

STATE OF NEW HAMPSHIRE  
BEFORE THE PUBLIC UTILITIES COMMISSION  
DE 08-053

Public Service Company of New Hampshire  
Application for Class IV Renewable Energy Certificate Eligibility

BRIEF OF PETITIONERS  
GRANITE STATE HYDROPOWER ASSOCIATION  
AND ASHUELOT RIVER HYDRO, INC.

**I. Introduction**

On October 3, 2008, Granite State Hydropower Association (“GSHA”) and Ashuelot River Hydro, Inc. (“ARH”, and together with GSHA, “Petitioners”) petitioned the New Hampshire Public Utilities Commission (the “Commission”) to open an adjudicative proceeding in the above-captioned matter under N.H. Admin. Rule Puc 2505:13 and RSA 541-A:31. Petitioners contest the Commission’s September 23, 2008 initial decision (in the preceding non-adjudicative proceeding) to certify four hydroelectric power projects owned by Public Service Company of New Hampshire (“PSNH”) for Class IV RECs (Renewable Energy Certificates) under RSA 362-F:4, IV and the RPS rules at Puc 2500 et seq.

Petitioners object to the Commission’s September 23 decision on the grounds that the Commission failed to interpret the fish passage facility requirement in RSA 362-F:4, IV as the Legislature intended it to be applied (i.e. as requiring actual installation of FERC-approved upstream and downstream fish passage facilities), and

thus erroneously certified the four PSNH hydro projects<sup>1</sup> despite the fact that none of them have installed both upstream and downstream fish passage facilities.

In its October 10, 2008 Answer to GSHA's and ARH's Petition, PSNH took issue with a different part of the Commission's September 23 decision in the non-adjudicative proceeding, namely, the Commission's determination that a second group of four PSNH hydro projects<sup>2</sup> failed to qualify for Class IV RECs on the grounds that they each exceed the 5-megawatt nameplate capacity limitation in RSA 362-F:4, IV.

In its Order of October 28, 2008 commencing this adjudicative proceeding, the Commission characterized the issues in dispute – "i.e., the interpretation of RSA 362-F:4, IV as it applies to the 5 MW capacity of a source, and the installation of upstream and downstream fish passages as required by a FERC license" – as being essentially questions of statutory interpretation. But, noting that both Petitioners and PSNH had made certain factual allegations, the Commission scheduled a pre-hearing conference and asked the parties to try to reach agreement regarding "any necessary stipulations or admissions as to issues of fact..."

At the November 7, 2008 pre-hearing conference and technical session, Petitioners and PSNH agreed to file by November 17 a stipulation with respect to as many of the relevant facts as they could agree upon, but Petitioners also made clear that they reserved the right to supplement the record with affidavits on issues of fact on which they might not be able to agree with PSNH, acknowledging that they would expect PSNH to be allowed to submit counter-affidavits or to cross-examine Petitioners' witnesses at a subsequent evidentiary hearing.

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<sup>1</sup> Canaan, Gorham, Hooksett and Jackman

<sup>2</sup> Amoskeag, Ayers Island, Eastman Falls, and Garvins Falls

## **II. The Statute and the Factual Attributes of the PSNH Hydro Projects**

The criteria that an existing small hydroelectric facility (or “source”) must meet in order to qualify for Class IV RECs in New Hampshire are set out in RSA 362-F:4, IV, as follows:

Class IV (Existing Small Hydroelectric) shall include the production of electricity from hydroelectric energy, provided the source began operation prior to January 1, 2006, has a gross nameplate capacity of 5 MWs or less, 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 when required, has documented applicable state water quality certification pursuant to section 401 of the Clean Water Act for hydroelectric projects.<sup>3</sup>

Petitioners concede that each of the eight PSNH hydro projects meets the first and fourth criteria in the statute. Specifically, each began operation prior to January 1, 2006, and each, when required, has documented applicable state water quality certification under Section 401 of the Clean Water Act. The dispute between the parties centers on the meaning of the second and third criteria, namely, the 5 MW size limitation and the fish passage requirement.

Petitioners and PSNH have agreed on the specific factual attributes of the eight PSNH hydro projects to which the size limitation and the fish passage requirements must be applied, although they disagree about the meanings of these two requirements. The relevant factual attributes of the projects are set forth in Columns 3, 4, and 5 of Appendix

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<sup>3</sup> NH Admin. Rule Puc 2502.10 defines “Class IV source” as “a hydroelectric generating facility that began operation on or before January 1, 2006 and has a gross nameplate capacity of 5 megawatts or less, has installed FERC-required and approved upstream and downstream diadromous fish passages and has obtained all necessary state water quality certifications, to the extent the source is not used to satisfy certificate purchase obligations pursuant to RSA 362-F:4, I(j).”

A to the parties' November 17, 2008 Stipulation of Agreed Facts, and for ease of reference that one-page spreadsheet is attached hereto as Exhibit A.

In summary, the four largest projects would not qualify for Class IV status if the 5 MW size limitation applies to the total nameplate generating capacity at each generating facility or "station" (as shown in Column 4 of Exhibit A), but each of the four largest facilities or stations has individual generating units that could qualify (as shown in Columns 1 and 3 of Exhibit A) if the size limitation applies to individual generating units at a generating facility or station. The four smaller projects (Canaan, Gorham, Hooksett and Jackman) all have total station nameplate generating capacity of less than 5 MW, so they would each qualify on the basis of size. But whether they qualify on the basis of fish passage facilities (see Column 5 of Exhibit A) depends on whether the statutory requirement means (a) that both upstream and downstream fish passage facilities at a project must actually be installed and must meet specifications approved by FERC, or (b) that such projects can qualify for Class IV status without having upstream and downstream fish passage facilities, so long as FERC has not required them at the project in question.

### **III. Argument**

#### **A. The 5 MW Size Limitation**

Petitioners contend that RSA 362-F:4, IV requires that the total installed nameplate capacity of a "source", i.e. a generating facility, project or station (not an individual generating unit within a facility) must be no more than 5 megawatts. PSNH argues that a "source" is an individual generating unit, and that an individual generating unit can qualify if it has a nameplate capacity of not more than 5 MW, regardless of the

facility's total installed nameplate capacity. Thus, in PSNH's view, a 16 MW generating facility like Amoskeag could have two turbines, each with an installed capacity of 5 MW, that would qualify as Class IV sources, although the third turbine, at 6 MW, would not qualify.

The size issue turns on the meaning of the word "source" in RSA 362-F:4, IV, and specifically whether it refers to what is commonly called a "facility", "project", or "station", i.e. a single site at which hydroelectric power is produced, or to an individual generating unit within a facility, project, or station. Petitioners believe the answer is found in the statutory language and in the legislative history.

The language of the statute supports the conclusion that "source" refers to "generating facility" or "project." RSA 362-F:2, XV defines "source" interchangeably with the term "electrical generating facility." Moreover, the other three criteria for Class IV certification clearly refer to an entire project rather than to a single generating unit. They speak of a "source" or facility – not an individual generating unit – as beginning operation prior to a certain date, or having installed fish passage facilities, or a Section 401(c) water quality certificate. See RSA 362-F:4, IV.

The RPS statute, RSA 362-F, originated as House Bill 873. Its primary legislative sponsors were Rep. Suzanne Harvey, Vice Chair of the House Science, Technology and Energy Committee, and Sen. Martha Fuller Clark, Chair of the Senate Energy, Environment and Economic Development Committee ("Senate Energy Committee"). But the highly technical criteria for various classes of renewable energy generating facilities that would qualify for RECs in Classes I, II, III, and IV were negotiated and defined in a series of stakeholder meetings coordinated and led by the NH

Department of Environmental Services, and specifically by Air Resources Division Director Robert Scott and his deputy, Joanne Morin. See April 17, 2007 letter from NHDES Commissioner Thomas Burack to Senate Energy Committee Chair Martha Fuller Clark, attached as Exhibit B.

