



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:

- Applicant Name: [Fiske Hydro, Inc.](#)  
 Mailing Address: [47 Warwick Road](#)  
 Town/City: [Orange](#) State: [MA](#) Zip Code: [01364](#)  
 Primary Contact: [Cameron MacLeod III, President/Owner](#)  
 Telephone: [\(603\) 336-5110](#) Cell: [\(610\) 310-5539](#)  
 Email address: [microhydro@comcast.net](mailto:microhydro@comcast.net)



- Facility Name: [Fiske Hydro Project](#)  
 (physical address) [15 Main Street](#)  
 Town/City: [Hinsdale](#) State: [NH](#) Zip Code: [03451](#)

If the facility does not have a physical address, the Latitude [42 degree 47 min. 09.69 sec. N.](#) & Longitude [71 degree 28 min. 53.56 sec. W.](#)

(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. [MSS #15201](#)
4. The facility's GIS facility code, if available. \_\_\_\_\_
5. A description of the facility including the following:
  - 5.a. The gross nameplate capacity [0.210 MW \(licensed by FERC for 0.810 MW\)](#)
  - 5.b. The facility's initial commercial operation date [3 / 1 / 1987](#)
  - 5.c. The date the facility began operation, if different than the operation date \_\_\_\_\_
  - 5.d. A complete description of the facility including location, structures and equipment.

[Fiske Hydro, Inc. owns Fiske Hydro project Project \(the "Project" or the "Facility"\), an operating 210 \(gross\), 210 \(net\) KW hydro-electric generator, located in Hinsdale, New Hampshire at 15 Main Street. The Facility generates electrical energy using hydro energy. The Facility is interconnected to Public Service Company of New Hampshire's distribution line located along Main Street. The Facility commenced initial operations on or about March 1, 1987; subsequently, the Facility shutdown on or about January 31, 2003. The Facility re-commenced operations on or about June 1, 2008. \(The Facility is licensed by FERC to operate 810 KW of generation at the site\).](#)

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 Facility is interconnected to Public Service Company of New Hampshire's local distribution system that runs along Main Street in Hinsdale, New Hampshire. The Facility's generator voltage is 480 V and is stepped up to 34.500 KV by the Facility's transformer located near 15 Main Street at Hinsdale, New Hampshire. That power is delivered to Public Service Company of New Hampshire's 34.500 KV distribution line that runs along Main Street in Hinsdale, New Hampshire.](#)

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

[Fiske Hydro has certified the Facility as Connecticut Class I source. Fiske Hydro intends to file RPS applications with the states of Maine and Rhode Island, seeking Class I and Class II treatment in Maine and New treatment in Rhode Island for the Facility.](#)

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

The Facility's electrical output, which is sold to Public Service Company of New Hampshire, is verified by Public Service Company of New Hampshire and is reported under MSS ID #15201 to ISO New England, Inc. ISO New England, Inc., in turn, reports this information to APX, Inc., the operator of the NEPOOL Generation Information System.

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: Cameron MacLeod III

Phone: (603) 336-5110

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.	
• A copy of all necessary state and federal (FERC) regulatory approvals as <b>Attachment A</b> .	
• 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 <b>Attachment B</b> .	
• A signed and notarized attestation or <b>Attachment C</b> .	
• A GIS number has been provided or has been requested.	
• Other pertinent information has been provided (if necessary) as <b>Attachment D</b> .	
• This document has been printed and notarized.	
• The original and two copies are included in the packet mailed to Debra Howland, Executive Director of the PUC.	
• 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> .	

**AFFIDAVIT**

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

Applicant's Signature \_\_\_\_\_ Date \_\_\_\_\_

Subscribed and sworn before me this \_\_\_\_\_ Day of \_\_\_\_\_ (month) in the year

County of \_\_\_\_\_ State of \_\_\_\_\_

\_\_\_\_\_  
Notary Public/Justice of the Peace

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

**The Facility's electrical output, which is sold to Public Service Company of New Hampshire, is verified by Public Service Company of New Hampshire and is reported under MSS ID #15201 to ISO New England, Inc. ISO New England, Inc., in turn, reports this information to APX, Inc., the operator of the NEPOOL Generation Information System.**

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: **Cameron MacLeod III**

Phone: **(603) 336-5110**

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.	
• A copy of all necessary state and federal (FERC) regulatory approvals as <b>Attachment A</b> .	
• 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 <b>Attachment B</b> .	
• A signed and notarized attestation or <b>Attachment C</b> .	
• A GIS number has been provided or has been requested.	
• Other pertinent information has been provided (if necessary) as <b>Attachment D</b> .	
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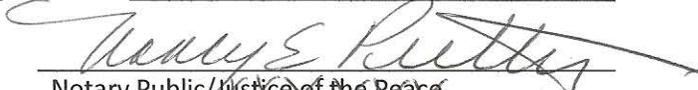
**AFFIDAVIT**

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

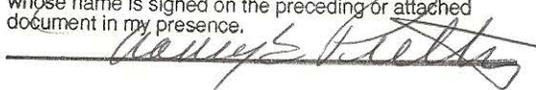
Applicant's Signature  Date 09-3-2012

Subscribed and sworn before me this 9th Day of October (month) in the year 2012

County of Franklin State of Massachusetts

Notary Public/Justice of the Peace  
  
 NANCY E. PRETTO

On this 9th day of October, 2012, before me, the undersigned notary public, personally appeared Cameron MacLeod III, proved to me through satisfactory evidence of identification which were MA DRIVERS LIC, to be the person whose name is signed on the preceding or attached document in my presence.

