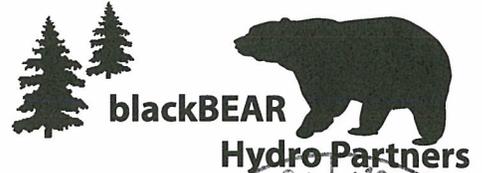


DE12-033

**blackBEAR Hydro Partners, LLC**

Davenport Street  
PO Box 276  
Milford, ME 04461-0276



30 January 2012

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

**RE: BLACK BEAR HYDRO PARTNERS, LLC REQUEST FOR CERTIFICATION OF INCREMENTAL NEW PRODUCTION AT THE MILFORD HYDROELECTRIC PROJECT (FERC NO. 2710) AS A CLASS I RENEWABLE ENERGY SOURCE**

Dear Ms. Howland:

Black Bear Hydro Partners, LLC (“Black Bear Hydro”) hereby requests that the New Hampshire Public Utilities Commission certify the incremental new production at Black Bear Hydro’s Milford Hydroelectric Project (FERC No. 2534) as an eligible Class I renewable energy source pursuant to New Hampshire R.S.A. 362-F:4 and Admin. Code Puc 2505.07(a)(2) (Electric Renewable Portfolio Standard, Repowered Class I).

In support of this request for Class I eligibility, Black Bear Hydro submits an original and seven copies of the completed application, required documentation and supplemental supporting information.

Thank you for your consideration of Black Bear Hydro’s request. If you have any questions or need additional information, please contact me at (207) 827-5364 or shall@blackbearhydro.com.

Sincerely,

Scott D. Hall  
Vice President – Environmental & Business Services  
Black Bear Hydro Partners, LLC

Enclosures

cc: Barbara Bernstein, New Hampshire Public Utilities Commission (letter only)

STATE OF NEW HAMPSHIRE  
PUBLIC UTILITIES COMMISSION

APPLICATION OF BLACK BEAR HYDRO PARTNERS, LLC  
FOR CLASS I RENEWABLE ENERGY SOURCE ELIGIBILITY  
OF INCREMENTAL NEW PRODUCTION AT THE MILFORD HYDROELECTRIC  
PROJECT (FERC No. 2534)

Pursuant to New Hampshire Admin. Code Puc 2500 Rules

January 30, 2012

1. ELIGIBILITY CLASS APPLIED FOR: [X] I  II  III  IV

2. Applicant's legal name: Black Bear Hydro Partners , LLC

3. Address: (1) Davenport Street

(2) PO Box 276

(3) Milford ME 04461  
(City) (State) (Zip code)

4. Telephone number: 207-827-5364 or 207-461-3617

5. Facsimile number: 207-827-4102

6. Email address: shall@blackbearhydro.com

7. Facility name: Milford Hydroelectric Project (FERC No. 2534)

8. Facility location: (1) Davenport Street

(2) Milford ME 04461  
(City) (State) (Zip code)

9. Latitude: 44° 56' 31.19" N Longitude: 68° 38' 42.08" W

10. The name and telephone number of the facility's operator, if different from the owner: Same [X]

(Name) (Telephone Number)

11. The ISO-New England asset identification number, if applicable: 16296 or N/A [ ]

12. The GIS facility code, if applicable: MSS16296 Graham – Milford Hydro or N/A [ ]

13. A description of the facility, including fuel type, gross nameplate generation capacity, the initial commercial operation date, and the date it began operation, if different.

**Please see Supplemental Information Sheet.**

14. If Class I certification is sought for a generation facility that uses biomass, the applicant shall submit:

- (a) quarterly average NOx emission rates over the past rolling year,
- (b) the most recent average particulate matter emission rates as required by the New Hampshire Department of, Environmental Services (NFIDES),
- (c) a description of the pollution control equipment or proposed practices for compliance with such requirements,
- (d) proof that a copy of the completed application has been filed with the NHDES, and
- (e) conduct a stack test to verify compliance with the emission standard for particulate matter no later than 12 months prior to the end of the subject calendar quarter except as provided for in RSA 362-F:12,II.
- (f)  N/A: Class I certification is NOT being sought for a generation facility that uses biomass.