Attached as Exhibit C is a copy of relevant excerpts from the April 17, 2007 transcript of the legislative hearing before the Senate Energy Committee on House Bill 873. (A copy of the complete transcript is attached as Appendix D to the parties' Stipulation of Agreed Facts.) In that hearing, Joanne Morin from NHDES stated (at p. 10) that "...the concept behind it is to incent those hydroelectric facilities that are more at risk of not being able to compete economically because of additional requirements or that they're just very small, so that the economics are more difficult." And at p. 11 of the hearing transcript, Ms. Morin described the 5 MW size limit as applying to "New Hampshire *facilities*" and "small hydro *projects* in New Hampshire" (emphasis added). In other words, RSA 362-F:4, IV was intended to apply to small projects, 5 MW or less, not larger projects that may have one or more individual generating units with nameplate capacities of 5 MW or less. Incorporated into the legislative record is a letter from GSHA dated April 17, 2007 that clarifies the intent of the Class IV provisions set forth in RSA 362-F:4. The GSHA letter states that the intent of the Class IV language would apply where the "gross nameplate capacity of the *project* (emphasis added) is 5 MWs or less".

**B. *The Fish Passage Requirement***

With respect to fish passage, RSA 362-F:4, IV requires that electricity must be produced from a source that "...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.” Column 5 of Exhibit A shows that with the exception of Amoskeag,<sup>4</sup> none of the eight projects for which PSNH seeks Class IV certification have installed upstream fish passage facilities, and three (Canaan, Gorham and Jackman) have neither upstream nor downstream fish passageways.

Petitioners contend the statutory language means that in order to qualify for Class IV RECs, a project must actually have installed both upstream and downstream fish passage facilities, which fish passage facilities have been required and approved by FERC. In other words, Class IV RECs were intended to be made available only to those projects which, in order to meet environmental goals set by Federal natural resource agencies, have been required by FERC to provide for both upstream and downstream diadromous fish passage, at significant additional cost to the project (typically measured in the hundreds of thousands of dollars). The phrase “that have been required and approved under the terms of its license or exemption from [FERC]” is intended to qualify the object of the clause, i.e. “upstream and downstream diadromous fish passages”, not to condition the verb “has installed”. The purpose of the qualifying phrase was to prevent hydro project owners from installing cheap and inadequately designed fish ladders that had not been required or approved by FERC, simply in order to qualify for Class IV RECs.

By contrast, the Commission and PSNH appear to understand that the qualifying phrase “...that have been required and approved under the terms of its license or exemption from [FERC]” should be read to mean that if FERC has not required

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<sup>4</sup> Amoskeag and the three other larger projects would be disqualified by size.

fish passage facilities, then a project which does not have both upstream and downstream installed fish passage facilities could still qualify for Class IV certification. Petitioners acknowledge that such an interpretation may appear possible on its face, but submit that their interpretation is more reasonable, and much more clearly comports with the intent of the Legislature, for two reasons.

1. **Statutory Language.** Had the Commission's interpretation of the fish passage requirement been what the Legislature intended, the Legislature could easily have said "...has installed any upstream or downstream diadromous fish passage facilities that have been required under the terms of its license or exemption from [FERC]." Or, even more clearly, it could have said, "...when required under the terms of its license or exemption from [FERC]," as it did with respect to the very next criterion set forth in the statute, namely, state water quality certification. To paraphrase the New Hampshire Supreme Court in Green Crow Corporation v. Town of New Ipswich, 157 NH 344 (2008), at 157 N.H. 349: "Had the legislature intended [to accord Class IV status to facilities that have not installed upstream and downstream fish passage facilities in situations where FERC has not required them], it could have used language similar to [the "when required" language in the immediately following clause of the statute.]."

2. **Legislative Intent.** Where the language of a statute is clear and unambiguous, it is to be given its plain and ordinary meaning. But where, as here, a statute may be susceptible to more than one reasonable interpretation, then it is appropriate to consider and give weight to the intent of the enacting legislature. As the Supreme Court said in the Green Crow case, supra, at 157 N.H. 346:

Our rules of statutory construction are well-settled:

We are the final arbiter of the meaning of a statute as expressed by the words of the statute itself. We look to the plain and ordinary meaning of the words used in the statute and will not examine legislative history unless the statutory language is ambiguous, consider what the legislature might have said, or add words not included in the statute. We interpret a statute to lead to a reasonable result and review a particular provision, not in isolation, but together with all associated sections. The legislature will not be presumed to pass an act leading to an absurd result and nullifying, to an appreciable extent, the purpose of the statute.

*Weare Land Use Assoc. v. Town of Weare*, 153 N.H. 510, 511-12, 899 A.2d 255 (2006) (citations omitted). “Our goal is to apply statutes in light of the legislature’s intent in enacting them, and in light of the policy sought to be advanced by the entire statutory scheme.” *Town of Hinsdale v. Town of Chesterfield*, 153 N.H. 70, 73, 889 A.2d 32 (2005) (quotation omitted).

The Legislature’s intent in enacting RSA Chapter 362-F as a whole is expressed in Section 1, “Purposes”, which concludes with the sentence, “It is therefore in the public interest to stimulate investment in low emission renewable energy generation technologies in New England and, in particular, New Hampshire, whether at new or existing facilities.” As a threshold matter, Petitioners note that the Commission’s interpretation of the fish passage requirement in RSA 362-F:4, IV is not likely to stimulate investment of any kind at new or existing hydroelectric projects in New England, whereas Petitioners’ reading of the statutory language is consistent with the fact that significant new investment for fish passage facilities at existing projects is being required by FERC as diadromous fish gradually make their way past existing dams on the region’s major river stems – and in many cases that investment cannot economically be

made without revenue support from the sale of RECs. See, e.g., Exhibit D, Affidavit of Robert King, at Sections 5 and 7-10.

But in determining legislative intent in this case, the Commission also has the benefit of extensive testimony by the authors of the legislation and one of its prime legislative sponsors with respect to the much narrower question of the intended meaning of the fish passage requirement in RSA 362-F:4, IV. That testimony is set out in excerpts from the transcript of the April 17, 2007 legislative hearing on HB 873 before the Senate Energy Committee (Exhibit C attached), and is cited in and supported by letters to the Commission from Rep. Suzanne Harvey and Air Resources Director Robert Scott, as well as by the Affidavit of Robert E. King, (Exhibit D, attached) at paragraph 5.

In her testimony before the Senate Energy Committee (Exhibit C), NHDES spokeswoman Joanne Morin noted at page 9 that “There was some slight refining of the hydroelectric category, making sure that there’s adequate fish passage and language to that effect...” And at pages 10-11, there was the following colloquy among Sens. Fuller Clark and Odell and NHDES witnesses Scott and Morin:

Senator Martha Fuller Clark, D.24: Are there other questions for either Bob Scott or Joanne Morin?  
Senator Odell.

Senator Bob Odell, D.8: Thank you, Madam Chair. Tell me a little bit about the fish ladders, and how important that is, and...whether or not we’ve addressed the right kind of fish and things in this, I’ve heard we might not have, and—

(Laughter.)

Ms. Joanne Morin: I’ll try. We might have to defer to stakeholders. But the idea being that we were — the concept behind it is to incent those hydroelectric

facilities that are more at risk of not being able to compete economically because they have additional requirements or that they're just very small, so that the economics are more difficult. So, and also there's a push-and-pull on hydro; you know, you know, some people think any hydro-electric is very positive renewable energy. There are some that feel that there's an environmental tradeoff in terms of impacts to streams and fishways and fish and so forth.

So what this says is that the ones that would get this RPS additional incentive would be ones that actually have both fish ladders for wild fish to migrate up and downstream. The word that was used would include things like migrating eels as well as things like salmon that spawn upstream, as opposed to eels that live upstream and go to the ocean to breed. So it's trying to do joint, as I understand it, and a stakeholder may have to – I'm not an expert, but that's I think the layman's explanation.

Director Robert Scott: “Dianadromous” (laughing).

Ms. Joanne Morin: Diana..., yeah. Which would include both the eels and the salmon; in other words, both the eels that need to come down and the salmon that need to come up to spawn.

Director Robert Scott: So the language now allows free flow of fish going both ways, basically.

Ms. Joanne Morin: Both ways. So we believe these to be the most – you know, that 's a lot of investment for a small dam, and those to warrant an economic incentive.