  
 MY COMMISSION EXPIRES  
 JUNE 15, 2018

**Attachment A**

**Copy of**

**Regulatory Approvals**

**Required by**

**Local, State and Federal Authorities**

**For**

**Fiske Hydro Project**

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Fiske Hydro, Inc. )

Project No. 8615-000

## ORDER ISSUING LICENSE (MINOR)

( Issued December 4, 1985 )

Fiske Hydro, Inc. (Applicant) filed on September 26, 1984, an application for license under Part 1 of the Federal Power Act (Act) to construct, operate, and maintain the Fiske Mill Project No. 8615. The project would be located on the Ashuelot River in Cheshire County, New Hampshire, and would affect the interests of interstate or foreign commerce.

Notice of the application has been published and comments have been received from interested Federal, state, and local agencies. No protests or motions to intervene were filed and none of the agencies objected to issuance of the license.

The Proposed Project

The run-of-river project would consist of an existing 19-foot-high concrete capped dam with a spillway crest elevation of 226.8 feet mean sea level (msl), 2-foot-high flashboards creating an impoundment with a surface area of 4 acres, an intake structure at the north abutment, an 80-foot-long steel plate arch canal, a powerhouse with 4 turbine-generator units with a total installed capacity of 810 kW, and other appurtenant facilities. A more detailed project description is contained in ordering paragraph (B).

Safety and Adequacy

The Commission's New York Regional Office staff inspected the project and concluded that the dam is safe and adequate for operation under normal conditions. The dam is classified as low hazard in that its failure would not create an additional hazard to downstream life and property.

## ENVIRONMENTAL CONSIDERATIONS

Erosion and Sedimentation

Excavation for the powerhouse and tailrace and installation of the cofferdams could cause erosion and the subsequent degradation of water quality because of sedimentation and turbidity. The Applicant proposes to implement proper construction practices and erosion control measures to protect water quality, including settling structures. However, a detailed description of specific measures has not been provided. Therefore, in order to protect the water quality of the Ashuelot River during project construction and operation, Article 19 requires the Licensee to file a plan to control erosion and to minimize the quantity of sediment or other potential water pollutants entering the Ashuelot River.

Run-of-River Mode of Operation

The Department of the Interior (Interior) and the New Hampshire Fish and Game Department (FGD) indicate that as the proposed powerhouse and tailrace would be located near the dam, no flow releases from the dam are required. However, both Interior and FGD recommend that an instantaneous flow of 208 cubic feet per second, or inflow, whichever is less, should be released from the tailrace to protect downstream aquatic resources. As the Applicant has proposed to operate the project in a run-of-river mode, there is no need to establish a minimum flow release. Article 20 requires the Licensee to operate the project in an instantaneous run-of-river mode.

Fish Passage Facilities

As the project dam is the first obstruction on the Ashuelot River to upstream migrating anadromous fish, including Atlantic salmon and American shad, access of these fish to upstream areas is currently prevented. However, the Connecticut River Atlantic Salmon Commission has deferred restoration of anadromous fish at the project site.

Interior, FGD, and the National Marine Fisheries Service recommend that fish passage facilities should be provided at this project when such facilities are required in the future. The Applicant states that coordination and consultation will be continued with these agencies when fish passage facilities are deemed necessary. Should anadromous fish restoration plans require the installation of appropriate fish passage facilities in the future, the license will provide for the future construction, operation, and maintenance of such facilities.

Recreation

Operation of the project will provide limited opportunities for fishing at the pond above the dam. Interior recommends that the Applicant provide free public access to project lands and waters for recreational purposes.

It is in the public interest that the Applicant provide for free public access. Article 13 requires the Licensee to provide for free public access to project lands and waters for recreational purposes to the extent that public safety is not jeopardized.

Cultural Resources

There are no known historic, cultural, or archeological resources that will be affected by the proposed project. Article 21 will protect any cultural resources that may be discovered during the proposed construction or during any future construction at the project.

### Cumulative Impact Analysis

A large number of existing dams on the Connecticut River and throughout the Connecticut River Basin are being retrofitted or reactivated for hydropower production. The proposed Fiske Mill Project is one of six pending development applications on the Ashuelot River, a tributary to the Connecticut River. The other applications include the Minnewawa Project No. 7887, a pending license application located approximately 13 miles upstream of the proposed project, and three pending exemption applications, the Upper Robertson Dam Project No. 8915, the Lower Robertson Dam Project No. 8235, and the Ashuelot Paper Mill Project No. 7791 collectively competing with a major license application, Project No. 9613 located approximately 2-3 miles upstream from the proposed Fiske Mill Project. There are no other pending license or exemption applications for hydropower projects located within a 40-mile radius of the proposed Fiske Mill Project. However, two pending license applications (FERC Nos. 8403 and 8404) are located over 60 miles downstream of the proposed Fiske Mill Project and are competing for the Windsor Locks site on the Connecticut River.

In recent years the coordinated state-Federal-private restoration efforts of stocking hatchery-reared Atlantic salmon into the Connecticut River Basin have begun to show signs of success as naturally reproducing salmon populations are becoming reestablished in streams where they had been gone for over a century. Similar efforts, although on a much smaller scale, have also been initiated for American shad in the Connecticut River Basin. The identification of these environmental resources is important in determining the potential cumulative impacts that could occur as a result of constructing the proposed Fiske Mill Project or other pending hydropower applications within the basin.

The Ashuelot River is one of 34 major tributaries of the Connecticut River and historically, was an important producer of Atlantic salmon for the basin. The construction of dams, over-fishing, loss of habitat, and degradation of water quality on the Ashuelot River have all acted together over the years to prevent the reoccurrence of naturally reproducing populations of Atlantic salmon in the river. At present, a strategic plan for restoring Atlantic salmon to the Connecticut River Basin has placed the Ashuelot River in a deferred category, which means that no restoration efforts for Atlantic salmon are proposed for the river at this time. Water quality has improved markedly in the Ashuelot River over the past 10 years, however, and there is potential for the river to be used as a smolt rearing area in combination with a fry-release program sometime within the next 10 to 15 years, depending on the success of the continuing restoration efforts occurring throughout other parts of the basin.

