Nautilus Hydro, LLC
c/o William P. Short III
44 West 62nd Street, P.O. Box 2371773
New York, New York 10023-7173
(917) 206-0001; (201) 970-3707
w.shortiii@verizon.net

April 26, 2017

Low Impact Hydropower Institute
c/o Ms. Dana Hall
Deputy Director
P. O. Box 194
Harrington Park, New Jersey 07640

Re: Application of Gardners Falls Project for Re-Certification by the Low Impact Hydropower Institute

Dear Ms. Hall:

Attached please find an application for re-certification by the Low Impact Hydropower Institute ("LIHI") of the Gardners Falls Project (the "Project" or the "Facility") of Nautilus Hydro, LLC ("Nautilus").[1] In February 2011, North America Energy Alliance, LLC ("NAEA"), the then name of the current owner of the Project, filed its application for certification of the Project by LIHI. On October 31, 2011, after a thorough review, LIHI certificated the Gardners Falls Project as low impact for a five-year term, effective February 18, 2011 and expiring February 18, 2016. Its certificate number is 80. On December 22, 2015, June 30, 2016, and February 28, 2017, Gardners Falls Project was granted an extension of the current certificate term with a new expiration date of August 16, 2016, April 20, 2017 and November 30, 2017, respectively. Copies of all extension letters are available for review on the portion of the LIHI website devoted to the Project

For purposes of responding to inquiries regarding this re-certification application, persons should contact the following:

Primary Contact	**Secondary Contact**
William P. Short III	Kim Marsili
Consultant	General Manager
44 West 62nd Street	Nautilus Hydro, LLC
P.O. Box 237173	15 Agawam Avenue
New York, New York 10023-7173	West Springfield, Massachusetts 01089
(917) 206-0001 Office	(413) 730-4721 Office

[1] On April 13, 2017, Essential Power Massachusetts, LLC ("Essential") transferred the direct ownership of its hydroelectric power facilities, including Gardners Falls Project, to Nautilus Hydro, LLC.

(201) 970-3707 Cell
w.shortiii@verizon.net

(413) 426-4125 Cell
kimmarsili@cogentrix.com

This application relies materially on the documents and descriptions initially filed in the initial application for certification. As such, reference will be made to those documents and descriptions rather than simply restate them here in this re-certification. Accordingly, any reviewer is strongly urged first to read the initial application for certification before reviewing the balance of this application.

In certain sections of this application, very little has changed in the initial application since 2011. Where it has, it is updated and noted. The latest compliance filing or periodic public reports have been added. Where the application calls for new documentation that too has been provided.

To summarize what has changed since Certification, the chart below shows the status of the Project at the time of the Certification application and now for the Re-Certification application with notes on the changes, if any.

Criteria	Certification	Re-Certification	Notes
Ecological Flow Regimes	FERC and US FWS-approved 150 cfs minimum flow or inflow if less	Same criteria	With 100 cfs minimum flow above the Project at Deerfield #3, 150 cfs minimum flow at Project is appropriate
Water Quality	Water Quality Certificate was issued in 1994 for Project.	While no new water quality report has been issued, Support for all activities has been verified by MDEP	Latest MDEP water quality study of this section of the river shows no non-compliance areas or issues.
Upstream Fish Passage	No requirement until installed downstream at Deerfield #2	No requirement until installed downstream at Deerfield #2	Still waiting for four Atlantic Salmon to be found in a season below Deerfield #2
Downstream Fish Passage	Installed, approved & operating for Atlantic Salmon	Installed, approved but not operating for Atlantic Salmon	Temporarily suspended due to non-stocking of Atlantic Salmon above Deerfield #3
Watershed and Shoreline Protection	No watershed or shoreline activities have occurred	No watershed or shoreline activities have occurred	
Threatened and Endangered Species Protection	No threatened or endangered species found Project area in surveys of US FWS or DFW	US FWS reports no T&ES present in Project area. Awaiting NHESP report from Massachusetts	Expect that both federal and state agencies will provide findings of no T&ES in Project area that are impacted by the Project
Cultural and Historic Resources Protection	Historic structure was present and protected in current condition	Historic structure was swept away by Hurricane Sandy, leaving only foundation	500-year flood obliterated historic structure except for foundation.
Recreational Resources	Then latest FERC report showed full compliance	Latest FERC report showed full compliance	A portion of recreational areas were off-limits while work was being done to Project. All recreational areas have been restored to service.

Soon after the Project filed its application for LIHI certification, seepage was detected. Below is the history of the detecting of the extent of the damage to the Project caused by the seepage and the steps to make repair, eliminate the seepage and return the Project to commercial operations.

- From 2000 to 2011, periodic weld repairs were conducted to fix minor leaks in the Unit 2 penstock. In April of 2011, a sinkhole was discovered in the courtyard above the Unit 2 penstock.

- Investigation suggested that the sinkhole was likely caused by seepage through the old canal wall between the intake for Units 1 and 2, and the intake for Units 3 and 4. Grouting and uniting of the original canal wall between the intake for Unit 1 and Unit 2 and the intake for Unit 3 and Unit 4 was performed to control seepage and sinkholes as previously observed in the courtyard area in the spring of 2011. These repairs were not successful.

- Following the grouting and guniting of the existing canal wall, a site investigation and preliminary seepage assessment was conducted by Kleinschmidt in 2011. The investigation concluded that a significant source of seepage was under the canal wall and through the soil fill in the courtyard between the intake for Units 1/2 and the intake for Units 3/4. The report recommended further remediation to control seepage and that borings be drilled to provide design information for the remediation. The report also noted specific concerns about the Unit 2 draft tube/powerhouse wall interface and commented that, "there was an apparent loss of soil beneath a concrete arch, above the pressure chamber, where the Unit 2 draft tube enters the powerhouse. This interface between the powerhouse wall and the Unit 2 draft tube appears to be where the soil loss is occurring and that an area of concern was the point where the Unit 2 draft tube penetrated the upstream wall."

- During the summer of 2011, the canal wall between the intake for Units 1 and 2, and Units 3 and 4 was reconstructed to reduce seepage observed in the courtyard.

- On 23 August 2011, about one week after completing repairs to the canal wall and re-watering of the canal, evidence of seepage was again noticed in the courtyard near the Unit 2 penstock. The headgate for Unit 2 was closed with the canal remaining watered up and the seepage stopped. An internal inspection of the Unit 2 penstock by Nautilus showed some noticeable out-of-round sections and steel deterioration compared to previous inspections.

- In August 2011, Hurricane Irene resulted in 500-year flood conditions at the Gardners Falls site. Peak downstream river conditions resulted in approximately 1 foot of standing water on the floor of the original section of the powerhouse (Units 1 and 2), which has a lower floor elevation than the other 3 units. During the flood, the station was isolated by closing the canal headgates and all units were offline. The river returned to the 5-year flood levels overnight.