Consistent with the excerpts from the hearing transcript cited above, Rep. Harvey, a prime sponsor of the RPS legislation, who requested intervenor status in the instant docket in her letter of November 3, 2008, said in her comment letter to the Commission dated August 20, 2008 (Exhibit E):

...In testimony before the Senate Committee on Energy, Environment and Economic Development on HB 873, DES clarified that the Class IV facilities in HB 873 were small hydroelectric facilities that had both upstream and downstream fish ladders. The intention was for these facilities to warrant economic incentive through the mechanisms in HB 873. The reference in the final statute (RSA 362-F) to “approved under its FERC license or exemption” was intended to set a standard for the construction of the required fish ladders.

Some stakeholders voiced a concern that without that language, a facility could add a substandard structure, claim it to be a fish ladder, and thereby qualify as a Class IV facility. Both House and Senate Committees ultimately focused on limiting Class IV facilities to those with existing fish ladders.

Air Resources Division Director Robert Scott, who requested intervenor status in this docket on November 4, 2008, made virtually the same point in his August 18, 2008 comment letter to the Commission (Exhibit F).

In Green Crow, *supra*, at 157 N.H. 346, the state Supreme Court said:

... We interpret a statute to lead to a reasonable result... The legislature will not be presumed to pass an act leading to an absurd result and nullifying, to an appreciable extent, the purpose of the statute.

As noted, Petitioners contend that the purpose of the fish passage requirement in RSA 362-F:4, IV was to incent and support investment in costly fish passage facilities that have been required by FERC at existing dams in order to meet environmental goals. But even if that is not clear, it cannot be presumed that the Legislature would have intended

that Class IV RECs would be so readily available that they would become worthless to the owners of Class IV hydro facilities.

Appendix C to the November 17, 2007 Stipulation of Agreed Facts is a FERC list of licensed and exempted hydro projects of 5 MW or less in the six New England states. It includes a total of 374 individual hydro projects, with a total of some 478 MW of installed capacity. As agreed by the parties in Section 4 of the Stipulation, the market for 2008 Class IV RECs can be filled by approximately 15 MW of existing small hydro capacity, and the market for 2009 and subsequent years can be filled by approximately 30 MW.

So, there is approximately 32 times the required small hydro capacity in New England that would qualify by size for 2008 Class IV RECs (and 16 times the amount needed to satisfy the demand for Class IV RECs in 2009-2025), assuming that virtually all of the projects on the FERC list could also qualify with respect to the fish passage requirement. And virtually all of them would qualify if the four small PSNH projects do, because if upstream and downstream fish passages do not have to be installed in order to qualify for Class IV RECs unless they have been required by FERC, then effectively all these FERC-listed projects would qualify. The result would be that the value of Class IV RECs would drop from close to the Alternative Compliance Payment (\$28) to less than a dollar. See Affidavit of Harry Wolf (Exhibit G attached) and Affidavit of Robert King (Exhibit D) at paragraphs 6 and 9. As Messrs. Wolf and King suggest, the market for New Hampshire Class IV RECs would easily be flooded, projects such as those of ARH would not be able to recover the costs of installing upstream and downstream fish passage, and a number of such projects would have to shut

down for failure to meet FERC license or exemption requirements. Such a result is certainly not what the legislature intended.

**IV. Conclusion**

For the reasons set forth herein, Petitioners respectfully request the Commission to (a) confirm its initial decision, in the preceding non-adjudicative proceeding, to deny Class IV certification to the four largest of the eight hydro projects for which PSNH seeks certification on the grounds that they each exceed 5 MW in capacity, (b) deny Class IV status and revoke the initial certification granted to the four smallest PSNH projects on the grounds that they have not installed both upstream and downstream fish passage facilities meeting specifications approved by FERC, and (c) deny Class IV status and revoke all other initial certifications granted to hydro facilities of other applicants (including without limitation FPL Energy Maine Hydro, LLC) that have not installed both upstream and downstream fish passage facilities meeting specifications approved by FERC.

Respectfully submitted,

GRANITE STATE HYDROPOWER ASSOCIATION  
and  
ASHUELOT RIVER HYDRO, INC.

By Their Attorney

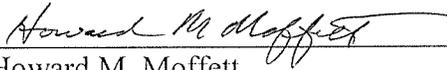
Date: November 24, 2008

  
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Certificate of Service

I hereby certify that on this date written below, I caused the attached Brief of Granite State Hydropower Association and Ashuelot River Hydro, Inc. to be served in accordance with the provisions of NH Admin. Rule Puc §203.11.

Date: November 24, 2008

  
Howard M. Moffett

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EXHIBIT A

Facility	Date In Service	Gross Nameplate Capacity (MW)	Station (MW)	Diadromous Fish Passage	Water Quality Certification	ISO-NE Asset ID	NEPOOL GIS Facility Code	FERC License	River	Station Address	Latitude	Longitude
Amoskeag G-1*	1924	6.00	16.00	Upstream & Downstream	CWA Section 401	327	MSS327	1893	Merrimack	Amoskeag Station 15 Fletcher Street Manchester, NH	43° 00' 08" N	71° 28' 21" W
Amoskeag G-2	1924	5.00										
Amoskeag G-3	1922	5.00										
Ayers Island G-1	1924	2.80	8.40	Downstream <sup>1</sup>	CWA Section 401	330	MSS330	2456	Pemigewasset	Ayers Island Station 59 Ayers Island Road Bristol, NH	43° 35' 51" N	71° 43' 01" W
Ayers Island G-2	1924	2.80										
Ayers Island G-3	1924	2.80										
Canaan G-1	1927	1.10	1.10	None <sup>2</sup>	NH & VT <sup>5</sup>	861	MSS861	7528	Connecticut	Canaan Station 344 Powerhouse Road Canaan, VT 05903	44° 59' 47" N	71° 32' 02" W
Eastman Falls G-1	1937	1.80	6.40	Downstream <sup>1</sup>	None <sup>6</sup>	401	MSS401	2457	Pemigewasset	Eastman Falls Station 215 North Main Street Franklin, NH 03235	43° 26' 51" N	71° 39' 30" W
Eastman Falls G-2	1983	4.60										
Garvins Falls G-1	1981	3.30	12.20	Downstream <sup>1</sup>	CWA Section 401	768	MSS768	1893	Merrimack	Garvins Falls Station 5 Garvins Falls Road Bow, NH 03304	43° 09' 53" N	71° 30' 27" W
Garvins Falls G-2	1981	3.30										
Garvins Falls G-3	1925	2.40										
Garvins Falls G-4	1925	3.20										
Gorham G-1	1917	0.40	2.15	None <sup>2</sup>	CWA Section 401	427	MSS427	2288	Androscoggin	Gorham Station 1 Station Road Gorham, NH 03581	44° 23' 20" N	71° 09' 52" W
Gorham G-2	1917	0.40										
Gorham G-3	1923	0.675										
Gorham G-4	1923	0.675										
Hooksett G-1	1927	1.60	1.60	Downstream <sup>3</sup>	CWA Section 401	768	MSS768	1893	Merrimack	Hooksett Station 73 Merrimack Street Hooksett, NH 03106	43° 06' 03" N	71° 27' 54" W
Jackman G-1	1926	3.20	3.20	None <sup>4</sup>	None <sup>7</sup>	449	MSS449	None <sup>8</sup>	North Branch Contoocook	Jackman Station 8 Sawmill Road Hillsborough, NH	43° 06' 44" N	71° 55' 32" W

\* Amoskeag G-1 was not in original application

<sup>1</sup> Upstream fish passage not required under FERC license

<sup>2</sup> Upstream and downstream fish passage not required under FERC license

<sup>3</sup> Upstream fish passage required three years after 9,500 shad or 22,500 river herring pass Amoskeag Station

<sup>4</sup> Outside of FERC jurisdiction; fish passage not required

<sup>5</sup> New Hampshire Water Supply and Pollution Control Commission and Vermont Department of Water Resources and Environmental Engineering issued water quality certificates on August 2, 1983 and May 10, 1984, respectively

<sup>6</sup> CWA Section 401 certification not required under FERC license

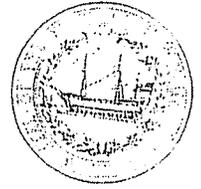
<sup>7</sup> Outside of FERC jurisdiction; water quality certification not required

<sup>8</sup> Outside of FERC jurisdiction

EXHIBIT B



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



Thomas S. Burack, Commissioner

April 17, 2007

The Honorable Martha Fuller Clark, Chairman  
Senate Energy, Environment and Economic Development Committee  
Legislative Office Building, Room 102  
Concord, NH 03301

Re: HB 873 relative to establishing minimum renewable standards for energy portfolios

Dear Chairman Fuller Clark and Members of the Committee:

The Department of Environmental Services (DES) is pleased to testify in support of House Bill 873, which establishes minimum renewable energy standards for energy portfolios, also commonly referred to as a renewable portfolio standard (RPS). The RPS is a flexible, market-driven policy that can ensure that the environmental and other public benefits of wind, solar, biomass, geothermal energy and other renewable resources continue to be recognized as electricity markets become more competitive. The policy ensures that a minimum amount of renewable energy is included in the portfolio of electricity resources serving the state and, by increasing the required amount over time, the RPS can put the electricity industry on a path toward increasing sustainability. Because it is a market standard, the RPS relies almost entirely on the private market for its implementation. Market implementation will result in competition, efficiency, and innovation that will deliver renewable energy at the lowest possible cost. Currently there are 23 states plus the District of Columbia that have RPS policies in place. Together these states account for more than 42% of the electricity sales in the United States.