Despite the success of Atlantic salmon's return to other tributaries in the Connecticut River Basin there have been no reports of Atlantic salmon reaching the Fiske Mill Dam, which is the first dam on the Ashuelot River that salmon would encounter during their migration upstream from the Connecticut River.

American shad have already been observed at the Fiske Mill Dam but no specific program has targeted the Ashuelot River for shad restoration. The American shad restoration efforts to date have centered on providing passage (construction of fishways) in the mainstem of the Connecticut River to allow existing populations of migrating shad access to those areas between the mouth of the river and Bellows Falls, areas that historically supported shad populations. There are no proposals to stock American shad upstream from the project site or in any tributaries of the Connecticut River.

Currently, there are no proposals to remove the Ashuelot River from its deferred category status, and until this occurs, no Atlantic salmon fry will be planted in the river. Hence, no Atlantic salmon would be adversely affected by the construction and operation of the proposed Fiske Mill Project until fry are introduced into the river. Nevertheless, if a fry-release program is initiated in the Ashuelot River, provisions should be made to ensure that the proposed project does not impact the Atlantic salmon restoration effort in the Connecticut River Basin. The terms and conditions of the license should provide adequate authority to require either upstream passage facilities or downstream fish passage facilities or a combination of upstream and downstream fish passage facilities when deemed necessary. The cost of these facilities would be borne by the Licensee.

The installation of fish passage facilities for both Atlantic salmon and American shad would depend on the success and expansion of existing restoration efforts in the basin and would need to be determined on a case-by-case basis for specific tributaries as mutually agreed upon by those resource agencies implementing the programs. The U.S. Fish and Wildlife Service, the New Hampshire Fish and Game Department, and the National Marine Fisheries Service have all recognized the Ashuelot River's potential for future Atlantic salmon restoration efforts and have recommended that fish passage facilities, both upstream and downstream, be provided at the proposed Fiske Mill Project by the Applicant when the resource agencies involved deem it necessary. Hence, it could be many years before fry are released into the river, and therefore measures to protect Atlantic salmon from the effects of the project are not needed at this time. The continued success of the overall basin restoration efforts and the initiation of an Atlantic salmon fry stocking program in the river, however, are two parameters that could change this situation. For example, it is possible that in future years there could be a greater need for downstream fish passage facilities before there is a need for upstream fish passage facilities at the project site, as well as at other project sites on the Ashuelot River.

Other measures necessary to protect Atlantic salmon and other anadromous fish species in the basin and to ensure that the project would not impact restoration efforts, either on an individual basis or cumulatively, are provided for in this license. Article 22 requires the Licensee to consult with the U.S. Fish and Wildlife Service, New Hampshire Fish and Game Department, and the National Marine Fisheries Service on the design of the project intake and powerhouse such that upstream and downstream fish passage facilities, including screens that prevent entrainment, can be retrofitted when needed without major construction of the dam or powerhouse.

Construction activities should also be coordinated with the resource agencies to ensure that Atlantic salmon fry or smolt habitat is not adversely impacted. Article 23 requires the Licensee to coordinate with the U.S. Fish and Wildlife Service, New Hampshire Fish and Game Department, and the National Marine Fisheries Service to further reduce the potential for habitat degradation from construction of the Fiske Mill Project with all other Commission exempted or licensed projects under construction coincidentally in the Ashuelot River in order to minimize the impacts of suspended sediments on the fishery resources within the Connecticut River Basin.

Based on the above information and a review of the record, the proposed Fiske Mill Project, as conditioned herein, and with appropriate mitigative measures for fish passage, would not interact with the four other projects on the Ashuelot River, with other projects in the Connecticut River Basin, or with the Atlantic salmon and American shad restoration efforts in the basin.

#### Other Environmental Concerns

The State of New Hampshire Water Supply and Pollution Control Commission granted water quality certification for the project, as required by Section 401 of the Clean Water Act, on March 25, 1985.

No federally listed threatened or endangered species or critical habitat, or sites listed or eligible for listing on the National Register of Historic Places will be affected by the project.

#### FINDING OF NO SIGNIFICANT IMPACT

Licensing of the project will result in minor short term and long term adverse impacts. During construction, soils, vegetation, air quality, and noise levels will be adversely impacted. A minor benefit will be the socioeconomic benefits of construction jobs for the project. Proposed mitigative measures and provisions of license articles will provide protection for the fishery resources at the Fiske Mill Project. In accordance with the National Environmental Policy Act of 1969, an Environmental Assessment was

prepared for the Fiske Mill Project (FERC No. 8615). <sup>1/</sup> On the basis of the record and Staff's independent environmental analysis, issuance of a license for the project, as conditioned herein, will not constitute a major Federal action significantly affecting the quality of the human environment.

#### Other Aspects of Comprehensive Development

The project would have an installed capacity of 810 kW and would generate an estimated 3,500,000 kWh annually. <sup>2/</sup> The project is economically feasible based on power being sold at rates for hydropower established by the New Hampshire Public Utilities Commission.

The project would make good use of the flow and fall of the Ashuelot River and would be best adapted to the comprehensive development of the Connecticut River Basin under present conditions upon compliance with the terms and conditions of the license.

#### License Term

The proposed development of this project using an existing dam is similar to relicensing an existing licensed project at which a moderate amount of new development is proposed. Therefore, consistent with the Commission's policy, a 40-year license term is reasonable in this instance. <sup>3/</sup>

The Director of the Office of Hydropower Licensing or the Director's designee, under 18 C.F.R. § 375.314, orders:

(A) This license is issued to Fiske Hydro, Inc. (Licensee) under Part 1 of the Federal Power Act (Act), for a period of 40 years, effective the first day of the month in which this order is issued, for the construction, operation and maintenance of the Fiske Mill Project No. 8615, located on the Ashuelot River in Cheshire County, New Hampshire, and affecting the interests of interstate or foreign commerce. 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.