- Subsequent to the powerhouse flooding, settlement of portions of the Units 1 and 2 powerhouse floor slab was observed. Nautilus hired a contractor to perform a Ground Penetrating Radar (GPR) survey of the powerhouse floor. The results showed some loss of material below the floor but these areas were ruled out as serious concerns by Nautilus because they were places that visual inspections were made.

- The canal was re-watered after the hurricane and evidence of courtyard seepage was again observed similar to that which had been observed prior to the hurricane. After closing the headgate to the Unit 2 penstock and draining the penstock, the seepage disappeared. Unit 2 was taken out of service. The penstock remained dewatered, awaiting a 3rd party inspection. In November 2011, the Unit 2 penstock was inspected by Kleinschmidt and it was concluded that the penstock was in serviceable condition. Unit 2 was returned to service shortly thereafter and no further evidence of courtyard seepage was observed.

- In April 2012, undermining of the powerhouse floor was discovered in the area near Unit 2. Unit 2 was shut down for investigation, which determined that a drain pipe below the floor slab had broken and eroded some of the underlying material. The extent of soil loss was limited to the area around the drain line and was not deeper than the invert of the drain. The drain pipe was replaced and the lost material was replaced. Portions of the concrete floor were removed and left open so the drain pipe and backfill could be monitored for further material loss. None was observed. While Unit 2 was down, an inspection of the Unit 2 penstock was performed by Nautilus, which found one large and one small crack. Due to the continuing problems with Unit 2, replacement of the Unit 2 penstock was scheduled for 2013. Unit 2 was taken offline.

- During the week of 17 September 2012, evidence of seepage was noticed in the courtyard and the Unit 2 penstock was again isolated from the canal and Unit 2 was declared out of service. When Unit 2 was isolated by closing the head gate, the seepage subsided. In December 2012, the station was taken out of service and the canal dewatered due to additional evidence of seepage in the courtyard. There was a visible upwelling of water near the corner between the reconstructed canal wall and the intake for Unit 3. The canal wall was repaired by chipping away damaged gunite and replacing it. The station was returned to service in January 2013, and no further evidence of seepage was observed.

- In October 2013, the canal was dewatered for replacement of the Unit 2 penstock and remained dewatered until February 2014 when Unit 2 was returned to service.

- Failure of the Unit 2 steel draft tube and sinkhole formation inside the powerhouse occurred 5 days later on March 4, 2014.

- After the powerhouse sinkhole had formed, a restoration plan was developed to return the station to service.

- After completing the revised restoration plan and filling the sinkhole with flowable fill, the power canal was re-watered in August 2014 and the courtyard area monitored for

seepage or piping. After approximately 9 hours, a small sinkhole developed at the downstream wall of the gatehouse and the canal was dewatered.

- Subsequently a geotechnical plan was developed by HDR to install three open standpipe piezometers for monitoring the phreatic surface in the courtyard area. In addition, a grouting contractor was retained by Nautilus to seal and grout around the Unit 2 penstock interface with the gatehouse and the concrete apron in front of the gatehouse.

- On April 24, 2015, Nautilus observed a sinkhole adjacent to the downstream exterior wall of the powerhouse. FERC requested Nautilus to conduct further evaluations to determine the cause of the continued loss of ground and seepage issues at the facility.

- From April 2015 to February 2017 Nautilus engaged the engineering services of Kleinschmidt Associates and Haley & Aldrich to perform Geotechnical studies and modeling and propose and the most cost effective repair. Proposed repair was to install a Secant wall and cement pad in the portion of the canal that is in the area between Unit 5 intake to the intakes of Units 3 and 4. This work was completed December 2016 and the Design Engineers assessed the secant wall was performing as designed. The station is currently being returned to service absent Unit 2. The Unit 2 tailrace will be replaced in 2017.

To summarize, over the past six years the Project has operated at reduced output or ceased operations altogether due to seepage and other related issues either underneath, upstream or downstream of the powerhouse. The Facility expects to re-commenced operations once its engineers have determine that the Secant Wall is operating effectively.

We request that you review this application and let us know if anything additional is needed in order to place this application in front of the board of directors of LIHI for consideration.

Sincerely yours,

William R. Short IV

enclosures

Table B-1. Facility Description Information for Gardners Falls Project (LIHI #80 if a recertification).

Information Type	*Variable Description*	*Response(and reference to further details)*
Name of the Facility	Facility name (use FERC project name if possible)	**Gardners Falls Project**
Location	River name (USGS proper name)	**Deerfield River**
	River basin name	**Deerfield River**
	Nearest town, county, and state	**Buckland and Shelburne in Franklin County, Massachusetts**
	River mile of dam above next major river	**river mile 15.8 for powerhouse; river mile 16.3 for dam**
	Geographic latitude	**43^0 35'21.56" N**
	Geographic longitude	**72^0 43'35.66" W**
Facility Owner	Application contact names (IMPORTANT: you must also complete the Facilities Contact Form):	**William P. Short III**
	- Facility owner (individual and company names)	**Nautilus Hydro, LLC**
	- Operating affiliate (if different from owner)	**Nautilus Hydro, LLC**
	- Representative in LIHI certification	**Kim Marsili**
Regulatory Status	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates	**P-2334-001; April 4, 1997; March 31, 2037**
	FERC license type or special classification (e.g., "qualified conduit")	**New License**
	Water Quality Certificate identifier and issuance date, plus source agency name	**Water Quality Certification Gardners Falls Hydroelectric Project, FERC Project No.-2334-01, December 14, 1994, Massachusetts Department of Environmental Protection**
	Hyperlinks to key electronic records on FERC e-library website (e.g., most recent Commission Orders, WQC, ESA documents, etc.)	**Copies of key records are attached to this application or are available on the LIHI website under the application filed for certification in February 2011.**
Power Plant Character-istics	Date of initial operation (past or future for operational applications)	**1904 for initial operations and 2017 for resumed operations**
	Total name-plate capacity (MW)	**3.58 MW**
	Average annual generation (MWh)	**8,383 MWh (average for 2002-2016)**
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	**Four turbines; Unit #2: Rodney Hunt; 783.7 hp; 230 cfs Maximum hydraulic capacity**