15. If Class I certification is sought for the incremental new production of electricity by a generation facility that uses biomass, methane or hydroelectric technologies to produce energy, the applicant shall:

- (a)  demonstrate that it has made capital investments after January 1,2006 with the successful purpose of improving the efficiency or increasing the output of renewable energy from the facility, and
- (b)  supply the historical generation baseline as defined in RSA 362-F:2,X.
- (c) N/A: Class I certification is NOT being sought for the incremental new production of electricity by a generation facility that uses biomass, methane or hydroelectric technologies.

**Please see Supplemental Information Sheet.**

16. If Class I certification is sought for repowered Class III or Class IV sources, the applicant shall:

- (a) demonstrate that it has made new capital investments for the purpose of restoring unusable generation capacity or adding to the existing capacity, in light of the NHDES environmental permitting requirements or otherwise, and
- (b) provide documentation that eighty percent of its tax basis in the resulting plant and equipment of the eligible generation capacity, including the NHDES permitting requirements for new plants, but exclusive of any tax basis in real property and intangible assets, is derived from the new capital investments.
- (c)  N/A: Class I certification is NOT being sought for repowered Class III or Class IV sources.

17. If Class I certification is sought for formerly nonrenewable energy electric generation facilities, the applicant shall:

(a) demonstrate that it has made new capital investments for the purpose of repowering with eligible biomass technologies or methane gas and complies with the certification requirements of Puc 2505.04, if using biomass fuels, and

(b) provide documentation that eighty percent of its tax basis in the resulting generation unit, including NHDES permitting requirements for new plants, but exclusive of any tax basis in real property and intangible assets, is derived from the new capital investments.

(c)  N/A: Class I certification is NOT being sought for formerly nonrenewable energy electric generation facilities.

18. If Class IV certification is sought for an existing small hydroelectric facility, the applicant shall submit proof that:

(a) it has installed upstream and downstream diadromous fish passages that have been required and approved under the terms of its license or exemption from the Federal Energy Regulatory Commission, and

(b) when required, has documented applicable state water quality certification pursuant to section 401 of the Clean Water Act for hydroelectric projects.

(c)  N/A: Class IV certification is NOT being sought for existing small hydroelectric facilities.

19. If the source is located in a control area adjacent to the New England control area, the applicant shall submit proof that the energy is delivered within the New England control area and such delivery is verified using the documentation required in Puc 2504.01(a)(2) a. to e.

**Please see Supplemental Information Sheet.**

20. All other necessary regulatory approvals, including any reviews, approvals or permits required by the NHDES or the environmental protection agency in the facility's state.

**Please see Supplemental Information Sheet.**

21. Proof that the applicant either has an approved interconnection study on file with the commission, is a party to a currently effective interconnection agreement, or is otherwise not required to undertake an interconnection study.

**Please see Supplemental Information Sheet.**

22. A description of how the generation facility is connected to the regional power pool of the local electric distribution utility.

**Please see Supplemental Information Sheet.**

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

**Please see Supplemental Information Sheet.**

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

**Please see Supplemental Information Sheet.**

25. A description of how the facility's output is reported to the GIS if not verified by ISO-New England.

**Please see Supplemental Information Sheet.**

26. An affidavit by the owner attesting to the accuracy of the contents of the application.

**Please see Supplemental Information Sheet.**

27. Such other information as the applicant wishes to provide to assist in classification of the generating facility.

**Please see Supplemental Information Sheet.**

28. This application and all future correspondence should be sent to:

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

29. Preparer's information:

Name: Scott D. Hall

Title: Vice President – Environmental & Business Services,  
Black Bear Hydro Partners, LLC

Address: (1) Davenport Street

(2) PO Box 276

(3) Milford ME 04461  
(City) (State) (Zip code)

30. Preparer's signature: 

**SUPPLEMENTAL INFORMATION IN SUPPORT OF  
BLACK BEAR HYDRO PARTNERS, LLC'S APPLICATION FOR  
CLASS I RENEWABLE ENERGY SOURCE ELIGIBILITY  
OF INCREMENTAL NEW PRODUCTION AT ITS MILFORD HYDROELECTRIC  
PROJECT (FERC NO. 2534)**

Black Bear Hydro Partners, LLC (“Black Bear Hydro”) submits the following information in response to the respective information requests contained in the completed application form (organized by number). In addition, Black Bear Hydro has included a general description of the Milford Hydroelectric Project and additional information in Section 27 in support of the eligibility of the Project’s incremental new production as a Class I renewable energy source pursuant to New Hampshire R.S.A. 362-F:4 and Admin. Code Puc 2505.07(a)(2). The new capital investment made at the Milford Hydroelectric Project is consistent with the type of investment that New Hampshire’s electric portfolio standards seek to stimulate. See R.S.A. 362-F:1.