<sup>1/</sup> Environmental Assessment, Fiske Mill Project, FERC Project No. 8615 -- New Hampshire, Division of Environmental Analysis, Office of Hydropower Licensing, Federal Energy Regulatory Commission, June 20, 1985. This document is available in the Division of Public Information and in the Commission's public file associated with this proceeding.

<sup>2/</sup> The hydroelectric energy produced by the project represents a fuel savings of 5,740 barrels of oil or 1,620 tons of coal annually.

<sup>3/</sup> Village of Lyndonville, 7 FERC §62,234 (1979).

(B) The Fiske Mill Project No. 8615 would consist of:

(1) All lands, to the extent of the Licensee's interests in those lands, constituting the project area. The project area is shown and described by a certain exhibit that forms part of the application for license and that is designated and described as:

<u>Exhibit</u>	<u>FERC No. 8615-</u>	<u>Showing</u>
G-1	5	Project Map

(2) Project works consisting of: (1) a 19-foot-high and 185-foot-long concrete-capped dam with a spillway crest elevation of 226.8 feet mean sea level (msl); (2) 2-foot-high flashboards at the spillway creating an impoundment of 4 acres at surface elevation of 228.8 feet msl; (3) an intake structure at the north abutment; (4) an 80-foot-long steel plate arch canal, 20.5 feet by 13.5 feet in diameter; (5) a powerhouse with 3 turbine-generator units with an installed capacity of 221 kW each, and one unit with an installed capacity of 147 kW; (6) generator leads, a 0.48/4.16-kV step-up transformer, a 100-foot-long and 4.16-kV transmission line; and (7) other appurtenances.

The location, nature, and character of these project works are more specifically shown and described by the exhibit cited above and by certain other exhibits which also form part of the application for license and which are designated and described as:

Exhibit A, page A-1, part i, ii, iv, and vii.

<u>Exhibit</u>	<u>FERC No. 8615</u>	<u>Showing</u>
F-1	2	Plan
F-2	3	Elevation, Section and Profile
F-3	4	Dam Section, Powerhouse Plan and Sections

(3) All of the structures, fixtures, equipment; or facilities used or useful in the operation or maintenance of the project, all portable property that may be employed in connection with the project, as approved by the Commission, and all riparian or other rights necessary or appropriate in the operation or maintenance of the project.

(C) Exhibits A, F, and G, designated in ordering paragraph (B) above are approved and made a part of the license.

(D) Pursuant to Section 10(i) of the Act, it is in the public interest to waive the following Sections of Part I of the Act, and they are excluded from the license.

Sections 4(b), except the second sentence; 4(o), 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 public notice and 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 the depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

(E) This license is also subject to Articles 1 through 18 in Form L-15 (October 1975), entitled "Terms and Conditions for Unconstructed Minor Project Affecting the Interests of Interstate or Foreign Commerce," attached to and made a part of this license, except for the first sentence of Article 15. This license is also subject to the following special conditions set forth as additional articles.

Article 19. Licensee shall, after consultation with the New Hampshire Water Supply and Pollution Control Commission and the New Hampshire Fish and Game Department, prepare and file with the Commission, within 6 months from the date of issuance of this license, a plan to control erosion, dust, and slope stability, and to minimize the quantity of sediment or other potential water pollutants resulting from construction and operation of the project. The plan shall also include: provisions for identifying and mapping any erosive soils and potentially unstable slopes; an implementation schedule; monitoring and maintenance programs for project construction and operation; and provisions for periodic review of the plan and for making any necessary revisions to the plan. In the event that the Licensee does not concur with any agency recommendations, the Licensee shall provide a discussion of the reasons for not concurring based on project site geological, soil, and groundwater conditions. The Commission reserves the right to require changes to the plan. Unless the Director, Office of Hydropower Licensing, directs otherwise, the Licensee may begin ground-disturbing or spoil disposal activities at the project 90 days after filing this plan.

Article 20. Licensee shall operate the Fiske Mill Water Power Project in an instantaneous run-of-river mode for the protection of fish and wildlife resources in the Ashuelot River. The Licensee, in operating the project in an instantaneous run-of-river mode, shall at all times act to minimize the fluctuation of the reservoir surface elevation, i.e., maintain discharge from the project so that flow in the Ashuelot River, as measured immediately downstream from the project tailrace, approximates the instantaneous sum of

inflow to the project reservoir. 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 agreement between the Licensee and the New Hampshire Fish and Game Department.

Article 21. Licensee shall, prior to any future construction at the project, consult with the New Hampshire State Historic Preservation Officer (SHPO) about the need for cultural resource survey and salvage work. Documentation of the nature and extent of consultation, including a cultural resources management plan and a schedule to conduct any necessary investigation prior to such plan, shall be filed with the Commission within 6 months of any construction activity in the location of such investigations. Licensee shall make available funds in a reasonable amount for any such work as required. If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and Licensee shall consult with the SHPO to develop a mitigative plan for the protection of significant archeological or historical resources. If Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historical work related to the project, the Commission reserves the right to require Licensee to conduct, at its own expense, any such work found necessary.

Article 22. Licensee shall consult with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the New Hampshire Fish and Game Department concerning the final design of the intake structure and powerhouse to ensure that upstream and downstream fish passage facilities, including fish screens, can be retrofitted to the project when requested by these agencies. Within one year of issuance of this license, Licensee shall file, for Commission approval, preliminary design drawings showing the locations for the fish passage facilities. Documentation of agency consultation on the design drawings and copies of agency comments or recommendations shall be included in the filing.