		Unit #3: S. Morgan Smith; 1450 hp; 370 cfs Maximum hydraulic capacity Unit #4: S. Morgan Smith; 1450 hp; 370 cfs Maximum hydraulic capacity Unit #5: S. Morgan smith; 1700 hp; 450 cfs Maximum hydraulic capacity
	Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.)	Limited pond-and-release (maximum 1.8 feet drawdown)
	Dates and types of major equipment upgrades	1914 Unit #3 Turbine-Generator 940 KW 1914 Unit #4 Turbine-Generator 940 KW 1925 Unit #5 Turbine-Generator 1,300 KW
	Dates, purpose, and type of any recent operational changes	None
	Plans, authorization, and regulatory activities for any facility upgrades	None
Character-istics of Dam, Diversion, or Conduit	Date of construction	1904 initial; 1914 first expansion; 1925 second expansion
	Dam height	a maximum height of 30 feet at permanent crest elevation of 332.79 feet mean sea level (msl) and 32 feet at flashboard crest elevation 334.79 feet msl, flashboards are permitted to be up 12-months of the year
	Spillway elevation and hydraulic capacity	332.79 feet msl; 50,000 cfs; however, during Hurricane Irene it is estimated that the spillway handled over 75,000 cfs
	Tailwater elevation	295.8 feet MSL; flow at tailrace equals maximum hydraulic flow of the station's turbines, which is 1,420 cfs
	Length and type of all penstocks and water conveyance structures between reservoir and powerhouse	The major project works consist of a dam and impoundment, a power canal, an intake structure and a powerhouse. Specifically, the Project consists of: (1) 337 foot-long, 30 foot-high dam, (2) an impoundment 3,200 feet long, with a surface area of 21 acres, 190 acre-feet gross storage and 37.2 acre-feet usable storage, (3) a brick and concrete powerhouse equipped with four turbine-generator units with total capacity 3.58 MW, (4) a 1,300-foot power canal 31 feet wide and 15 feet deep, and (5) a double circuit 13.8 KV transmission line connecting the Gardners Falls project to the Montague substation.
	Dates and types of major, generation-related infrastructure improvements	1914 Unit #3 Turbine-Generator 940 KW 1914 Unit #4 Turbine-Generator 940 KW 1925 Unit #5 Turbine-Generator 1,300 KW

	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	Power generation
	Water source	Deerfield River
	Water discharge location or facility	Powerhouse tailrace
Characte-ristics of Reservoir and Watershed	Gross volume and surface area at full pool	A 3,200 foot-long impoundment with a surface area of 21 acres, 190 acre-feet of gross storage and 37.2 acre-feet of usable storage
	Maximum water surface elevation (ft. MSL)	Permanent crest elevation of 332.79 feet mean sea level (msl) with a flashboard elevation of 334.79 feet msl,
	Maximum and minimum volume and water surface elevations for designated power pool, if available	190 acre-feet of maximum volume and 152.8 acre feet of minimum volume; maximum water surface elevation at dam crest of 332.79 feet mean sea level (msl) with a maximum flashboard water surface elevation of 334.79 feet msl,
	Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile	The Gardners Falls project is situated among nine other hydroelectric facilities located on the Deerfield River. Eight of the other nine facilities are owned and operated by an affiliate of TransCanada Corporation, and are licensed as one project ("Deerfield River Project," FERC No. 2323). The Deerfield River Project consists of one storage facility (Somerset Development) and seven hydroelectric facilities (Searsburg, Harriman, and Sherman Developments, and the Deerfield No. 5, No. 4, No. 3 and No. 2 Developments). A pumped-storage project (Bear Swamp Project), owned by Bear Swamp Power Company, LLC and operated by Brookfield Renewable Power, is licensed by the FERC as Project No. 2669 and is located below the Deerfield No. 5 development. Somerset river mile 66.0 Searsburg river mile 60.3 Harriman river mile 48.5 Sherman river mile 42.0 Deerfield No.5 river mile 41.2 Bear Swamp river mile 39.0 Fife Brook river mile 37.0 Deerfield No.4 river mile 20.0 Deerfield No.3 river mile 17.0
	Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile	Deerfield No.2 river mile 12.2

	Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation	None
	Area inside FERC project boundary, where appropriate	59.90 acres of which approximately 21 acres are impoundment and the balance of 38.80 acres are land.
Hydrologic Setting	Average annual flow at the dam	1,212 cfs at dam; 1,349 cfs at gage; flow at dam is a straight drainage area ratio adjustment from the gage.
	Average monthly flows	January 1,349 cfs at dam; 1,500 cfs at gage February 1,322 cfs at dam; 1,470 cfs at gage March 1,880 cfs at dam; 2,090 cfs at gage April 2,581 cfs at dam; 2,870 cfs at gage May 1,484 cfs at dam; 1,650 cfs at gage June 917 cfs at dam; 1,020 cfs at gage July 568 cfs at dam; 632 cfs at gage August 573 cfs at dam; 637 cfs at gage September 586 cfs at dam; 651 cfs at gage October 829 cfs at dam; 922 cfs at gage November 1,115 cfs at dam; 1,240 cfs at gage December 1,367 cfs at dam; 1,520 cfs at gage
	Location and name of relevant stream gauging stations above and below the facility	USGS 01168500 Deerfield River at Charlemont, MA Lat 42° 32'09", long 72° 39'14", Franklin County, Hydrologic Unit 01080203, on right bank 0.4 mi downstream from South River, 1.2 mi west of West Deerfield, 2.5 mi west of Deerfield, and 9.2 mi upstream from mouth.
	Watershed area at the dam	501 square miles at dam; 557 square miles at gage
Designated Zones of Effect	Number of zones of effect	Three
	Upstream and downstream locations by river miles	Dam -- river mile 16.3 Tailrace – river mile 15.8
	Type of waterbody (river, impoundment, by-passed reach, etc.)	Impoundment – above river mile 16.3 Bypassed Reach – between river mile 15.8 and river mile 16.3 River – below river mile 15.8
	Delimiting structures	1)Impoundment – from the tailrace of Deerfield No.3 to dam of Gardners Falls 2) Bypassed Reach – Dam to tailrace of Gardners Falls 3) River -- Tailrace of Gardners Falls to Impoundment of Deerfield No.2
	Designated uses by state water quality agency	Aquatic Life with Alert Status, Primary Contact with Alert Status, Secondary Contact and Aesthetics are all supported. Fish Consumption is not assessed.

Additional Contact Information	Names, addresses, phone numbers, and e-mail for local state and federal resource agencies	(use new Contacts Form and reference that here)
	Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders	(recommend putting these in a separate document and referencing it here)
Photographs and Maps	Photographs of key features of the facility and each of the designated zones of effect	**No new photographs have been provided since the application for certification contained nearly 40 and none of those have changed since they were taken. In addition, the 2016 FERC Environmental Inspection Report also contains photographs, maps and aerial photos of the Project. See Photo 13 (page 20) of the 2016 FERC Environmental Inspection Report for a photograph of the downstream fish passage.**
	Maps, aerial photos, and/or plan view diagrams of facility area and river basin	**See attachments**

FACILITY CONTACTS FORM

1. **All applications for LIHI Certification must include complete contact information to be reviewed.**