**Sections 1 through 12.** – Please see Application Form.

**Section 13.** A description of the facility, including fuel type, gross nameplate generation capacity, the initial commercial operation date, and the date it began operation, if different.

The Milford Hydroelectric Project is a run-of-river hydroelectric generating facility with an original gross nameplate generating capacity of 6.4 MW and with the two new turbine/generator units the new combined nameplate capacity of the Project is 7.8 MW. The Milford Project commenced initial commercial operations in 1906, and the two new generating units were brought on-line in late 2011.

**Section 14** – Please see Application Form.

**Section 15 – (a) [X] demonstrate that it has made capital investments after January 1,2006 with the successful purpose of improving the efficiency or increasing the output of renewable energy from the facility, and (b) [X] supply the historical generation baseline as defined in RSA 362-F:2,X.**

Please see Section 27 - Project Financial Information Related to New Capital Investment (below).

**Section 16** – Please see Application Form.

**Section 17.** – Please see Application Form.

**Section 18.** – Please see Application Form.

**Section 19. If the source is located in a control area adjacent to the New England control area, the applicant shall submit proof that the energy is delivered within the New England control area and such delivery is verified using the documentation required in Puc 2504.01(a)(2) a. to e.**

Not applicable since the Milford Hydroelectric Project is located within ISO-New England.

**Section 20. All other necessary regulatory approvals, including any reviews, approvals or permits required by the NHDES or the environmental protection agency in the facility's state.**

Please see the attached Federal Energy Regulatory Commission license for the Milford Hydroelectric Project (issued April 20, 1998) which also contains the provisions of the Water Quality Certification for the Milford Hydroelectric Project (Attachment – Section 20).

**Section 21. Proof that the applicant either has an approved interconnection study on file with the commission, is a party to a currently effective interconnection agreement, or is otherwise not required to undertake an interconnection study.**

Please see the attached small generator interconnection agreement (SGIA) between ISO New England, Black Bear Hydro Partners, LLC, and Bangor Hydro Electric Company for the Milford Hydroelectric Project (attachments to the SGIA can be provided if necessary) (Attachment – Section 21).

**Section 22. A description of how the generation facility is connected to the regional power pool of the local electric distribution utility.**

The Milford Hydroelectric Project generating station is situated adjacent to the local Bangor Hydro Electric Company (“BHEC”) utility 46 kV distribution substation. The Milford hydro station is interconnected with the Milford substation 46 kV bus by a 9.375 mVA 4.16 kV to 46 kV GSU transformer, low and high side breakers, and mechanical disconnects. The Milford station GSU transformer high side is connected to a 46kV bus, within the BHEC Milford substation, that directly feeds local distribution circuits and is also connected to BHEC’s 46 kV Line 7 transmission line by BHEC’s Breaker 729. Line 7 is connected to BHEC’s 115 kV Pool Transmission Facility (PTF) Graham Station substation by a 115 kV to 46 kV step-down transformer.

**Section 23. A statement as to whether the facility has been certified under another non-federal jurisdiction's renewable portfolio standard and proof thereof.**

The incremental generation resulting from the two new units at the Milford Hydroelectric Project has not yet been certified under any other state’s renewable portfolio standard.

**Section 24. A statement as to whether the facility's output has been verified by ISO-New England.**

The Milford Hydroelectric Project is considered a generator (asset identification number 16296) and its output is verified by the ISO New England.

**Section 25. A description of how the facility's output is reported to the GIS if not verified by ISO-New England.**

Not applicable since the Milford Hydroelectric Project output is verified by the ISO-New England.