Article 23. Licensee shall, after consultation with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service and the New Hampshire Fish and Game Department, coordinate and stagger construction activities of the Fiske Hill Project with all other Commission exempted or licensed projects under construction coincidentally in the Ashuelot River, in order to minimize the impact of suspended sediment on the fishery resources of the Connecticut River Basin. Letters documenting the results of the consultation with the aforementioned agencies shall be filed with the Commission, with copies to the agencies, within 60 days from the issuance of the license.

Article 24. The Licensee shall commence construction of the project works within 2 years from the issuance date of the license and shall complete construction of the project within 4 years from the issuance date of the license.

Article 25. The Licensee shall provide one copy to the Commission's Regional Engineer and two copies with 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, at least 60 days prior to start of construction. The Director, Division of Inspections, may require changes in the plans and specifications to assure a safe and adequate project.

Article 26. The Licensee shall review and approve the design of contractor-designed cofferdams and deep excavations other than those approved according to Article 23 prior to the start of construction and shall ensure that construction of cofferdams and deep excavations are consistent with the approved design. At least 30 days prior to start of construction of the cofferdam, the Licensee shall provide to the Director, Division of Inspections, with a copy to the Commission's Regional Engineer and the Corps of Engineers one copy of the approved cofferdam construction drawings and specifications and a copy of the letter(s) of approval.

Article 27. The Licensee shall within 90 days of completion of construction file for approval by the Director, Division of Project Management revised Exhibits A, F, and G to describe and show the project as-built.

Article 28. 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 1,080 horsepower.

Article 29. (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 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 titles 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 file 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 paragraphs (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.

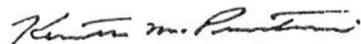
(2) Before conveying the interest, the Licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on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

(F) This order is final unless a petition appealing it to the Commission is filed within 30 days from the date of its issuance, as provided in Section 385.1902 of the Commission's regulations, 18 CFR 385.1902 (1985). The Licensee's failure to file a petition appealing this order to the Commission shall constitute acceptance of this license. In acknowledgment of acceptance of this order and its terms and conditions, it shall be signed by the Licensee and returned to the Commission within 60 days from the date this order is issued.

  
Kenneth M. Pusateri  
Acting Director, Office of  
Hydropower Licensing

Project No. 8615-000

IN TESTIMONY of its acknowledgment of acceptance of all of the terms and conditions of this order, Fiske Hydro, Inc. this \_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, has caused its corporate name to be signed hereto by \_\_\_\_\_, its President, and its corporate seal to be affixed hereto and attested by \_\_\_\_\_, its Secretary, pursuant to a resolution of its Board of Directors duly adopted on the \_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, a certified copy of the record of which is attached hereto.

By \_\_\_\_\_  
President

Attest:

\_\_\_\_\_  
Secretary

(Executed in quadruplicate)

FEDERAL ENERGY REGULATORY 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, logs, 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 Service Agreement**

**Between**

**Public Service Company of New Hampshire**

**And**

**Fiske Hydro, Inc.**

**Dated**

**November 1, 2005**

ADDENDUM TO AGREEMENT

This Addendum to Operating Agreement "Agreement", made this 1 day of NOVEMBER 2005, by and between Public Service Company of New Hampshire ("PSNH") and Fiske Hydro Inc. ("Interconnector").

WITNESSETH

WHEREAS, PSNH and Interconnector entered into said Agreement on June 3, 2005, regarding Interconnector's generating facility located in Hinsdale, New Hampshire; and

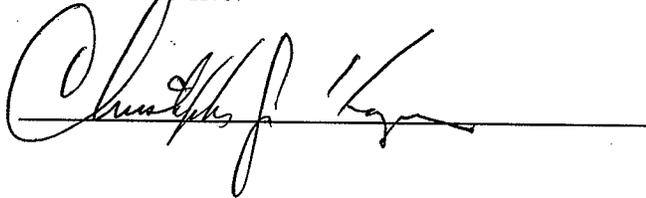
WHEREAS, PSNH and Interconnector have agreed to modify said Agreement by means of this Addendum; and

NOW, THEREFORE, PSNH and Interconnector do hereby agree as follows:

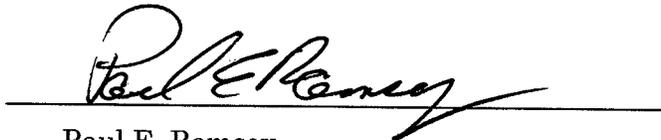
In accordance with Article 12 of the Agreement, the attached PSNH Interconnection Report, revised by L. J. Croteau, dated October 6, 2005, is included with and made a part of the Agreement as Attachment A.

IN WITNESS WHEREOF, PSNH and Interconnector have caused this Addendum to be executed by their duly authorized representative as of the day, month and year first above written.

FISKE HYDRO INC.



PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE



Paul E. Ramsey  
Vice President, Customer Services

**PSNH INTERCONNECTION REPORT  
FOR  
CUSTOMER GENERATION**

**FISKE HYDRO**

**FINAL REPORT**

**SESD SITE NO. 118**

R. R. Constant      June 10, 1985

Revised  
L. J. Croteau      Oct. 6, 2005

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## 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-CNV-118-1. 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 and/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

The hydro facility is located in Hinsdale, NH on the Ashuelot River. It is situated alongside Brattleboro Road (NH Rte 119) a short distance southwest of where the road intersects with NH Rte 63. The pond is established by New Hampshire Water Resources Board Dam Number 117.02, which creates a net head of fifteen feet. The water is delivered to the four turbines via an enclosed canal. The output of the four induction generators rated at 810 kW is delivered through a 1,000 kVA padmount transformer to PSNH 34.5 kV circuit 78X1, which is fed from Chestnut Hill Substation.

The major system components are shown on partial one-line diagram SK-CNV-118-1.