Project Owner: Nautilus Hydro, LLC	
Name and Title	**Kim Marsili, General Manager**
Company	**Nautilus Hydro, LLC**
Phone	**(413) 730-4721**
Email Address	**kimmarsili@cogentrix.com**
Mailing Address	**15 Agawam Avenue, West Springfield, Massachusetts 01089**
Project Operator (if different from Owner):	
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
Consulting Firm / Agent for LIHI Program (if different from above):	
Name and Title	**William P. Short III, Consultant**
Company	
Phone	**(917) 206-0001**
Email Address	**w.shortiii@verizon.net**
Mailing Address	**P.O. Box 237173, New York, New York 10023**
Compliance Contact (responsible for LIHI Program requirements):	
Name and Title	**Kim Marsili, General Manager**
Company	**Nautilus Hydro, LLC**
Phone	**(413) 730-4721**
Email Address	**kimmarsili@cogentrix.com**
Mailing Address	**15 Agawam Avenue, West Springfield, Massachusetts 01089**
Party responsible for accounts payable:	
Name and Title	**Kim Marsili, General Manager**
Company	**Nautilus Hydro, LLC**
Phone	**(413) 730-4721**
Email Address	**kimmarsili@cogentrix.com**
Mailing Address	**15 Agawam Avenue, West Springfield, Massachusetts 01089**

2. **Applicant must identify the most current and relevant state, federal, provincial, and tribal resource agency contacts (copy and repeat the following table as needed).**

Agency Contact (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, **Recreation X**):	
Agency Name	**Massachusetts Department of Fish and Game**
Name and Title	**John ("Jack") P. Sheppard, Director**
Phone	**(617) 727-1843**
Email address	**jack.sheppard@state.ma.us**
Mailing Address	**1440 Soldiers Field Road, Brighton, Massachusetts 02134-1021**

Agency Contact (Check area of responsibility: **Flows X, Water Quality X, Fish/Wildlife Resources X**, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	**United States Fish and Wildlife Service**
Name and Title	**Melissa Grader, Fish and Wildlife Biologist**
Phone	**(413) 548-9138**
Email address	**Melissa_Grader@fws.gov**
Mailing Address	**103 East Plumtree Road, Sunderland, MA 01375**

Agency Contact (Check area of responsibility: **Flows X, Water Quality X**, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	**Massachusetts Department of Environmental Protection**
Name and Title	**Robert Kubit**
Phone	**(508) 767-2854**
Email address	**robert.kubit@state.ma.us**
Mailing Address	**627 Main Street, Worcester, Massachusetts 01608**

Agency Contact (Check area of responsibility: **Flows X**, Water Quality __, **Fish/Wildlife Resources X**, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	**Massachusetts Division of Fisheries and Wildlife**
Name and Title	**Caleb Slater, Massachusetts Division of Fisheries and Wildlife**
Phone	**(508) 389-6331**
Email address	**Caleb.Slater@MassMail.State.MA.US**
Mailing Address	**100 Hartwell Street, Suite 230, West Boylston, MA 01583**

Agency Contact (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, **T/E Spp. X,** Cultural/Historic Resources __, Recreation __):	
Agency Name	**Massachusetts Division of Fisheries and Wildlife**
Name and Title	**Thomas French, Asst. Director of DFW - for NHESP**
Phone	**(508) 389-6360**
Email address	**tom.french@state.ma.us**
Mailing Address	**1 Rabbit Hill Road, Westborough, Massachusetts 01581**

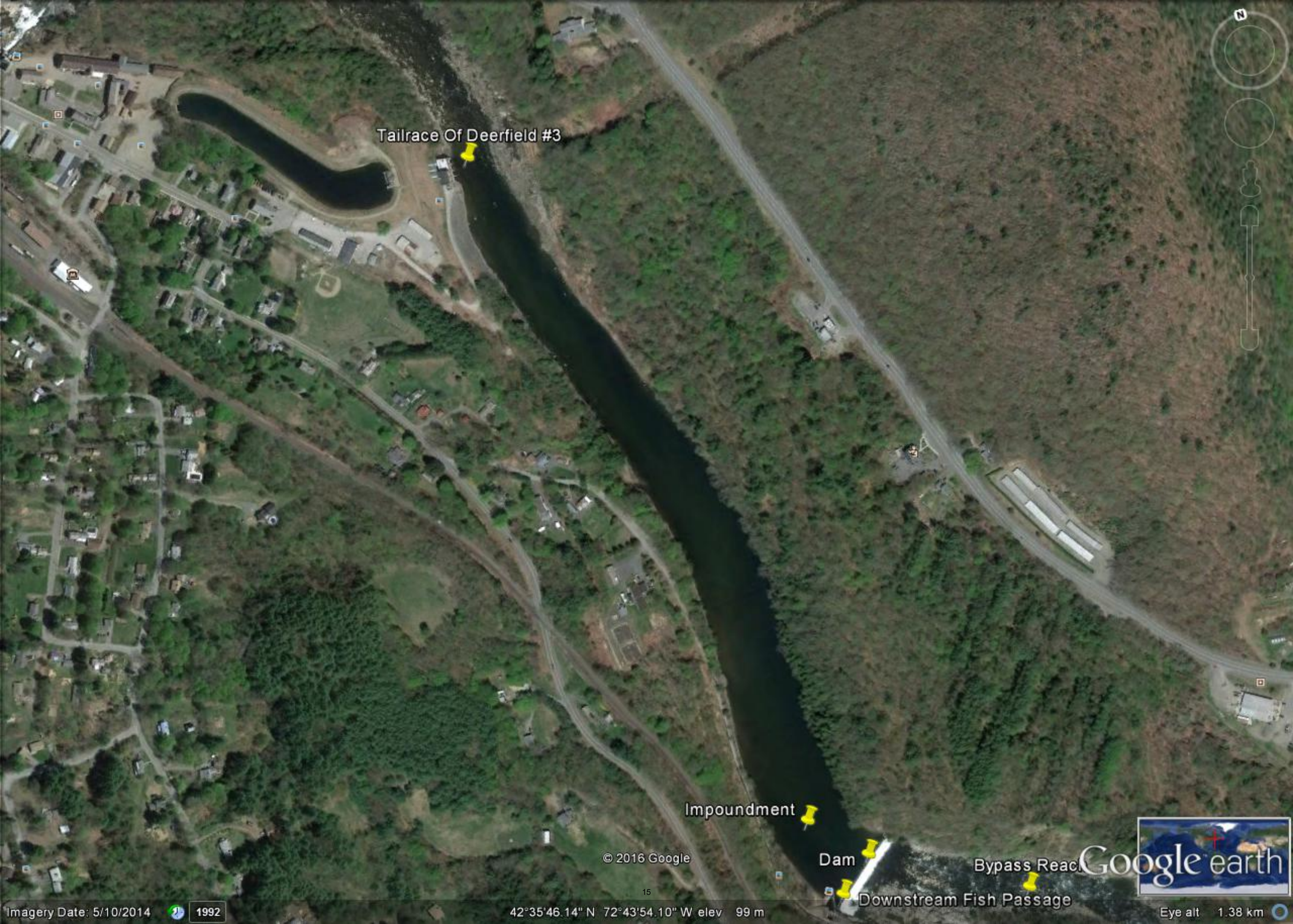
Agency Contact (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, **Cultural/Historic Resources X**, Recreation __):	
Agency Name	**Massachusetts Historical Commission**
Name and Title	**Brona Simon, State Historic Preservation Officer**
Phone	**(617) 727-8470**
Email address	**mhc@sec.state.ma.us**
Mailing Address	**220 Morrissey Blvd, Boston, MA 02125**

Matrix of Alternative Standards Template:
(Please duplicate this table for each Zone of Effect)

Facility Name: Gardners Falls Project **Zone of Effect:** Impoundment

	Criterion	*Alternative Standards*				
		1	*2*	*3*	*4*	*Plus*
A	Ecological Flow Regimes		X	X		
B	Water Quality		X			
C	Upstream Fish Passage	X				
D	Downstream Fish Passage		X	X		
E	Watershed and Shoreline Protection		X			
F	Threatened and Endangered Species Protection		X			
G	Cultural and Historic Resources Protection		X			
H	Recreational Resources		X			

Applicants must complete a Standards Matrix for each designated zone of effect; shaded cells indicate no such standard is available for that criterion.