An RPS requires each supplier of electricity (i.e., Public Service Company of New Hampshire, Unitil, National Grid, and New Hampshire Electric Cooperative) to obtain renewable energy certificates for a certain percentage of the power (measured in megawatt hours, MWhrs) that they ultimately supply to customers. Each renewable energy certificate (REC) represents one MWh (or 1,000 kilowatt hours) of power generation from a renewable energy source such as biomass or wind. RECs for renewable electric energy meeting New Hampshire RPS requirements would be recorded, on behalf of the State, by the administrator of the Independent System Operator (ISO) for New England and tracked in the ISO Generation Information System (GIS), which is used to document the renewable attributes of electrical generation in New England. The ISO GIS currently fulfills similar administrative functions for renewable energy generated for RPS in all other New England states.

The University of New Hampshire's Whittemore School of Business and Economics recently conducted an analysis (the UNH study) of the impact of the proposed bill on New Hampshire ratepayers and the economy. The UNH study concluded that although there would be modest costs incurred in the short term, overall there would be a net positive economic and environmental benefit. A New Hampshire RPS would also provide a hedge against the price volatility of natural gas and other sources of energy price volatility, help diversify the State's power generation, reduce dependency on imported sources of fuel, increase the potential for new renewable energy development within the State, and help facilitate the efficient use of existing

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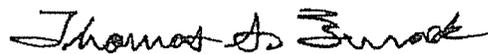
renewable energy resources. The UNH study forecasts the creation of 1,100 new full-time jobs and the generation of \$1 million in state revenue annually in 2025 as a result of this bill. The UNH model demonstrates that New Hampshire ratepayers would likely see less than a 2% increase in rates, or less than \$1.25 per month per household. However, this projection does not account for any potential reduction in regional energy prices as a result of reduced demand for natural gas (and modulation of price volatility) due to the development of local renewable energy resources.

Implementing a renewable portfolio standard for New Hampshire is good energy policy, as it makes sense both economically and environmentally. Renewable resources reduce emissions of greenhouse gases contributing to climate change as well as other forms of air pollution such as particulate matter and sulfur dioxide. An RPS will contribute to long term energy price stability, expand energy sources, create new energy technology jobs, and improve economic development in New Hampshire while reducing reliance on imported energy and avoiding associated price spikes. An RPS will also create incentives for renewable energy infrastructure investment, thus helping to promote investment in development of new renewable energy facilities in New Hampshire. This legislation, through the market signals it sends, will also begin the process of creating a long term energy "insurance policy" for New Hampshire energy ratepayers.

The proposed bill represents an extensive stakeholder process that began last session with Senate Bill 314 and continued into this year's legislative session. Stakeholders included electric utilities, renewable energy producers (hydroelectric, solar, biomass, etc.), environmental interests, and implementing regulatory agencies. DES believes the current bill language strikes a reasonable compromise which all stakeholders can support. This was evident during the seven hours of testimony supporting the bill received by the House Science, Energy and Technology Committee. An RPS provides a competitive environment for less polluting renewable resources, sends a market signal to investors in renewable energy projects, and safeguards long term energy rates.

DES looks forward to continuing to work with the sponsors and supporters of this bill to motivate development of renewable energy resources in New Hampshire and the region. Thank you for the opportunity to provide testimony. Should you have further questions or need additional information, please feel free to contact Robert R. Scott, Director, Air Resources Division (271-1088, [rscott@des.state.nh.us](mailto:rscott@des.state.nh.us)) or Joanne Morin, Program Administrator (271-5552, [jmorin@des.state.nh.us](mailto:jmorin@des.state.nh.us)).

Sincerely,



Thomas S. Burack  
Commissioner

cc: HB 873 sponsors

EXHIBIT C

Free

Date: April 17, 2007  
Time: 1:15 p.m.  
Room: State House Room 100

COPY

The Senate Committee on Energy, Environment and Economic Development held a hearing on the following:

HB 873-FN-L establishing minimum renewable standards for energy portfolios.

Members of Committee present:

- Senator Fuller Clark
- Senator Hassan
- Senator Cilley
- Senator Sgambati
- Senator Barnes
- Senator Odell

---

Senator Martha Fuller Clark, D. 24: I'd like to have the attention of everyone here before I actually have Senator Hassan open the hearing on HB 873. We have allowed two hours for this bill. You will know that the House Committee had an all-day hearing on this legislation, at which the members heard overwhelming support for the RPS bill. So far, looking at our list, that no one has signed up in opposition to this bill. So when many of you might like to speak, it's really important that we bring this hearing to a close around quarter of three, if at all possible. So I really would encourage you, if you have written testimony, to hand it in; but we'd like to be able to move this bill forward.

And so I just wanted -- and the first part of the hearing testimony will be an explanation for the Committee members from both Joanne Morin, from the Department of DES, who has provided extraordinary leadership as we have shaped and reshaped and reshaped this legislation, and also then from Ross Gittell, who will provide the information that looks at the economic impact. And then, after, but we'll let the sponsors or co-sponsors to be able to speak first, just to open the hearing, and then we will call on other individuals. So just so that you have a sense of how we're going to proceed, I wanted to lay that out at the very beginning. And now I would like Senator Hassan to open the hearing.

file

the constraints of time we have a handout with some of the highlights of the bill, again, kind of summarizing it, but we can answer any detailed questions that you have. I don't want to cut your questions short; I just want to move along for time. So, with that, I'll end my comments, but certainly we're here for questions. And, again, we would like to bring the UNH professors to talk about the economics.

Senator Martha Fuller Clark, D. 24: I do have a question for Joanne Morin, and that is, could you briefly share with us what were some of the changes that were made in the House amendment?

Ms. Joanne Morin, New Hampshire Department of Environmental Services: The changes that were made were that the percentage for new renewables was increased over time; the percentage had stopped at 2015, it was moved up a little bit sooner, I think by one year, and increasing out to 2025, balanced by PUC reviews to see how the cost of RECs are going and see if this working in the way we thought it would, economically, so that we feel we have sort of a mechanism if it doesn't work as predicted.

Other major, we did add two more PUC reviews as well; people really thought that was a good mechanism to keep tabs on the bill and be able to adjust it over time. The purchase power agreements are long-term contracts that Bob Scott mentioned. The provision to allow those on a voluntary basis was added to the bill. In the bill that was passed ... the bill that was passed last year out of the Senate Committee because it didn't get amended in the House, there were discussions of further amendments, a municipal solid waste was one of the qualifying renewable energy resources, and that is no longer in the bill, after House discussion.

There was some slight refining of the hydroelectric category, making sure that there's adequate fish passage and language to that effect. There was a slight modification to Class II on the solar replacement; it used to say replacement of electric hot water with either the solar or biomass renewable resources. We were supportive, actually, of having that, the biomass renewable resources for replacing electric hot water, but there was a problem with that in that there is, um, outdoor wood boilers are becoming an issue and may be an issue for the State, they're uncontrolled. Bob Scott can speak to it better than I can. DES has a concern with how we're going to regulate those, and this might have been interpreted to give actually an incentive to outdoor wood burners and we need to deal with that before we get this into this bill. So we needed to take it out for now, because of that potential, unintended consequence.