### B. Mechanical Components

1. Turbines – Three (3) Essex ET-1657; 360 HP, 209 RPM at 15 feet net head.  
One (1) Essex ET-1352; 240 HP, 225 RPM at 15 feet net head.  
All units are of the self-contained, submersible type and are placed vertically in an open flume. They have fixed guide vanes, fixed blades and an efficiency of 84%.

### C. Electrical Components

1. Generator – Three (3) 1200 RPM, 221 kW, 0.81 PF, 480 V, 328 A, 60 Hz, 3-phase, 3-wire, induction units.  
  
One (1) 1200 RPM, 147 kW, 0.81 PF, 480 V, 218A, 60 Hz, 3-phase, 3-wire, induction unit.
2. Generator Contactors - Unspecified
3. Generator Step-up Transformer - One (1) 1,000 kVA, 34.5/19.92 kV to 480/277 V, grounded wye-grounded wye, 3-phase, 60 Hz unit.
4. Power Factor Correction Capacitors - One (1) three-phase bank rated 480V, 60 Hz, 40 kVAR for the 147 kW generator.

### 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 start-up 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 may have 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 breaker(s). The disconnecting device with visible open shall be located between the PSNH system and the facility's generation.
4. The Developer is responsible for determining and applying the complete settings for all non-PSNH required protective relays. PSNH will determine, at the Developer's expense, voltage, frequency and current set points only for PSNH required protective functions.
5. A PSNH approved testing company will be required to 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 generator site 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 at maximum fault requirements.
14. All PSNH-required protective relays, and any other relays which PSNH might 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 Developer's responsibility.
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. PSNH may need to make modifications to control systems and tap changers in the electrical vicinity of facilities whose installed capacity is close in magnitude to connected circuit load. Should this be necessary, the modifications will be made at the Developer's expense.
6. Automatic reclosing of the PSNH circuit after a tripping operation may occur after an appropriate time delay. If additional voltage blocking of automatic reclosing is required, it will be added at the Developer's expense.

C. Metering Considerations

1. Except for protection/control and metering voltage sensing and generator and/or capacitor contactor supply voltage, no unmetered station service AC 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-CNV-118-1.
2. The following protective functions must be supplied and connected to automatically trip at least all four generator contactors. These devices must be utility grade as approved by PSNH.

81H	- Overfrequency
81L	- Underfrequency
27	- Undervoltage
59	- Overvoltage

3. The facility generator step-up transformer (GSU) must have a grounded wye - grounded wye winding configuration.
4. Each of the generators must have an ungrounded winding configuration. Either a delta or ungrounded wye arrangement will satisfy this requirement.

B. System Metering

1. The facility will be equipped with the three element metering system as shown on partial one line diagram SK-CNV-118-1.
2. The metering must consist of the following components provided by the Developer:
  1. Three (3) metering accuracy current transformers (CT's), 1200:5, 0.6kV insulation class, 0.3 accuracy class at burden ratings of 0.1 through 0.5.
  2. Three (3) metering accuracy voltage transformers (VT's), 300:120, 0.6kV insulation class, and 0.3 accuracy class at burden ratings of W, X, M, and Y. The Developer may purchase the CT's and VT's directly from PSNH.

PSNH will provide the following and bill the Developer:

1. Multi-function form 9S meter with load profile memory, telephone modem and reactive measurement capability.
2. Thirteen (13) terminal meter socket with a pre-wired ten (10) pole test switch, equivalent to a Milbank SC2420-RL-21 or Durham 1008432.
3. Seven (7) conductor, 12 AWG, type TC control cable from the CT's to the test switch.

The CT's and VT's will be mounted and the control cable installed by the Developer. Secondary connections will be made either by PSNH or under the supervision of PSNH. The physical location of the meters must be approved by PSNH and reasonable access must be assured. The meter will be installed, tested and analyzed by PSNH.

The multi-function meter must remain energized by connecting an uninterrupted power source to the meter's auxiliary power input.

The meter must be continuously compensated by means of transformer loss compensation programmed into the multi-function meter so as to register and record generation delivered to PSNH at the delivery point.

The developer shall install and maintain an analog telephone line that will be connected to the multi-function meter modem. The phone line may be a dedicated line or connected to a line sharing device such that PSNH has unfettered access to the metering data through remote interrogation on a daily basis.

Single phase station service is to be metered separately and billed under our standard single phase G rate. Three phase station service in excess of generation is to be metered by reverse registration through the multi-function generation meter and billed under our standard three phase G rate.

C. Primary Interconnection

No further primary interconnection work is required.

D. System Operation

There are no foreseeable special operating considerations and/or limitations concerning this facility. However, once the facility comes back on-line, if there is any adverse impact on the operation of the PSNH electrical system, then appropriate operating considerations and/or limitations may have to be imposed.

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, including overheads.

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. PSNH will neither perform work nor order materials until this requirement has been met.

A. System Protection

1. All protective relays at the generator plant will be purchased by the Developer. PSNH must be notified as to exact relay model numbers proposed before ordering to assure that proper setting capability exists for interfacing with the PSNH system.

SUBTOTAL	<u>\$</u>	<u>0.00</u>
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2. Engineering - PSNH review of control circuits, material specifications and development of PSNH required relay settings at the site, as well as a review of related protective equipment on the circuit supplying the site.

SUBTOTAL	<u>\$</u>	<u>1500.00</u>
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SECTION A TOTAL	<u>\$</u>	<u>1500.00</u>
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B. Metering

1. Material and labor to install appropriate metering on the new generator.

SECTION B TOTAL	<u>\$</u>	<u>2200.00</u>
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C. Primary Interconnection

1. Materials - NONE

SUBTOTAL	<u>\$</u>	<u>0.00</u>
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2. Labor, Overhead, Misc. - NONE

SUBTOTAL	<u>\$</u>	<u>0.00</u>
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SECTION C TOTAL	<u>\$</u>	<u>0.00</u>
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GRAND TOTAL (A + B + C)	<u>\$</u>	<u>3700.00</u>
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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") must be defined. At this facility, the delivery point is located at the point where the line extension into the Developer's site taps into PSNH circuit 78X1.