Tailrace Of Deerfield #3
Impoundment
Dam
Bypass Reach
Downstream Fish Passage
© 2016 Google
Imagery Date: 5/10/2014
1992
42°35'46.14" N 72°43'54.10" W elev 99 m
Eye alt 1.38 km
Google earth

Matrix of Alternative Standards Template:
(Please duplicate this table for each Zone of Effect)

Facility Name: Gardners Falls Project **Zone of Effect:** Bypassed Reach

	Criterion	*Alternative Standards*				
		1	*2*	*3*	*4*	*Plus*
A	Ecological Flow Regimes		X	X		
B	Water Quality		X			
C	Upstream Fish Passage	X				
D	Downstream Fish Passage		X	X		
E	Watershed and Shoreline Protection		X			
F	Threatened and Endangered Species Protection		X			
G	Cultural and Historic Resources Protection		X			
H	Recreational Resources		X			

Applicants must complete a Standards Matrix for each designated zone of effect; shaded cells indicate no such standard is available for that criterion.


Impoundment
Dam
Downstream Fish Passage
Bypass Reach
Power Canal
Gardner Falls Station Canal Reservoir
Tailrace of Gardners Falls
Power House
Google earth
Imagery Date: 5/10/2014
1992
42°35'26.10" N 72°43'42.29" W elev 94 m
Eye alt 653 m

Matrix of Alternative Standards Template:
(Please duplicate this table for each Zone of Effect)

Facility Name: Gardners Falls Project **Zone of Effect:** Deerfield River Below Tailrace

	Criterion	*Alternative Standards*				
		1	*2*	*3*	*4*	*Plus*
A	Ecological Flow Regimes		X	X		
B	Water Quality		X			
C	Upstream Fish Passage	X				
D	Downstream Fish Passage		X	X		
E	Watershed and Shoreline Protection		X			
F	Threatened and Endangered Species Protection		X			
G	Cultural and Historic Resources Protection		X			
H	Recreational Resources		X			

Applicants must complete a Standards Matrix for each designated zone of effect; shaded cells indicate no such standard is available for that criterion.

Tailrace of Gardners Falls

ver House

Uppermost Portion of Deerfield #2 Impoundment

© 2016 Google

Imagery Date: 5/10/2014 1992 42°35'08.79" N 72°43'05.40" W elev 94 m Eye alt 1.46 km

Table B-2

B.2.1 Ecological Flow Standards

The instructions in Table B-2 identify information needed to meet the Ecological Flow Regimes criterion and to satisfy its goal. The applicant should provide only the information associated with the standard selected for a designated zone of effect. If the PLUS standard is also selected for this criterion, the information associate with that standard must also be provided. If more than one ZoE is designated for an application, this process should be repeated for other zones.

Table B-1. Information Required to Support Ecological Flows Standards.

Criterion	*Standard*	*Instructions*
A	2	<u>Agency Recommendation (see Appendix A for definitions):</u> • Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent). • Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. • Explain how the recommendation relates to agency management goals and objectives for fish and wildlife. • Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations).
A	3	<u>Limited Storage:</u> • Explain the calculation of active storage capacity and retention time (storage/flow), including data sources. • Provide the name and published reference for the methodology used, including developer of the methodology and several successful, recent applications, and how it has been regionally accepted. • Provide the calculations used to derive the final flow, including data sources and any pre-processing applied.

There has been no change in the mode of operation of the Facility (limited pond-and-release) since it was certified by LIHI in 2011 for any of the ZoE. The latest demonstration of compliance of the Project's minimum flow requirement is attached at the end of the Application and specifically applies to the Bypassed Reach ZoE but indirectly applies both to the Upper Impoundment ZoE and the River Below Tailrace ZoE.[2] FERC's Environmental Inspection Report, dated August 18, 2016, is also attached at the end of the Application. This report applies

[2] See Attachment 1, "2016 Demonstration of Minimum Flow, Dated January 11, 2017."

to all of the ZoE.[3] The FERC officials found that the licensee appeared to be in compliance with Article 401 and 402 of its license. This statement applies to all ZoE. The FERC officials found that no follow-up on any aspect of Flow matters was necessary. This statement applies to all ZoE.

The Ecological Flows Standards for the Facility were developed during the 1990s FERC licensing process as well the FERC licensing process for the other dams on the Deerfield River. There is a brief description of the determination of the Facility's minimum flow in the FERC license. Given that the owner of the Deerfield #2 (the immediate downstream dam) and Deerfield #3 (the immediate upstream dam) agreed to a 200 cfs and 100 cfs minimum flow for these dams, respectively, and that the Facility is an equal distance between these two dams, a minimum flow 150 cfs for the Facility was offered by FERC and accepted by the then applicant WMECO.

Since the Water Quality Certificate is over 10 years old, a letter from the MDEP has been requested verifying that the original water quality certificate is still in effect and appropriate. Once that letter has been obtained, it will be appended to this application.[4]

The Facility has limited storage, 37.2 acre-feet of usable storage (approximately 21 acres of reservoir surface times 1.8 feet of drawdown). At 150 cfs of minimum flow and no inflow, it takes just 3 hours to empty the Facility's useable storage

In response to the request for previous documentation related to Flows, the following highlighted (in **blue**) text or computer files should be carefully read by the reviewer and are may be found in "Application of Gardners Falls Project for Certification by the Low Impact Hydropower Institute, dated February 2, 2011." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item[5]	Title of Document
1(2)	**Appendix 1-1, FERC order issuing new license, issued April 4, 1997** (A PDF copy of this document is attached to this Application)
2(3)	**Appendix 1-2 FERC order approving and modifying minimum flow monitoring plan, issued May 4, 1998** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-2-FERC-Order-1998_05_04-19980504-308413981441.pdf
15 (16)	**Appendix 3-2, Mode of Operation** Starts at page 22 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf
17 (18)	**Appendix 3-4, Site Plan of the Facility** http://www.lowimpacthydro.org/assets/files/Gardner%20Falls%20text/Appendix%203-

[3] See Attachment 2, "FERC Environmental Inspection Report, Dated August 18, 2016.
[4] See Attachment 3, "MDEP Letter, Dated April ___, 2017"
[5] The lower number applies to the numbering of the documents in the table at the end of this Re-Certification Application titled "List Of Appendices From LIHI Certification." The higher number applies to the numbering of documents in the cover letter in the original LIHI application.