We adjusted the alternative compliance payments. As you know, how you comply with this bill is either by buying RECs on the market; if RECs are not available because of a maximum price, the electric supplier can pay into an alternative compliance payment; it's basically a price cap on this, it's very common in RPS bills. And we wanted to -- we're trying to make a regional market and so we just matched our payments for new renewables to the Massachusetts market to make them more fluid and joint regional market that seems to be driving the prices as the mass market. But those are very slight adjustments.

And then, Bob Scott also spoke to the thermal study committee, and the thermal energy is energy to produce heat, if you're not familiar with that term. So, wood-pellet stoves for heating is the part that we'd like to try to get some incentive on the thermal side; in other words, producing heat with renewables. This is an electric Renewable Portfolio Standard for that study committee. So those are the main changes.

Senator Martha Fuller Clark, D. 24: Are there other questions for either Bob Scott or Joanne Morin? Senator Odell.

Senator Bob Odell, D. 8: Thank you, Madam Chair. Tell me a little bit about the fish ladders, and how important that is, and ... whether or not we've addressed the right kind of fish and things in this, I've heard we might not have, and --

(Laughter.)

Ms. Joanne Morin: I'll try. We might have to defer to stakeholders. But the idea being that we were -- the concept behind it is to incent those hydroelectric facilities that are more at risk of not being able to compete economically because they have additional requirements or that they're just very small, so that the economics are more difficult. So, and also there's a push-and-pull on hydro; you know, you know, some people think any hydroelectric is very positive renewable energy. There are some that feel that there's a environmental tradeoff in terms of impacts to streams and fishways and fish and so forth.

So what this says is that the ones that would get this RPS additional incentive would be ones that actually have both fish ladders for wild fish to migrate up and downstream. The word that was used would include things like migrating eels as well as things like salmon that spawn upstream, as opposed to eels that live upstream and go to the ocean to breed. So it's trying to do joint, as I understand it, and a stakeholder may have to -- I'm not an expert, but that's I think the layman's explanation.

Free

Director Robert Scott: "Dianadromous" (laughing).

Ms. Joanne Morin: Diana ..., yeah. Which would include both the eels and the salmon; in other words, both the eels that need to come down and the salmon that need to come up to spawn.

Director Robert Scott: So the language now allows free flow of fish going both ways, basically.

Ms. Joanne Morin: Both ways. So we believe these to be the most -- you know, that's a lot of investment for a small dam, and those to warrant an economic incentive.

Senator Martha Fuller Clark, D. 24: Yes, follow-up.

Senator Bob Odell, D. 8: How do we get to the five megawatts, we're talking about hydro; who's included or who's not included?

Ms. Joanne Morin: We looked at that, it includes a large -- I don't have the percentage off the top of my head; we did look at New Hampshire's facilities, we believe it includes a large percentage, you know, greater than three-quarters of the facilities in New Hampshire. There are some large facilities in New Hampshire that would not be included. And we also feel there is relatively smaller competition from the other states at that level, so that's one consideration. Kind of a little bit of a favoring New Hampshire facilities.

Is it a scientific number, five versus six or seven? No. I can't say that it is. A little bit more of a level of magnitude in terms of being a very small number that everyone was comfortable with that tried to bring in as many small hydro projects in New Hampshire.

Director Robert Scott: And, again, as I mentioned, we were trying to tailor this as much as possible to New Hampshire; that overall we're worried about -- there's a concern that perhaps Quebec Hydro plants could just -- we'd basically be sending all our money to Quebec, and we didn't think that was such a good idea, so we were setting a limit, basically.

Senator Bob Odell, D. 8: Thank you. Thank you, Madam Chair.

(Please see above-referenced NH Department of Environmental Services packet attached hereto as Attachment #2.)

I will be very brief. We are in support of the bill as it currently stands. National Grid does support Renewable Portfolio Standard policies. The committee (sic) feels that it's a very important additional tool to add to other tools that customers have, namely, energy efficiency programs which the company has been very committed to, is very committed to working with customers to help them manage their energy bills and mitigate price volatility.

There are two aspects of the bill that are of particular importance to the company that we're supportive of the way it's currently drafted. One has to do with reference to the default service charge and recovering compliance costs with the RPS through that charge. I think the company, and other stakeholders, agreed and recognized that compliance costs are a supply-related cost. And for National Grid, who's out of the generation business and purchases all of its electricity needs on the competitive market, it recovers prudently incurred costs through that default service charge, and so this legislation recognizes that RPS compliance costs should also be recovered there.

And then the other provision that's of importance to National Grid, and we support the way it's currently drafted, is the long-term contracting language, or the multi-year contracting language which is written as being voluntary, and the company supports that. It gives companies, the customers and other stakeholders flexibility in not mandating anything that could potentially have unintended consequences.

Senator Martha Fuller Clark, D. 24: Thank you very much.

Ms. Heidi Kroll: So with that, I will wrap it up.

(Please see written testimony of National Grid hereto attached as Attachment #13.)

Senator Martha Fuller Clark, D. 24: Questions for Ms. Kroll? Thank you. Jonathan Winer. Granite State Hydro Association.

Mr. Jonathan Winer, Granite State Hydropower Association: Thank you, Madam Chair. My name is Jonathan Winer, on behalf of the --

Senator Martha Fuller Clark, D. 24: "Winer," I'm sorry.

Mr. Jonathan Winer: That's fine -- Granite State Hydropower Association. Very briefly, in light of the clock, we support the bill as drafted. What we ask

is that the discussion that was, I think Senator Odell prompted earlier with regard to types of fish passageways that qualify, we address that in our written comments, request that somehow, if you agree, become part of legislative record, to show the types of fish passageways.

As you might expect, the industry has very diverse situations and nuances, and the legislation as we worked on it with the House committee, attempts to reflect that, and we believe the language is clear, but we think some additional demarcation by the Senate would be useful.

Senator Martha Fuller Clark, D. 24: Thank you very much. Any questions? Yes.

Senator Bob Odell, D. 8: Thank you. I have a constituent who uses the term, "substandard fish facilities" merely to become eligible for the RPS benefit? Are we -- are the five megawatt, the low people, basically okay in this legislation?

Mr. Jonathan Winer: Yes, I think that point you're making is the point I was trying to address, quickly, which was that there are various types of fish passageways, and if the comments that we offered in writing are agreeable to the Committee, then if those are adopted as the intent, I think the issue of "substandard" will go away.

Senator Bob Odell, D. 8: Okay. Thank you.

Mr. Jonathan Winer: That's our concern as well. Thank you very much.

(Please see Granite State Hydropower Association letter of testimony attached hereto as Attachment #14.)

Senator Martha Fuller Clark, D. 24: Thank you very much. I'd like to call upon Maura Weston.

Ms. Maura Weston, Ridgewood Power Management: Good afternoon, Madam Chair and members of the Committee. I will try to be as brief as possible, and I'll follow up with written testimony for the Committee members. My name is Maura Weston. I'm here today on behalf of Ridgewood Power Management. Bill Short from Ridgewood intended to be today, but was called away for a family emergency, so I'm going to be delivering these remarks.

Ridgewood owns, operates, manages and develops renewable electricity-generating facilities, including biomass, landfill gas and hydroelectric

**GRANITE STATE HYDROPOWER ASSOCIATION, INC.**TWO COMMERCIAL STREET  
BOSCAWEN, NEW HAMPSHIRE 03303TELEPHONE: 603-753-4577  
EMAIL: [gsha@essexhydro.com](mailto:gsha@essexhydro.com)

April 17, 2007

COPY

Senator Martha Fuller Clark, Chairwoman  
Senator Margaret W. Hassan, Vice Chairwoman  
Senate Energy, Environment and Economic Development Committee  
State House  
107 North Main Street  
Concord, NH 03301

Re: HB 873-FN – Electric Renewable Portfolio Standard

Dear Chairwoman Fuller Clark, Vice Chairwoman Hassan, and Members of the  
Committee:

On behalf of The Granite State Hydropower Association ("GSHA"), thank you for the opportunity to comment in support of HB 873, the Electric Renewable Portfolio Standard ("RPS") legislation that you are now considering. As you may recall, GSHA is a non-profit trade association that represents approximately 45 New Hampshire hydroelectric facilities which have a total installed capacity of approximately 50 MW.