B. Description of Responsibilities

1. PSNH will own and maintain all equipment up to the delivery point. The Developer will own and maintain all equipment from the delivery point into and throughout the plant.
2. The Developer is normally responsible for operating all equipment on the facility side of the delivery point. The only exception to this rule would be if special circumstances required PSNH personnel to operate the emergency shutdown switch and/or disconnect switch.

VII. DRAWINGS

- A. Partial One-Line Diagram SK-CNV-118-1 is attached.

PSNH Circuit 78X1; Pole Route 2  
34.5/19.92 KV 60 Hz 3 Phase, 4 Wire

To Other  
PSNH Loads

To Chestnut Hill  
Substation

Delivery Point

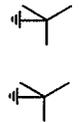
19,900 V  
to 120/240V



Station  
Service

20T Fuse

3 - Phase  
Airbreak Switch



1,000 KVA  
34.5/19.92 KV  
to 480/277 V

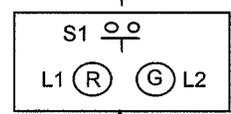
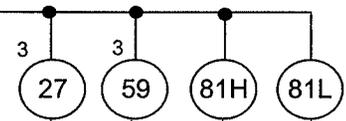
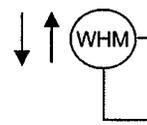
1200:5A

300-120 V

480-120 V

**LEGEND**

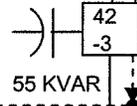
- 27 : Undervoltage Relay
- 42: Contactor
- 59: Overvoltage Relay
- 81H: Overfrequency Relay
- 81L: Underfrequency Relay
- L1, L2: Status Indicator Lights
- S1: Emergency Shutdown Switch
- WHD: Watthour Demand Meter
- WHM: Multi-function Watthour Meter



55 KVAR



55 KVAR



55 KVAR



40 KVAR

221 KW, .81PF  
480V, 328A  
Induction



360 HP  
209 RPM



Same as  
G1

360 HP  
209 RPM



Same as  
G1

360 HP  
209 RPM



147 KW, .81PF  
480V, 218A  
Induction



240 HP  
225 RPM



*REDUCTION  
BEAR PINS*

Partial One-Line Diagram

**FISKE HYDRO**

SK-CNV-118-1

June 28, 2005

Rev. Sept. 23, 2005

**Attachment C**

**Affidavit**

**Of**

**Cameron MacLeod III**

**Dated**

**October 9, 2012**

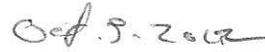
**AFFIDAVIT**

I hereby certify, under pains and penalties of perjury, that I have personally examined and am familiar with the information submitted herein and based upon my inquiry of those individuals responsible for obtaining the information. I believe that the information is true, accurate and complete. I am aware that there are significant penalties, both civil and criminal, for submitting false information, including both fines and punishment. My signature below certifies all information submitted on this application form.

Signature of Authorized Representative:



Cameron MacLeod III, President/Owner



Date

**Attachment D**

**Decision of the Connecticut  
Department of Public Utility Control**

**Fiske Hydro, Inc.**

**For Qualification as a Class I Renewable Resource**

**Dated**

**August 1, 2007**



# STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC UTILITY CONTROL  
TEN FRANKLIN SQUARE  
NEW BRITAIN, CT 06051

DOCKET NO. 07-06-37 APPLICATION OF FISKE HYDRO INC. FOR  
QUALIFICATION AS A CLASS I RENEWABLE  
RESOURCE

August 1, 2007

By the following Commissioners:

Anthony J. Palermino  
Anne C. George  
John W. Betkoski, III

**DECISION**

## **DECISION**

### **INTRODUCTION**

#### **A. SUMMARY**

In this Decision, the Department of Public Utility Control determines that the Fiske Hydro, Inc. generating facility qualifies as a Class I renewable energy source as a run-of-river hydroelectric facility and assigns it Connecticut Renewable Portfolio Standard (RPS) Registration Number CT00219-07.

#### **B. BACKGROUND OF THE PROCEEDING**

By application dated June 21, 2007, Fiske Hydro, Inc. (Fiske Hydro) requested that the Department of Public Utility Control (Department) determine that the generation facility qualifies as a Class I renewable energy source.

Fiske Hydro located on the Ashuelot River, Cheshire County, New Hampshire was completely deactivated in January 2003, following a contract buyout by Public Service of New Hampshire. Deterioration, breakdown and removal of virtually all working equipment from this run-of-river, Federal Energy Regulatory Commission (FERC) licensed 810 kW site was in its final phase, pending license surrender and dam removal. FERC Withdrawal of Surrender of Minor License, P-8615-024.

In January 2005, new owners purchased the facility and began rehabilitation with completely new installation, refurbishment or replacement of switchgears, trash racks, head gate cylinders, turbines, blades, bearings, shafts, mechanical seals and generators. Additionally, in order to keep this 810 kW plant in service, an upstream fish passage has been designed and installed by the new owners. The facility was put back in service by the new owners on July 3, 2006 and has a nameplate capacity of .810 MW.

#### **C. CONDUCT OF THE PROCEEDING**

There is no statutory requirement for a hearing, no person requested a hearing, and none was held.

#### **D. PARTICIPANTS IN THE PROCEEDING**

The Department recognized Fiske Hydro, Inc., c/o Christopher Kruger, 563 Holden Hill Road, Langdon, New Hampshire 03602, and the Office of Consumer Counsel, Ten Franklin Square, New Britain, Connecticut 06051, as participants in this proceeding.

