apply notwithstanding any other statement to the contrary, if any, in this Agreement and shall survive the termination of this Agreement.

Article 10. Force Majeure.

Neither party shall be considered to be in default hereunder and shall be excused from performance hereunder if and to the extent that it shall be prevented from doing so by storm, flood, lightning, earthquake, explosion, equipment failure, civil disturbance, labor dispute, act of God or the public enemy, action of a court or public authority, withdrawal of equipment from operation for necessary maintenance and repair, or any other cause beyond the reasonable control of either party and not due to the fault or negligence of the party claiming force majeure, provided that the party claiming excuse from performance uses its best efforts to remedy its inability to perform.

Article 11. Dispute Resolution and Voluntary Arbitration.

In the event of any dispute, disagreement, or claim (except for disputes referred to the NHPUC under Article 8 of this Agreement) arising out of or concerning this Agreement, the Party that believes there is such a dispute, disagreement, or claim will give written notice to the other Party of such dispute, disagreement, or claim. The affected Parties shall negotiate in good faith to resolve such dispute, disagreement, or claim. If such negotiations have not resulted in resolution of such dispute to the satisfaction of the affected Parties within ten (10) working days after notice of the dispute has been given, then an affected Party may, upon mutual agreement of all of the affected Parties, submit such dispute, disagreement, or claim arising out of or concerning this Agreement, including whether such dispute, disagreement, or claim is arbitrable, to binding arbitration.

The arbitration proceeding shall be conducted by a single arbitrator, appointed by mutual agreement of the affected Parties, in Manchester, New Hampshire, under the Commercial Arbitration Rules of the American Arbitration Association in effect at the time a demand for

arbitration under such rules was made. In the event that the affected Parties fail to agree upon a single arbitrator, each shall select one arbitrator, and the arbitrators so selected shall, within twenty (20) days of being selected, mutually select a single arbitrator to govern the arbitration. A decision and award of the arbitrator made under the Rules and within the scope of his or her jurisdiction shall be exclusive, final, and binding on all Parties, their successors, and assigns. The costs and expenses of the arbitration shall be allocated equitably amongst the affected Parties, as determined by the arbitrator(s). Judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction. Each Party hereby consents and submits to the jurisdiction of the federal and state courts in the State of New Hampshire for the purpose of confirming any such award and entering judgment thereon.

Article 12. Modification of Agreement.

In order for any modification to this Agreement to be binding upon the parties, said modification must be in writing and signed by both parties.

Article 13. Prior Agreements Superseded.

Once effective, this Agreement with Attachment A represents the entire agreement between the parties with respect to the interconnection of the Facility with the PSNH electric system and, as between Interconnector and PSNH, all previous agreements including previous inter orders or contracts, discussion, communications and correspondence related thereto are superseded by the execution of this Agreement.

Article 14. Waiver of Terms or Conditions.

The failure of either party to enforce or insist upon compliance with any of the terms or conditions of this Agreement shall not constitute a general waiver or relinquishment of any such terms or conditions, but the same shall remain at all times in full force and effect. Any waiver is only effective if given to the other party in writing.

Article 15. Binding Effect; Assignment

This Agreement shall be binding upon, and shall inure to the benefit of, the respective successors and permitted assigns of the parties hereto. PSNH shall not assign this Agreement or any of its rights or obligations hereunder without the prior written consent of Interconnector except to a successor-in-interest. PSNH shall provide written notice to Interconnector of any such assignment to a successor-in-interest within fifteen (15) days following the effective date of the assignment. Interconnector shall have the right to assign this Agreement to any person or entity that is a successor-in-interest to the Facility without the consent of PSNH. In the event of any such assignment, Interconnector shall notify PSNH in writing within fifteen (15) days following the effective date of the assignment. Interconnector may make such other assignment of this Agreement as it determines, subject to the prior written consent of PSNH, which consent shall not be unreasonably withheld or delayed. Any assignment in violation of this Article shall be void at the option of the non-assigning party.

Article 16. Applicable Law.

This Agreement is made under the laws of the State of New Hampshire and, to the extent applicable, the Federal Power Act, and the interpretation and performance hereof shall be in accordance with and controlled by such laws, excluding any conflicts of law provisions of the State of New Hampshire that could require application of the laws of any other jurisdiction.

Article 17. Qualifying Facility Status

Interconnector has stated its intent to seek FERC certification of its generator as a QF and this Agreement and the related Interconnection Report shall be null and void should Interconnector

fail to file for or should FERC deny the certification of QF status for the generator or later revoke the Project's QF status.

Article 18. Headings.

Captions and headings in the Agreement are for ease of reference and shall not be used to and do not affect the meaning of this Agreement.

Article 19. Notices and Service.

All notices, including communications and statements which are required or permitted under the terms of this Agreement, shall be in writing, except as otherwise provided or as reasonable under the circumstances. Service of a notice may be accomplished and will be deemed to have been received by the recipient party on the day of delivery if delivered by personal service, on the day of confirmed receipt if delivered by telegram, registered or certified commercial overnight courier, or registered or certified mail or on the day of transmission if sent by telecopy with evidence of receipt obtained, and in each case addressed as follows:

Interconnector: 282 Route 101 LLC and 37 Wilton Road, Milford LLC  
Mark Prohman - Manager  
Eli Levine - Manager  
Prohman Realty  
100 Elm Street  
Nashua, NH 03060

PSNH: Public Service Company of New Hampshire  
780 North Commercial Street  
P. O. Box 330  
Manchester, NH 03105-0330  
Attn: Manager, Supplemental Energy Sources Department  
Telephone No. (603) 634-2312  
Fax No. (603) 634-2449  
Email: psnlisasd@psnh.com

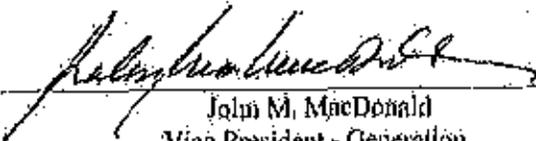
IN WITNESS WHEREOF, the parties, each by its duly authorized representative, have hereunto caused their names to be subscribed, as of the day and year first above written.