GSHA supports the legislation in its present form. Below, we highlight a topic concerning existing hydroelectric facilities on which we request that the Committee confirm the legislative intent; we also offer a brief explanation of the importance of this legislation to our members.

**Intent of Class IV Language (362-F:4)**

The Committee will note that there are a number of requirements for a hydroelectric project to meet in order to be classified within Class IV in HB 873. These are that:

- (i) "the source began operation prior to January 1, 2006";
- (ii) the "gross nameplate capacity" of the project is "5 MWs or less";
- (iii) the project "has installed upstream and downstream dianadromous [sic] fish passages that have been required and approved under the terms of its license or exemption from the Federal Energy Regulatory Commission"; and
- (iv) the project "when required, has documented applicable state water quality

\_\_\_\_\_ PRODUCING ELECTRICITY FROM A RENEWABLE RESOURCE. \_\_\_\_\_

certification pursuant to section 401 of the Clean Water Act.”

GSHA thinks that requirements (i), (ii) and (iv) are clear and straightforward. However, requirement (iii) warrants two comments on changes made during the concluding meetings of the House Science, Technology and Energy Committee concerning this proposed legislation.

First, the word “diadromous” is misspelled and should be changed. This was a technical drafting error.

Second, the future administration of the RPS will benefit to the extent the legislative intent of requirement (iii) is clear.

The goal of limiting eligibility to hydroelectric projects with both upstream and downstream fish passages is to recognize that projects with such facilities have gone to great capital expense and incur meaningful operating costs by virtue of supporting the migration of fish. Importantly, stakeholder discussions regarding the significant capital and operating costs of certain fish passages focused on fish passages designed to facilitate the upstream migration of salmon, shad, herring, and other “anadromous” fish.

In the course of its review, GSHA learned that some small projects in New York State have upstream and downstream fish passages designed solely for eels. Although the eel passages at those projects are relatively inexpensive to install and operate, the projects would have qualified under the Class IV definition, as originally drafted. To correct the problem, at GSHA’s request, the House Committee changed the referenced definition concerning fish passages to read: “. . . has installed upstream and downstream diadromous fish passages that have been required . . . .” By adding the word “diadromous,” the projects that will potentially benefit from Class IV eligibility will be as the stakeholders and the Bill’s sponsors intended, i.e. those that went to the substantial expense of installing at least anadromous fish passages.

In summary, it is GSHA’s understanding that the Legislature intends the Class IV definition in HB 873 to apply to any hydroelectric project which has been required to and has provided, at a minimum, upstream and downstream anadromous fish passages, and, in the event that catadromous fish passages also happen to be required by the regulatory agencies, then the project must also have upstream and downstream catadromous fish passages. Conversely, if a project has fish passages only for catadromous fish but not for anadromous fish, then the project will not qualify.

### Importance of Legislation

GSHA owners and operators face a challenging scenario. On the one hand, there is growing public policy recognition of the value of emission-free, indigenous energy resources that can be priced in a stable manner. On the other hand, increasing numbers of GSHA projects are no longer covered by firm contracts and face the volatile wholesale electric energy market. In addition, most of the GSHA projects are approximately 20 years old and are incurring increased maintenance costs. Some projects face costly required upgrades for fishway and other improvements.

These issues are present even though hydroelectric projects have no fuel cost. This is because the absence of fuel costs is more than offset by hydro project capital costs and increasing unit maintenance costs. Further, the proper operation of small hydro projects can be labor intensive per unit of output. This combination of factors produces marginal economics at some sites. Thus, the inclusion of certain existing hydroelectric facilities in proposed RPS Class IV is important financially and sends a meaningful signal to owners of eligible facilities which can make a contribution to the policy goals of the RPS legislation.

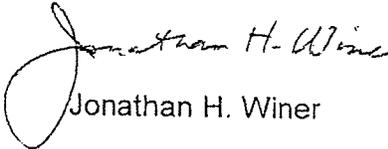
**Conclusion**

Once again, GSHA supports the proposed legislation, appreciates the opportunity to provide these comments, and would be pleased to respond to any questions or provide further information if needed.

Thank you again for your continuing efforts regarding RPS legislation.

Sincerely,

GRANITE STATE  
HYDROPOWER ASSOCIATION

  
Jonathan H. Winer

Copies:

Members of the Committee

Ms. Joanne Morin  
Mr. Robert Scott  
NH Department of Environmental Services  
29 Hazen Drive, PO Box 95  
Concord, NH 03302

EXHIBIT D

**STATE OF NEW HAMPSHIRE  
BEFORE THE PUBLIC UTILITIES COMMISSION**

DE 08-053

Public Service Company of New Hampshire  
Application for Certification of Class IV Renewable Small Hydroelectric Facilities

**AFFIDAVIT OF ROBERT E. KING**

I, Robert E. King, being duly sworn, do hereby depose and state as follows:

(1) I am a citizen of Stoddard, New Hampshire, residing at 127 Taylor Pond Road.

(2) I am the president of Ashuelot River Hydro, Inc ("ARH"), a New Hampshire corporation formed in 2007 for the specific purpose of acquiring, owning and operating the Lower Robertson and Ashuelot Paper small hydroelectric power plants (the "Facilities") in Winchester, New Hampshire. Each of these plants has an installed capacity of about 900 KW.

(3) ARH purchased the Facilities from Algonquin Power Systems after offering the high bid for these Facilities. Among other things ARH considered in preparing its bid was the potential revenue generation at these Facilities. The revenue generation is the combination of sales of energy, capacity and Renewable Energy Certificates ("RECs").

(4) At the time of ARH's bid, I was aware that the Facilities had successfully installed downstream fish passage under orders from the Federal Energy Regulatory Commission ("FERC"). I was also aware that there were outstanding FERC orders to install upstream fish passage at both Facilities at such time as the next dam downstream

of the Facilities, Fiske Mill, installed upstream passage and passed a certain number of fish. I and my partner were further aware that such installations are costly and could potentially render small hydro plants of the size of the Facilities uneconomical. Fiske Mill is now constructing upstream passage and intends to have it operational by summer, 2009. We estimate that we will have to begin installation at our plants in 2010.

(5) Prior to our bid, I had followed closely the progress of the Renewable Portfolio Standard as it wended its way through the New Hampshire House and Senate. In order to fully understand the RPS bill, I had contacted the offices of various Representatives and Senators while the bill was being crafted. I thought I had a very clear understanding of what was required of Class IV resources, to wit, they must have both upstream and downstream fish passage and it must have been required and approved by FERC. That is to say a hydro owner could not simply whip up a sub-standard fish passage system to qualify for Class IV. Never in my wildest dreams did I think Class IV would include any hydro other than that with upstream and downstream fish passage. It is generally recognized by most states' RPSs that existing hydro projects greater than 500 KW are well established and do not need significant incentive from sales of RECs. But it is also recognized that the minority of small hydro projects with upstream and downstream fish passage must bear significantly higher operating costs to keep fish passage functional. Fish passage also diverts water from the turbines resulting in less revenue generation. All of this is to say nothing of the cost of installation of fish passage.

(6) During the preparation of our bid, my partner and I analyzed the value that NH Class IV RECs would bring to the Facilities should we actually install upstream fish passage. We determined, based on our knowledge of those small hydros in ISO New

England territory with upstream and downstream fish passage installed or soon to be installed, that NH Class IV would not easily be sold out and that therefore we could count on a REC value approaching the Alternative Compliance Price ("ACP") of \$28/Mwh.

(7) The actual cost to install upstream fish passage at our Facilities will be significant compared to the price we paid for these facilities. We do not have any current estimates, in part because we do not yet have approved designs for the upstream fish passage. We have found in the outdated files of the previous owners "back of the envelope" estimates for upstream fish passage which, when adjusted for 2008 dollars, indicate possible cost for upstream fish passage over \$700,000 (\$20,000 for engineering; \$614,000 for construction of actual passage; \$80,000 for crowding apparatus and electronic monitoring, which were not included in estimates). We are aware of another project in New Hampshire that installed similar upstream fish passage many years ago that, when adjusted for 2008 dollars, cost \$731,000. My partner and I operate another hydro project in Massachusetts, installed capacity 1400 KW, with upstream fish passage installed in the mid-90's at a cost of \$2,500,000.