	4%20Site%20Location%20Map.pdf
18 (19)	**Appendix A, Flows** Starts at page 26 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf
19 (20)	**Appendix A-1, Demonstration of Minimum Flows** (A PDF copy of this document is attached to this Application)

Each of the aforementioned documents from the original LIHI application specifically applies to the Bypassed Reach ZoE as well as indirectly applies both to the Upper Impoundment ZoE and the River Below Tailrace ZoE.

Table B-3

B.2.2 Water Quality Standards

The instructions in Table B-3 identify information needed to meet the Water Quality criterion and to satisfy its goal. The applicant should provide only the information associated with the standard selected for a designated zone of effect. If the PLUS standard is also selected for this criterion, the information associate with that standard must also be provided. If more than one ZoE is designated for an application, this process should be repeated for other zones.

Table B-2. Information Required to Support Water Quality Standards.

Criterion	*Standard*	*Instructions*
B	2	Agency Recommendation: • If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation. • Provide a copy of the most recent Water Quality Certificate, including the date of issuance. • Identify any other agency recommendations related to water quality and explain their scientific or technical basis. • Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations.

There has been no change in the Water Quality of the Facility since it was certified by LIHI in 2011 for any of the ZoE.[6] The latest Massachusetts DFW report of the status of the Project's Water Quality, Sections 303(d), 305(b) and 314 waters, is attached at the end of the Application and applies to each of the ZoE. [7] The status for the Project's waters is Support for all relevant categories and applies to each of the ZoE. The waters are classified as meeting the standards of Section 303 (b) for each of the ZoE. The Facility is not located on a Water Quality Limited river reach. There are no agency recommendations related to water quality for any of the ZoE. Given these conditions, there are no compliance activities related to water quality, including on-going monitoring, in any of the ZoE.

In response to the request for previous documentation related to Water Quality, the following highlighted (in **blue**) text or computer files should be carefully read by the reviewer and are may be found in "Application of Gardners Falls Project for Certification by the Low Impact Hydropower Institute, dated February 2, 2011." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

[6] See Attachment 3, "MDEP Letter, Dated April 25, 2017."

[7] See Attachment 4, "Massachusetts Year 2014 List of Integrated Waters."

Item[8]	Title of Document
1(2)	**Appendix 1-1, FERC order issuing new license, issued April 4, 1997** (A PDF copy of this document is attached to this Application)
17 (18)	**Appendix 3-4, Site Plan of the Facility** http://www.lowimpacthydro.org/assets/files/Gardner%20Falls%20text/Appendix%203-4%20Site%20Location%20Map.pdf
20 (21)	**Appendix B, Water Quality** Starts at page 29 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf
21 (22)	**Appendix B-1, MDEP Water Quality Certificate, issued December 14, 1994** http://www.lowimpacthydro.org/assets/files/Gardner%20Falls%20text/MDEP%20Water%20Quality%20Certificate%20%281994-12-14%29.pdf

Each of the aforementioned documents from the original LIHI application applies to the each of the ZoE.

[8] The lower number applies to the numbering of the documents in the table at the end of this Re-Certification Application titled "List Of Appendices From LIHI Certification." The higher number applies to the numbering of documents in the cover letter in the original LIHI application.

Table B-4

B.2.3 Upstream Fish Passage Standards

The instructions in Table B-4 identify information needed to meet the Upstream Fish Passage criterion and to satisfy its goal. The applicant should provide only the information associated with the standard selected for a designated zone of effect. If the PLUS standard is also selected for this criterion, the information associate with that standard must also be provided. If more than one ZoE is designated for an application, this process should be repeated for other zones.

In all cases, the applicant shall list all ***migratory fish*** species (for example, ***anadromous***, ***catadromous***, and ***potamodromous*** species) that occur now or have occurred historically at the Facility.

Table B-3. Information Required to Support Upstream Fish Passage Standards.

Criterion	*Standard*	*Instructions*
C	2	Agency Recommendation: • Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent). • Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. • Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.

There has been no change in the Upstream Fish Passage requirement of the Facility since it was certified by LIHI in 2011 for any of the ZoE. At that time, no Upstream Fish Passage requirement had been imposed and only would be imposed if an upstream fish passage requirement was imposed on the Deerfield #2 Project, the immediately downstream dam. This lack of an upstream fish passage requirement applies to all ZoE.

The Deerfield River Watershed Assessment Report, 2004-2008, lists just five migratory fish that occur now or have occurred historically at the Facility for any of the ZoE. These fish are the Atlantic salmon, the American eel, the American shad, the sea lamprey and the blueback herring. None of these fish appear now to be present in any of the ZoE.

In response to the request for previous documentation related to the Upstream Fish Passage requirement, the following highlighted (in **blue**) text or computer files should be carefully read by the reviewer and are may be found in "Application of Gardners Falls Project for Certification by the Low Impact Hydropower Institute, dated February 2, 2011." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item[9]	Title of Document
1(2)	**Appendix 1-1, FERC order issuing new license, issued April 4, 1997** (A PDF copy of this document is attached to this Application)
3(4)	**Appendix 1-3, FERC order approving and modifying revised fish passage plan, issued May 4, 1998** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-3-FERC-Order-1998_05_04-19980504-308513981481.pdf
17 (18)	**Appendix 3-4, Site Plan of the Facility** http://www.lowimpacthydro.org/assets/files/Gardner%20Falls%20text/Appendix%203-4%20Site%20Location%20Map.pdf
18 (19)	**Appendix A, Flows** Starts at page 26 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf
19 (20)	**Appendix A-1, Demonstration of Minimum Flows** (A PDF copy of this document is attached to this Application)
22 (23)	**Appendix C, Fish Passage and Protection** Starts at page 32 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf
23 (24)	**Appendix C-1, Fish Passage Effectiveness Study** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-C-1-Fish-Passage-Effectivenes-Study.pdf

Each of the aforementioned documents from the original LIHI application applies to the each of the ZoE.

[9] The lower number applies to the numbering of the documents in the table at the end of this Re-Certification Application titled "List Of Appendices From LIHI Certification." The higher number applies to the numbering of documents in the cover letter in the original LIHI application.

Table B-5

B.2.4 Downstream Fish Passage and Protection Standards

The instructions in Table B-4 identify information needed to meet the Downstream Fish Passage and Protection criterion and to satisfy its goal. The applicant should provide only the information associated with the standard selected for a designated zone of effect. If the PLUS standard is also selected for this criterion, the information associate with that standard must also be provided. If more than one ZoE is designated for an application, this process should be repeated for other zones.

In all cases, the applicant shall list all fish species (for example, riverine, ***anadromous***, ***catadromous***, and ***potamodromous***) that occur now or have occurred historically in the area affected by the Facility.

Table B-4. Information Required to Support Downstream Fish Passage Standards.