282 Route 101 LLC and 37 Wilton Road, Milford LLC

By:  Mark Prohman - Manager

By:  Eli Levine - Manager  
Duly Authorized

Public Service Company of New Hampshire

By:  John M. MacDonald  
Title: Vice President - Generation  
Duly Authorized

## **Attachment D**

### **Other Pertinent Information:**

- 2. Pine Valley Business Center, Milford, NH, FERC License Transfer dated 5/15/09**

FEDERAL ENERGY REGULATORY COMMISSION  
Washington, D.C. 20426

MAY 18 2009

OFFICE OF ENERGY PROJECTS

Project No. 9282-033--New Hampshire  
Pine Valley Project  
37 Wilton Road, Milford LLC and 282  
Route 101 LLC

May 15, 2009

Mr. Andrew A. Prolman  
c/o Prunier & Prolman  
37 Wilton Road, Milford LLC and 282 Route 101 LLC  
20 Trafalgar Square, Suite 626  
Nashua, NH 03063-1981

RE: Signed Acceptance of License Transfer

Dear Mr. Prolman:

Thank you for the signed acceptance sheet and instruments of conveyance you filed on May 1, 2009, for the captioned project. The filing satisfies the requirements of ordering paragraph (C) of the Order Approving Transfer of License issued April 8, 2009.

The Division of Hydropower Administration and Compliance (DHAC) has the primary responsibility for reviewing your compliance with the terms and conditions of the license for the recently transferred project. The following guidelines should help you maintain compliance with your license requirements.

Article Compliance

The license contains articles that require the preparation of various analyses and studies according to the schedule established for each article. To speed the compliance process, you should review the license and become familiar with its article requirements. You must deliver each item to the Commission on or before the specified due date.

Please be reminded that as licensee you are responsible for compliance with the terms and conditions of your license, whether you either continue or initiate an agreement with a third-party contractor to conduct compliance-related activities. If you are continuing such an agreement, we request that you include a general description of the contractor's services with the enclosed address form that you are being asked to return to the Commission.

### Extension of Time

If you are unable to complete a required analysis or study according to the schedule established in the license, you must request an extension of time, in compliance with section 385.2008 of the Commission's regulations. Generally, you should file your request at least 90 days before the established due date. This extension request should state why the requirement in the article cannot be completed. It must propose a reasonable date when the analysis or study will be submitted to the Commission. If an extension request is approved, an order granting an extension of time will be issued, revising the schedule in the license for the submittal. If you need to request an extension of the deadline for the start or completion of project construction, section 4.202 of the Commission's regulations requires that you file the request 3 months before the deadline. Please be aware that an extension of time request is considered a "qualified document" and may be filed electronically via the Internet in lieu of paper; see 18 CFR 385.2001 (a) (1) (iii) and the instructions on the Commission's website ([www.ferc.gov](http://www.ferc.gov)) under the e-Filing link. Please include the project number (P-9282) on any request filed.

### Amendments

If you want to modify some aspect of the project—to change the existing project works or operation, to revise project boundaries, to change authorized capacity, or to alter any terms and conditions—you must first obtain authorization from the Commission. If you are unsure whether it requires an amendment, you may file a determination of the need for authorization with the Secretary at the address below. Your filing should consist of a detailed description of the proposed changes, the environmental effects on the surrounding area, and copies of letters of consultation with the resource agencies. After reviewing the changes proposed in your application, the Commission will decide if it requires an amendment. You will be notified in writing of this determination.

### Assistance

The goal of our assistance program is to help you stay in compliance with the terms and conditions of your license. We try to promote responsible stewardship of the nation's water resources through open communication and interaction between licensees and DHAC staff. Should you seek assistance, please contact me at (202) 502-6062. We can discuss your questions over the telephone or in person. In addition, we can provide informational publications to assist you with your project.

The small business and agriculture regulatory enforcement ombudsman and ten regional fairness boards were established to receive comments from small businesses about federal agency enforcement actions. The ombudsman will annually evaluate each agency's enforcement activities against small business and rate each agency's responsiveness. If you are a small business entity, you may call 1-888-734-3247 to comment on the enforcement actions of this agency.

Mailing Address

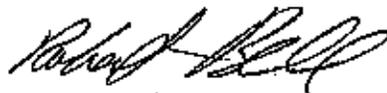
Unless indicated otherwise in your license, an original and 8 copies of each submittal, with a transmittal letter stating the Project Number and the requirement covered by the submittal in the upper right corner, should be filed with:

The Secretary  
Federal Energy Regulatory Commission  
Mail Code: DHAC, P1-12  
888 First Street, N.E.  
Washington, D.C. 20426

So that we may correctly address any future inquiries concerning your project, please complete and return the enclosed address form. Please notify the Commission at the above address if this information changes.

Your cooperation in these matters will be appreciated. We look forward to working with you.

Sincerely,



Robert Bell  
Division of Hydropower  
Administration and Compliance

Enclosure: Contact Form