### **II. DEPARTMENT ANALYSIS**

Pursuant to Connecticut General Statutes (C.G.S.) §16-1(a)(27), as amended by Public Act 03-221, An Act Concerning Technical Revisions to the Utility Statutes and

Telecommunications Towers on Agricultural Land, “Class I renewable energy source” includes energy derived from a run-of-the-river hydropower facility provided such facility has a generating capacity of not more than five megawatts, does not cause an appreciable change in the river flow, and began operation after July 1, 2003.

In interpreting C.G.S. §16-1(a)(26), the Department determined that:

(1) “Facility” refers to an entire hydroelectric plant at a single site rather than a turbine generating unit within a hydroelectric plant;

(2) The “generating capacity of not more than five megawatts” refers to a hydroelectric facility’s nameplate capacity, not its actual or average generation output;

(3) In order to qualify as “run-of-the-river,” a hydroelectric facility must show a current FERC license or exemption that requires the facility to operate in run-of-river mode. In addition, a facility can qualify as a Class I or Class II renewable energy facility only to the extent that its FERC license or exemption requires run-of-river operation. Hydroelectric facilities that are not regulated by FERC will be required to show a FERC order or a court decision stating that FERC has no jurisdiction, or has declined to exercise jurisdiction, over such facility. In such cases, the hydroelectric facility must show that its operation allows the river inflow to equal outflow instantaneously and therefore, does not cause an appreciable change in the river flow; and

(4) “Began operations” means (A) the date an existing facility with generation began commercial operation as shown in documentation from FERC; (B) the new date given to an abandoned or destroyed facility that comes back into operation as shown in its documentation from FERC or as determined by the Department; (C) the date upon which a facility changes operation from store and release to run-of-river as shown in documentation from FERC; or (D) the new date that incremental generation is in operation at an existing facility as shown in its documentation from FERC.

See Docket No. 04-02-07, DPUC Declaratory Ruling Concerning “Run-of-the-River Hydropower” as That Term is Used in the Definitions of Class I and Class II Renewable Energy Source in C.G.S. §16-1(a)(26) &(27).

As provided in the application, Fiske Hydro is a hydroelectric facility located at 15 Main Street, Hinsdale, New Hampshire 03451. There are four turbine generators at this facility, with a total combined nameplate capacity of 810 kW. According to its original FERC license, Fiske Hydro is licensed to operate as a hydroelectric facility for 40 years beginning December 4, 1985. Under its license, Fiske Hydro is required to operate in an instantaneous run-of-river mode. FERC Order Issuing Minor License, Project No. 8615-000 (Original FERC license). By January 2003, Fiske Hydro was completely deactivated following a contract buyout by Public Service of New Hampshire. Following execution of the buyout, Fiske Hydro ceased operation and removed virtually all working equipment from this run-of-river, licensed 810 kW site, which was in its final phase, pending license surrender and dam removal. However, on January 5, 2005, new owners purchased the facility and submitted a request to FERC for Withdrawal of Surrender of Minor License in order to prevent a permanent loss of this renewable energy resource. Request for Withdrawal of Surrender of Minor License, dated January

5, 2005. Additionally, in order to keep this 810kW station in service, and upstream fish passage was designed and being installed. Id. After extensive rehabilitation and refurbishment of the plant, Fiske Hydro was put back into service on July 3, 2006.

In addition to the original FERC license and Request for Withdrawal of Surrender of Minor License, Fiske Hydro provided its flow management plan dated May 17, 2007, and a letter that certifies it has maintained and adhered to the run-of-river flow requirements for 2006. Fiske Hydro also supplied a list of the actual repairs and replacement cost for the rehabilitation of the station. Fiske Hydro estimated a total of \$204,400 in capital costs through 2006. Application, Enclosure No. 2. Based on the significant costs incurred and the fact that the project was completely out of service since January 2003, the Department finds that Fiske Hydro in-service date should be July 3, 2006.

Based on the foregoing, the Department determines that Fiske Hydro qualifies as a Class I renewable energy facility with a new in-service date beginning July 3, 2006.

### **III. FINDINGS OF FACT**

1. Fiske Hydro is a hydroelectric generating facility located on the Ashuelot River, Cheshire County, New Hampshire
2. Fiske Hydro was completely deactivated in January 2003, following a contract buyout by Public Service of New Hampshire.
3. There are four turbine generators at this facility, with a total combined nameplate capacity of 810 kW.
4. According to its original FERC license, Fiske Hydro is licensed to operate as a hydroelectric facility for 40 years beginning December 4, 1985.
5. Under its license, Fiske Hydro is required to operate in an instantaneous run-of-river mode.
6. The facility was put back in service by the new owners on July 3, 2006.

### **IV. CONCLUSION**

Based on the evidence submitted, the Department finds that Fiske Hydro qualifies as a Class I renewable generation source pursuant to Connecticut General Statutes §16-1(a)(26).

The Department assigns each renewable generation source a unique Connecticut Renewable Portfolio Standard (RPS) registration number. Fiske Hydro's Connecticut RPS registration number is CT00219-07.

The Department's determination in this docket is based on the information submitted by Fiske Hydro. The Department may reverse its ruling or revoke the Applicant's registration if any material information provided by the Applicant proves to

be false or misleading. The Department reminds Fiske Hydro that it is obligated to notify the Department within 10 days of any changes to any of the information it has provided to the Department.

**DOCKET NO. 07-06-37 APPLICATION OF FISKE HYDRO INC. FOR  
QUALIFICATION AS A CLASS I RENEWABLE  
RESOURCE**

This Decision is adopted by the following Commissioners:

Anthony J. Palermino

Anne C. George

John W. Betkoski, III

CERTIFICATE OF SERVICE

The foregoing is a true and correct copy of the Decision issued by the Department of Public Utility Control, State of Connecticut, and was forwarded by Certified Mail to all parties of record in this proceeding on the date indicated.

*Louise E. Rickard*

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Louise E. Rickard  
Acting Executive Secretary  
Department of Public Utility Control

August 3, 2007

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Date