Criterion	*Standard*	*Instructions*
D	2	Agency Recommendation: • Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent). • Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not. • Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.
D	3	Best Practice / Best Available Technology: • Describe the downstream fish passage technologies that have been deployed and are in operation, and justify why they qualify as best practices or best available technology. • Identify all the migratory fish species in the area and explain how the downstream fish passage facilities provide adequate and safe passage for them. • Describe the monitoring and effectiveness activities that have been or are being conducted for the downstream passage facilities.

There has been a change in the Downstream Fish Passage requirement of the Facility since it was certified by LIHI in 2011 for all of the ZoE, (directly to Upper Impoundment ZoE and Bypassed Reach ZoE and indirectly to River Below Tailrace ZoE). The Project's prior Downstream Fish Passage requirement was suspended in May 2016 but will be re-imposed if Massachusetts DFW restarts its stocking efforts of Atlantic Salmon upstream of the Project. This suspended requirement applies to all of the ZoE, (directly to Upper Impoundment ZoE and Bypassed Reach ZoE and indirectly to River Below Tailrace ZoE). The relevant FERC order on the suspension of downstream fish passage and the reasons for that suspension is attached at the end of the

Application.[10] More information on this change can also be found in the Fish and Wildlife Resources section of FERC's Environmental Inspection Report, dated August 18, 2016, of which a copy is also attached at the end of the Application.[11] This report applies to all of the ZoE, (directly to Upper Impoundment ZoE and Bypassed Reach ZoE and indirectly to River Below Tailrace ZoE). The FERC officials found that no follow-up on any aspect of the Project was necessary. This statement applies to all of the ZoE, (directly to Upper Impoundment ZoE and Bypassed Reach ZoE and indirectly to River Below Tailrace ZoE).

In response to the request for previous documentation related to the Upstream Fish Passage requirement, the following highlighted (in **blue**) text or computer files should be carefully read by the reviewer and are may be found in "Application of Gardners Falls Project for Certification by the Low Impact Hydropower Institute, dated February 2, 2011." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item[12]	Title of Document
1(2)	**Appendix 1-1, FERC order issuing new license, issued April 4, 1997** (A PDF copy of this document is attached to this Application)
3(4)	**Appendix 1-3, FERC order approving and modifying revised fish passage plan, issued May 4, 1998** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-3-FERC-Order-1998_05_04-19980504-308513981481.pdf
4(5)	**Appendix 1-4, FERC order approving and modifying fish passage effectiveness monitoring plan, issued May 4, 1998** (A PDF copy of this document is attached to this Application)
7(8)	**Appendix 1-7, FERC order approving and modifying plunge pool plan, issued January 21, 1999** (A PDF copy of this document is attached to this Application)
9 (10)	**Appendix 1-9, FERC order approving final downstream fish passage effectiveness report and recommended modifications, issued June 14, 2001** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-9-FERC-Order-2001_06_14-20010615-03306024291.pdf
17 (18)	**Appendix 3-4, Site Plan of the Facility** http://www.lowimpacthydro.org/assets/files/Gardner%20Falls%20text/Appendix%203-4%20Site%20Location%20Map.pdf
18 (19)	**Appendix A, Flows** Starts at page 26 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf
19 (20)	**Appendix A-1, Demonstration of Minimum Flows** (A PDF copy of this document is attached to this Application)
22	**Appendix C, Fish Passage and Protection** Starts at page 32 of 50 of

[10] See Attachment 5, "FERC Order Modifying And Suspending License Articles 403 And 404, Issued May 16, 2016"

[11] See Attachment 2, "FERC Environmental Inspection Report, Dated August 18, 2016."

[12] The lower number applies to the numbering of the documents in the table at the end of this Re-Certification Application titled "List Of Appendices From LIHI Certification." The higher number applies to the numbering of documents in the cover letter in the original LIHI application.

(23)	http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf
23 (24)	**Appendix C-1, Fish Passage Effectiveness Study** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-C-1-Fish-Passage-Effectivenes-Study.pdf

Each of the aforementioned documents from the original LIHI application applies to the each of the ZoE, directly to the Upper Impoundment ZoE and the Bypassed Reach ZoE and indirectly to the River Below Tailrace ZoE.

Table B-6

B.2.5 Shoreline and Watershed Protection Standards

The instructions in Table B-6 identify information needed to meet the Shoreline and Watershed Protection criterion and to satisfy its goal. The applicant should provide only the information associated with the standard selected for a designated zone of effect. If the PLUS standard is also selected for this criterion, the information associate with that standard must also be provided. If more than one ZoE is designated for an application, this process should be repeated for other zones.

Table B-5. Information Required to Support Shoreline and Watershed Protection Standards.

Criterion	*Standard*	*Instructions*
E	2	Agency Recommendation: • Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans). • Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect.

There has been no change in the Shoreline and Watershed Protection requirement of the Facility since it was certified by LIHI in 2011 for any of the ZoE. (There is no *per se* Shoreline Management Plan for the Project or any shoreline or watershed protection items. There are no shoreline or watershed protection items in the Project area. Rather any prospective change in land use in the Project area must first be reported to the various agencies.). The latest demonstration of compliance of the Project's Shoreline and Watershed Protection requirement is attached at the end of the Application where Nautilus states that there was no change in land use upstream or downstream of the Project during 2016. This report applies to all of the ZoE.[13]

In response to the request for previous documentation related to the Shoreline and Watershed Protection requirement, the following highlighted (in **blue**) text or computer files should be carefully read by the reviewer and are may be found in "Application of Gardners Falls Project for Certification by the Low Impact Hydropower Institute, dated February 2, 2011." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item[14]	Title of Document
1(2)	**Appendix 1-1, FERC order issuing new license, issued April 4, 1997** (A PDF copy

[13] See Attachment 6, "2016 Demonstration of Watershed Protection, Dated January 11, 2017"

[14] The lower number applies to the numbering of the documents in the table at the end of this Re-Certification Application titled "List Of Appendices From LIHI Certification." The higher number applies to the numbering of documents in the cover letter in the original LIHI application.

	of this document is attached to this Application)
5 (6)	**Appendix 1-5, FERC order approving recreational use, erosion and sediment control plan, issued August 3, 1998** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-5-FERC-Order-1998_08_04-19980804-046814033391.pdf
17 (18)	**Appendix 3-4, Site Plan of the Facility** http://www.lowimpacthydro.org/assets/files/Gardner%20Falls%20text/Appendix%203-4%20Site%20Location%20Map.pdf
24 (25)	**Appendix D, Watershed Protection** Starts at page 36 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf
25 (26)	**Appendix D-1, Demonstration of Watershed Protection** Starts at page 38 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

Each of the aforementioned documents from the original LIHI application applies to the each of the ZoE.