**Section 26. An affidavit by the owner attesting to the accuracy of the contents of the application.**

Please see attached affidavit of Scott D. Hall, Vice President – Environmental & Business Services, Black Bear Hydro Partners, LLC, attesting to the accuracy of the contents of this application (Attachment – Section 26).

**Section 27. Such other information as the applicant wishes to provide to assist in classification of the generating facility.**

Black Bear Hydro submits the following additional information in support of its contention that the incremental new production at its Milford Hydroelectric Project is eligible as a Class I source pursuant to Puc 2505.07(a)(2).

***Background***

Black Bear Hydro's Milford Hydroelectric Project is located on the Penobscot River in Orono, Maine. The Milford Project initially commenced operations in 1906, and the new incremental

generation (two new units in vacant wheel pits within the existing powerhouse, as described further below) initiated commercial operation in November 2011.

On June 25, 2004, the Lower Penobscot River Basin Comprehensive Settlement Accord (“Lower Penobscot Agreement”) was signed.<sup>1</sup> The Agreement represented an unprecedented collaboration to restore 11 species of sea-run fish while rebalancing hydropower generated on the river.<sup>2</sup> An integral part of the energy balance associated with the Agreement included implementing the previously approved installation of additional generating capacity at the Milford Project. The Milford powerhouse contained empty wheel pits within which additional turbine-generator units could be installed to thereby add incremental new production to the Milford Project’s output.

### *New Capital Investment*

As part of the project revitalization, two new turbine-generator units (700 KW each for a total of 1.4 MW) and related new electrical equipment were installed.

All of the work associated with installation of the new equipment took place within the existing Milford powerhouse and within the existing empty wheel pits in the westerly end of the building. The general sequence of work for each unit is outlined below:

Install tailrace stoplogs

1. Demo slot at 92.21 floor for tailrace stoplogs.

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<sup>1</sup> Parties to the Lower Penobscot Agreement include Black Bear Hydro Partners, LLC’s predecessor PPL Maine, LLC; the Penobscot Indian Nation (Penobscot); U.S. Department of the Interior (Interior); Maine State Planning Office, Maine Atlantic Salmon Commission, Maine Department of Inland Fisheries and Wildlife, and Maine Department of Marine Resources (“Maine Agencies”); American Rivers, Inc., Atlantic Salmon Federation, Maine Audubon Society, Natural Resources Council of Maine, and Trout Unlimited; and the Penobscot River Restoration Trust (“Trust”).

<sup>2</sup> When complete, the project will help restore native fisheries by markedly improving access to nearly 1000 miles of significant habitat for Atlantic salmon, American shad, shortnose sturgeon and several other species of sea-run fish that once supported diverse economic opportunities as well as the biological health of the Penobscot River.

2. Installed 6x6 angle guides in tailrace to provide slot for tailrace gate/stoplogs. Divers were required for this work.
3. Installed C12 panel stop logs in guides from El 67.96 to top of panel at el 85.0 (normal tailwater is 83.6).

Changed out headgates

4. Demoed 4 inch floor slab over open wheel pit area to provide access to work area.
5. Installed 10x10 stop logs over the 8'-5" wide by 7'-3" tall entrance to the sweeping elbow.
6. After stoplogs over the inlet to the sweeping elbow were in place, removed the existing headgate operators and headgates.
7. Travelled and rigged new headgates into place, reinstalling operators.

Demo and ledge excavation proceeded once the new headgate and tailrace stoplogs were installed. Essentially all demolition will take place in the wheel pit floor and between the powerhouse walls.

8. Demoed down to elevation 69.0 for draft tube extension (provides 2 ft of concrete slab for draft tube extension). This demo involved removing concrete and ledge.
9. Placed the draft tube extension base slab to within 3 inches vertically of the steel draft tube.
10. Set and assembled the three draft tube sections and aligned.
11. Formed the draft tube extension walls and placed up to the roof of the draft tube sloping roof and along the horizontal CJ located at the top of the steel elbow draft tube exit (approximate inside elevation of 74.55).
12. Formed and placed concrete for wheel pit floor at el 77.21 integral with the two foot draft tube extension.
13. Placed the concrete around the discharge cone up to elevation 81.3 ensuring the drain pipe from the wheel pit to the tailrace is in place.