(8) All we know for sure is that when FERC requires us to install upstream fish passage it may cause us to shut down the plants if we cannot count on the sale of NH Class IV REC's at a price reasonably close to the ACP. This is what we counted on when we crafted our bid. This is what is necessary to help offset the cost of the mandated upstream fish passage. In our discussions with legislators and non-governmental organizations involved in the RPS, this is exactly the point of Class IV: to help defray the cost of upstream fish passage since said passage provides a public good (the restoration of various fish populations) and comes at significant cost to the hydro project.

(9) We are aware that the NHPUC has certified several small hydroelectric plants for Class IV REC eligibility even though the plants do not have upstream and downstream fish passage. We understand intuitively and in fact have heard from our colleagues in the industry that these certifications have severely reduced the value of Class IV RECs.

(10) At such time as FERC mandates installation of upstream fish passage at our Facilities, if we cannot sell RECs at a rate approaching the ACP, we may be forced to shut down the plants. If it is uneconomical to construct and operate fish ladders, then we will have no choice. At that point, the public will lose a small amount of carbon-free energy generation. And those fish species which may have been restored to the Ashuelot River will have to go elsewhere to spawn because nobody else is going to pay for fish passage. Maybe if the fish are lucky, someone will tear the dams out.



Robert E. King  
President  
Ashuelot River Hydro, Inc.

STATE OF NEW HAMPSHIRE  
COUNTY OF Cheshire

On this 24 day of November, 2008, personally appeared before the undersigned, Robert E. King, and acknowledged that the foregoing statements are true to the best of his knowledge and belief.

Alexis Ullo  
Notary Public  
New Hampshire  
My commission expires June 13, 2012



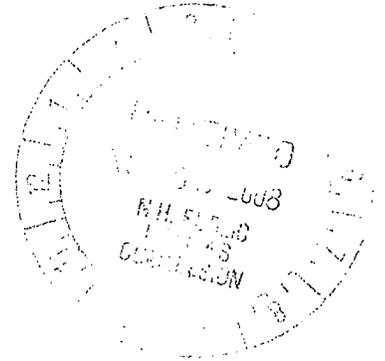
Justice of the Peace/Notary Public

My commission expires: June 13, 2012

# EXHIBIT E

November 3, 2008

Debra A. Howland  
Executive Director  
Public Utilities Commission  
8 Old Suncook Road  
Concord, NH 03301-7319



Re: Docket Number DE 08-053, PSNH Small Hydroelectric Facilities Applications for Class IV Certification pursuant to RSA 362-F

Dear Ms. Howland:

I am writing to respectfully request intervenor status in Docket Number DE 08-053, pursuant to the Commission's Order No. 24,908 opening an adjudicative proceeding.

As prime sponsor of New Hampshire's Electric Renewable Portfolio Standards (Renewable Energy Act) codified in RSA 362-F, I have a strong interest in ensuring that the requirements for Class IV certification of small-scale hydroelectric facilities are implemented in a manner consistent with the Legislature's intent. On August 20, 2008, I filed comments in this docket describing the legislative intent, and I would ask that you consider those comments as you proceed with this docket. I may also decide to file additional comments as this proceeding unfolds.

Thank you for taking my request to be an intervenor. I look forward to participating in this important docket.

Sincerely,

Representative Suzanne Harvey  
Vice Chair  
Science, Technology & Energy Committee  
(H) 598-0582

Cc: Robert Scott, Department of Environmental Services  
Joanne Morin, Department of Environmental Services  
Meredith Hatfield, Office of Consumer Advocate  
Gerald Eaton, Public Service Company of New Hampshire  
Howard Moffet, Orr & Reno on behalf of Granite State Hydropower Association



# State of New Hampshire

## HOUSE OF REPRESENTATIVES

Legislative Office Building, 33 North State Street  
Concord, NH 03301-6528

TEL: (603) 271-3396  
TDD Access: Relay NH 1-800-735-2964

Naida L. Kaen  
Chairman

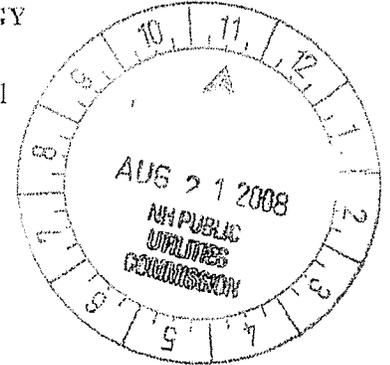
Suzanne Harvey  
Vice Chairman

### COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

8 Crawford Lane  
Nashua, NH 03063-1501

August 20, 2008

Debra A. Howland  
Executive Director  
Public Utilities Commission  
8 Old Suncook Road  
Concord, NH 03301-7319



Re: Docket Number DE 08-053, PSNH Small Hydroelectric Facilities Applications for Class IV Certification pursuant to RSA 362-F

Dear Ms. Howland:

As prime sponsor of the Renewable Energy Act (Electric Renewable Portfolio Standard), I would like submit the following comments relative to Class IV certification of small hydroelectric facilities (RSA 362-F).

The bill's sponsors, along with DES, stakeholders and the PUC all worked together over a period of many months on House Bill 873, which passed and was adopted as RSA 362-F. In testimony to the Senate Committee on Energy, Environment, and Economic Development on HB 873, DES clarified that the Class IV facilities in HB 873 were small hydroelectric facilities that had both upstream and downstream fish ladders. The intention was for these facilities to warrant economic incentive through the mechanisms in HB 873. The reference in the final statute (RSA 362-F) to "approved under its FERC license or exemption" was intended to set a standard for the construction of the required fish ladders.

Some stakeholders voiced a concern that without that language, a facility could add a substandard structure, claim it to be a fish ladder and, thereby qualify as a Class IV facility. Both House and Senate Committees ultimately focused on limiting Class IV facilities to those with existing fish ladders.

I hope you will consider the legislative intent described above as you deliberate on Class IV certifications.

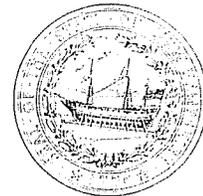
Sincerely,

Rep. Suzanne Harvey  
Vice Chair  
Science, Technology & Energy Committee

# EXHIBIT F



The State of New Hampshire  
DEPARTMENT OF ENVIRONMENTAL SERVICES



Thomas S. Burack, Commissioner

November 4, 2008

**RECEIVED**

NOV 10 2008

Debra A. Howland  
Executive Director  
Public Utilities Commission  
8 Old Suncook Road  
Concord, NH 03301-7319

Re: Docket Number DE 08-053 (Adjudicative Proceeding), PSNH Small Hydroelectric Facilities Applications for Class IV Certification pursuant to RSA 362-F

Dear Ms. Howland:

The Department of Environmental Services (DES) would like to submit the attached comments relative to Class IV certification of small hydroelectric facilities pursuant to RSA 362-F (Electric Renewable Portfolio Standard). These comments were previously submitted this past August relative to this docket. We request that our comments be considered in the adjudicative proceeding relative to Order No. 24,908.

Should you have further questions or need additional information, please free to contact me (271-1088, [Robert.scott@des.nh.gov](mailto:Robert.scott@des.nh.gov)) or Joanne Morin, Climate and Energy Program Manager (271-5552, [Joanne.morin@des.nh.gov](mailto:Joanne.morin@des.nh.gov)).

Sincerely,

Robert R. Scott  
Director  
Air Resources Division

Cc: List Serve  
Librarian, NHPUC  
Suzanne Amidon, NHPUC  
Henry Bergeron, NHPUC  
Al-Azad Iqbal, NHPUC  
Amanda Noonan, NHPUC  
Meredith A Hatfield, Office of Consumer Advocate



The State of New Hampshire  
DEPARTMENT OF ENVIRONMENTAL SERVICES



Thomas S. Burack, Commissioner

August 18, 2008

Debra A. Howland  
Executive Director  
Public Utilities Commission  
21 S. Fruit St., Suite 10  
Concord, NH 03301-2429

Re: Docket Number DE 08-053, PSNH Small Hydroelectric Facilities Applications for Class IV Certification pursuant to RSA 362-F

Dear Ms. Howland:

The Department of Environmental Services (DES) would like to submit the following comments relative to Class IV certification of small hydroelectric facilities pursuant to RSA 362-F (Electric Renewable Portfolio Standard). As you know, DES worked with legislators, stakeholders and the Public Utilities Commission on House Bill 873 establishing minimum renewable standards for energy portfolios which passed and was adopted as RSA 362-F. During legislative testimony (attached) to the Senate Committee on Energy, Environment, and Economic Development on HB 873, DES indicated that the Class IV facilities in HB 873 were small hydroelectric facilities that had both upstream and downstream fish ladders. These facilities were identified as warranting economic incentive through the mechanisms in HB 873. The reference in the final statute (RSA 362-F) to "approved under its FERC license or exemption" was intended to set a standard for the construction of the required fish ladders. Concern was expressed by various stakeholders that without that language, a facility could add a substandard structure, claim it to be a fish ladder and, thereby qualify as a Class IV facility. Numerous discussions with both House and Senate Committees focused on limiting Class IV facilities to those with existing fish ladders.

We hope this helps in your deliberations concerning Class IV certifications. Should you have further questions or need additional information please feel free to contact me (271-1088, [robert.scott@des.nh.gov](mailto:robert.scott@des.nh.gov)) or Joanne Morin, Climate and Energy Program Manager (271-5552, [joanne.morin@des.nh.gov](mailto:joanne.morin@des.nh.gov)).

Sincerely,

Robert R. Scott  
Director  
Air Resources Division

cc: List Serve

# EXHIBIT G

**STATE OF NEW HAMPSHIRE**  
**BEFORE THE PUBLIC UTILITIES COMMISSION**

DE 08-053

Public Service Company of New Hampshire  
Application for Certification of Class IV Renewable Small Hydroelectric Facilities

**AFFIDAVIT OF HARRY WOLF**

I, Harry Wolf, being duly sworn, do hereby depose and state as follows:

(1) I am employed by Essex Power Services, Inc. (“EPSI”) as Secretary and Treasurer. One of my principal responsibilities is the administration of the Renewable Portfolio Standard (“RPS”) program for companies to which EPSI renders administrative services in the small-scale hydroelectric industry. EPSI provides service to nine such hydroelectric projects located in New England, all of which qualify for one or more of the RPS programs existing in the states of Connecticut, Rhode Island and New Hampshire (the “RPS States”).

(2) As the EPSI employee in charge of the RPS program, I am familiar with the history, development, and operation of RPS programs in all of the RPS States. Since 2004 I have prepared applications that resulted in the certification of all nine EPSI hydroelectric projects in one or more of the RPS States’ RPS programs. I am also responsible for administering the ISO-NE GIS accounts for all nine projects.

(3) I am responsible for the sale of the Renewable Energy Certificates (“RECs”) that are earned by EPSI’s nine hydroelectric projects under the various state RPS programs. In that capacity I am in regular contact with various brokerage firms that are active in the REC market, as well as load serving entities that are required to purchase REC’s pursuant to the RPS programs of the RPS States in order to satisfy their obligations under the RPS programs. Since 2004 I have personally arranged for the sale of more than 740,000 RECs in the states of Connecticut, Rhode Island and New Hampshire.

(4) In late 2007 I prepared an application that was submitted to the New Hampshire Public Utilities Commission (“NHPUC”) requesting certification of the Benton Falls Associates (“BFA”) Hydroelectric project as a Class IV generator under the New Hampshire RPS program. That certification application subsequently was approved by the NHPUC, effective as of January 1, 2008. Subsequently I registered the BFA project for NH Class IV REC eligibility with the ISO-NE GIS system.

(5) I estimated that the total demand for NH 2008 Class IV RECs would be approximately 60,000 RECs, based on 0.5% of the projected net sales of electricity in 2008 by New Hampshire distribution utilities and competitive retail electric suppliers, which ISO-NE estimated at 12,060,000 MWh.

(6) The BFA project, the only project which had submitted a Class IV certification application as of the first two months of 2008, was estimated to produce approximately 15,000 RECs in 2008. I immediately began to market the BFA 2008 Class IV RECs by contacting brokerage firms with whom I had previously conducted business. During the first half of 2008 brokers reported that there was no interest in purchasing

2008 Class IV RECs, which the brokers attributed to unfamiliarity with the NH RPS program on the part of the Load Serving Entities. However, a NH load serving entity was located that was willing to purchase 2008 Class IV RECs. In the third quarter of 2008, I sold 2,900 2008 Class IV RECs to a NH load serving entity. Although the terms of that sale are confidential, the price received was more than 80% of the Alternative Compliance Payment for 2008.

(7) On or about April 2, 2008 I became aware that Public Service Company of New Hampshire (“PSNH”) had filed applications for Class IV REC certification for eight of its hydroelectric projects. In those applications PSNH asserted that it was not necessary to actually have installed both upstream and downstream fish passage facilities in order to qualify for Class IV REC certification, if they had not both been required by FERC. In talking with brokers subsequent to the PSNH filing, the brokers reported that the Class IV REC purchasing community viewed this filing as introducing significant uncertainty about the total potential supply of 2008 Class IV RECs. I was unsuccessful in selling any additional NH Class IV RECs.

(8) On September 23, 2008 the NHPUC certified four of the PSNH projects for Class IV REC eligibility. None of these projects had installed both upstream and downstream fish passages. On September 25, 2008, FPL Energy Maine Hydro, LLC filed an application for Class IV certification for two of their hydroelectric projects, neither of which had installed both upstream and downstream fish facilities. These projects also subsequently were certified by the NHPUC for Class IV REC eligibility.

(9) Since the certifications of the PSNH and FPL projects, I have maintained frequent contact with brokers who actively work with New England load serving entities.

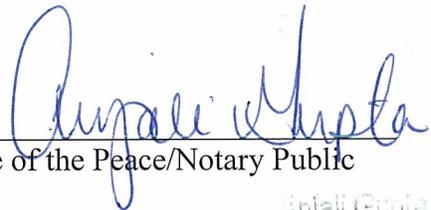
In October 2008 I was able to sell an additional 1,000 2008 Class IV RECs, again at a price that was 80% or greater than the default price. However, the four brokers with whom I maintain regular contact could not locate any additional buyers. These brokers report that potential buyers now view the supply of NH Class IV RECs for 2008 to greatly exceed the demand as a result of the PSNH and FPL certifications.

(10) In order to assess the current market impact of the NHPUC certifications of the PSNH and FPL projects, in mid November I contacted Spectron, one of the brokers with whom I have conducted business, and asked them to locate a buyer for BFA's unsold 2008 Class IV RECs. Attached as Exhibit 1 to this affidavit is their reply.

  
\_\_\_\_\_  
Harry Wolf  
Secretary and Treasurer  
Essex Power Services, Inc.

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF SUFFOLK

On this 21 day of November, 2008, personally appeared before the undersigned, Harry Wolf, and acknowledged that the foregoing statements are true to the best of his knowledge and belief.

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

My commission expires:

Anjali Gupta  
Notary Public  
My Commission Expires  
June 23, 2009



November, 21, 2008

Mr. Harry Wolf  
Essex Hydro Associates, LLC  
55 Union St., 4th Floor  
Boston, MA 02108

Mr. Wolf,

I have prepared a brief description of the conditions we are seeing for the New Hampshire Class 4 REC (NH Class 4) market place. We have attempted multiple times to engage New Hampshire load serving entities and retail load providers with solicitations for vintage 2008 and 2009 New Hampshire Class 4 RECs. The results have been bids that are in the very low teens and for very small volume. As with any nascent market place, transactions may take time and may seriously be hindered by uncertainty.

There are multiple facilities that intend to register their renewable generators for state certifications, to qualify for the NH Class 4 REC market. Until these generation units are either allowed or disallowed certification numbers, the over the counter market seems to have taken a back seat.

Our in house demand estimates for the 2008 and 2009 NH Class 4 are approximately 60,000 and 120,000 RECs respectively. Of that demand estimate, there are extremely few load serving entities that encompasses a bulk of the estimated demand figure.

I have had more than one market participant tell me that there is enough existing low impact hydro in New England, which should qualify for this specific RPS, to drive the market price well into the single digits. This market is still emerging and has many factors that are considered "unknown". It is in my opinion that until we see more clarity, I suggest either marketing your RECs more aggressively or having the patience of letting the market mature.

Best regards,

Jack Velasquez  
Vice President of Environmental Markets  
Spectron Energy

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