14. Placed the 3 ft thick headwall above the discharge cone embedment to the roof of the existing sweeping elbow thus completing the wheel pit chamber.
15. Installed the anti vortex hood.
16. Demoed the 4 inch cover slab from within the existing empty wheel pit.
17. Placed concrete within the existing wheel pit opening to receive the new generator frame, installing the level/positioning bolts for the frame.
18. Installed turbine, shaft, generator and mechanical equipment.
19. After final alignment placed second stage concrete around the generator frame locking it into place.
20. Cast the new precast removal cover over the wheel pit.

Again, this work sequence was employed for each of the two new generating units.

Please see the attached “Final Construction Report – Milford Hydroelectric Plant No. 1 and No. 2 Turbine Installation, Milford Hydroelectric Project (FERC No. 2534) (1732005.01)” for additional information, including photos depicting the work performed as part of the project (Attachment – Section 27 – Photos).

As a result of this capital investment, the Milford Hydroelectric Project will have an incremental 1.4 MW of installed capacity (21% increase) and is projected to produce an incremental 6,980 megawatt-hours of clean renewable energy annually.

### ***Project Specifications***

The Milford Hydroelectric Project is operated in a run-of-river mode, with a normal reservoir surface elevation of 101.7 feet msl. Other project specifications include: (1) an existing 226-foot-long by 85-foot-wide, 78-foot high brick powerhouse structure and a 1,159-foot long concrete gravity dam topped with 4.5-foot-high flashboards (hinged steel doors and inflatable crest control – rubber bladder behind steel panels); (2) the powerhouse now contains six generating units (four previously existing and the two new (700 KW each) with a total installed

generating capacity of 7.8 MW; (6) 50-foot transmission line; and (7) appurtenant facilities. The dam and existing project facilities are owned by the applicant.

***Project Financial and Production/Generation Information Related to New Capital Investment***

New Hampshire Admin. Code Puc 2505.07(d) defines in pertinent part that incremental new production in any calendar year from any hydroelectric generating facility licensed by the federal Energy regulatory commission, regardless of nameplate capacity, over the facility’s historical generation baseline qualifies as a Class I resource, ...”provided that the associated capital investments result in increased renewable energy output or improvements in the efficiency of electrical generation and provided that the incremental new production arises from the associated capital investment rather than operational changes at such facility.”

The new capital investment in the Milford plant and equipment during the installation of the two new turbine/generator units was \$3,939,440. Specifically, the investments in the improvements described above are as follows:

Civil/Mechanical	\$1,239,081
Supply installation of new switchgear and electrical equipment	\$643,370
Turbine/Generators	\$1,796,881
Engineering/Miscellaneous	<u>\$257,108</u>
Total	\$3,939,440

This capital investment made to install the two new generating units within vacant wheel pits within the Milford Project powerhouse gives Black Bear Hydro Partners, LLC additional hydraulic capacity. With this additional hydraulic capacity the Milford plant can take advantage of routine higher river flows and therefore generate more electricity with the new units. In other words, with the new units available the Milford Project will be able to produce incrementally

Black Bear Hydro Partners, LLC  
Request for Class I Eligibility  
Incremental New Production – Milford Hydroelectric Project  
Supplemental Information Sheet  
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more electricity by taking advantage of river flows that routinely exceed current hydraulic capacity of the four pre-existing units.

Specifically, the new units are projected to produce an incremental 6,980 MWH annually. Pursuant to Puc 2502.20, using the historical baseline (January 1, 1986 through December 31, 2005) the average annual production was 46,375 MWH. Adjusting the average annual production to include the new capital investment in the additional turbine/generator units would have resulted in a total production of 53,370 MWH. Therefore, the incremental capacity (1.4 MW or 21%) as a result of the new capital investment will result in an incremental production of 6,980 MWH, from the Milford Plant on an annual basis.

For additional information supporting the incremental new production calculations for the recent capital investment made to install the two new generating units at the Milford Project, please see the attached “Certification of Incremental Hydropower Production for ARRA Section 1603 Grant Program” prepared by Ryan Berg, PE, Kleinschmidt Associates. The Certification provides additional background information and was prepared for submittal in support of an application under the American Recovery and Reinvestment Tax Act of 2009 (Attachment – Section 27).