Table B-7

B.2.6 Threatened and Endangered Species Standards

The instructions in Table B-7 identify information needed to meet the Threatened and Endangered Species criterion and to satisfy its goal. The applicant should provide only the information associated with the standard selected for a designated zone of effect. If the PLUS standard is also selected for this criterion, the information associate with that standard must also be provided. If more than one ZoE is designated for an application, this process should be repeated for other zones.

In all cases, the applicant shall identify all listed species in the facility area based on current data from the appropriate state and federal natural resource management agencies.

Table B-6. Information Required to Support Threatened and Endangered Species Standards.

Criterion	*Standard*	*Instructions*
F	2	Finding of No Negative Effects: • Identify all listed species in the facility area based on current data from the appropriate state and federal natural resource management agencies. • Provide documentation of a finding of no negative effect of the facility on any listed species in the area from an appropriate natural resource management agency.

The US FWS reports that there are no threatened and endangered species located in the Project's area. A copy of that report may be found at the end of the Application as well as at https://www.fws.gov/newengland/EndangeredSpec-Consultation_Project_Review.htm.[15] This report applies to all of the ZoE.

According to the Massachusetts DFW, there are no threatened and endangered fish species in the Massachusetts portion of the Deerfield River Watershed. Below is a list of the fish species in this portion of the Deerfield River Watershed. (The Project area is on the Mainstem of the Deerfield River). The latest copy of the Deerfield River Watershed report may be found at the end of the Application. This report applies to all of the ZoE.[16] The results of a MESA Information Request Form for the Project area is attached. These results apply to all of the ZoE.[17] The report indicates that there are five species, two plant, one reptile and two insect species present in the Project area. There are no fish species listed. Attached is documentation of a finding of no negative effect of the Facility on any listed species in the area from the Massachusetts DFW. [18] This letter applies to all of the ZoE.

Table 3.3.2-2: Fish Species Present in the Massachusetts portion of the Deerfield River Watershed
(Source: Hartel et al 2002)

[15] See Attachment 7, "US FWS Federally Listed Endangered and Threatened Species in Massachusetts."
[16] See Attachment 8, "Deerfield River Watershed Assessment Report, 2004-2008"
[17] See Attachment 9, "Results of Gardners Falls MESA Information Request, Dated April 5, 2017"
[18] See Attachment 10, "Letter from MESA, Dated April _____, 2017"

Species	Distribution	Occurrence	Status
Sea lamprey	Mainstem, Green River	Native	
American eel	Mainstem, Chickley, Mill Brook, Clesson Brook, South River, E. Branch North River, Green River	Native	
Gizzard shad	Mainstem	Native	
Common carp	Mainstem, Green River	Introduced	
Eastern silvery minnow	Mainstem	Native	Special Concern
Golden shiner	Mainstem, Cold River, Pelham Brook, Mill Brook, South River, North River, Green River Native Common shiner Mainstem, Cold River, Mill Brook, Clesson Brook, South River, North River, Green River	Native	
Common shiner	Mainstem, Cold River, Mill Brook, Clesson Brook, South River, North River, Green River	Native	
Bridle shiner	Green River	Native	Special Concern
Mimic shiner	Mainstem	Introduced	
Spottail shiner	Mainstem, Green River	Native	
Northern redbelly dace	Green River	Native	Endangered
Blacknose dace	All	Native	
Longnose dace	All	Native	
Creekchub	All	Native	
Fallfish	Mainstem, Clesson Brook, North River, South River, Green River	Native	
Longnose sucker	Mainstem, Cold River, Pelham Brook, Mill Brook, Clesson Brook, North River, South River	Native	Special Concern
White sucker	All	Native	
Brown bullhead	All		
Channel catfish Channel catfish	Mainstem, South River Mainstem, South River	Introduced Introduced	
Chain pickerel	Cold River, Chickley River, Pelham Brook, North River, South River, Green River	Native	
Northern pike	Mainstem only	Introduced	
Rainbow trout	Mill Brook, Clesson Brook	Introduced (Reproducing populations)	

Rainbow trout	Mainstem, North River	Mainstem, North River	
Atlantic salmon	Mainstem, Cold River, South River, Green River	Stocked (nonreproducing)	
Brown trout	All	Introduced (some Reproducing and some Stocked only)	
Brook trout	All	Native (some Reproducing and some Stocked only)	
Banded killifish	Mainstem	Native	
Slimy sculpin	All	Native	
Rock bass	Mainstem	Introduced	
Redbreast sunfish	Mainstem	Native	
Pumpkinseed	Mainstem, Cold River, Pelham Brook, Chickley River, South River, Green River	Native	
Bluegill	Mainstem, Green River, South River	Introduced	
Smallmouth bass	Mainstem, Cold River, Pelham Brook, Chickley River, North River, South River, Green River	Introduced	
Largemouth bass	Mainstem, Chickley River, South River	Introduced	
Black crappie	Mainstem, Pelham Brook, South River	Introduced	
Tessellated darter	Mainstem, North River, South River, Green River	Native	
Yellow perch	Mainstem, Cold River, Chickley River, North River, South River, Green River	Native	

In response to request for documentation, the following highlighted (in **blue**) text or computer files should be carefully read by the reviewer and are may be found in "Application of Gardners Falls Project for Certification by the Low Impact Hydropower Institute, dated February 2, 2011." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item[19]	Title of Document
1(2)	**Appendix 1-1, FERC order issuing new license, issued April 4, 1997** (A PDF copy

[19] The lower number applies to the numbering of the documents in the table at the end of this Re-Certification Application titled "List Of Appendices From LIHI Certification." The higher number applies to the numbering of documents in the cover letter in the original LIHI application.

	of this document is attached to this Application)
17 (18)	**Appendix 3-4, Site Plan of the Facility** http://www.lowimpacthydro.org/assets/files/Gardner%20Falls%20text/Appendix%203-4%20Site%20Location%20Map.pdf
26 (27)	**Appendix E, Threatened and Endangered Species Protection** Starts at page 39 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

Each of the aforementioned documents from the original LIHI application applies directly to the each of the ZoE.

Table B-8

B.2.7 Cultural and Historic Resources Standards

The instructions in Table B-8 identify information needed to meet the Cultural and Historic Resources criterion and to satisfy its goal. The applicant should provide only the information associated with the standard selected for a designated zone of effect. If the PLUS standard is also selected for this criterion, the information associate with that standard must also be provided. If more than one ZoE is designated for an application, this process should be repeated for other zones.

In all cases, the applicant shall identify all cultural and historic resources that are on facility owned property or that may be affected by facility operations.

Table B-7. Information Required to Support Cultural and Historic Resources Standards.

Criterion	*Standard*	*Instructions*
G	2	Approved Plan: • Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility. • Document that the facility is in compliance with all such plans.

There has been a minor change in the Cultural Resources Management Plan of the Facility since it was certified by LIHI in 2011. This change was necessitated by damage done by Hurricane Irene to historic structures located in the Project area.[20] The Project's historic structures were only located in the Upper Impoundment ZoE on the east bank of the Deerfield River. More information on this change can be found in the Cultural Resources section of FERC's Environmental Inspection Report, dated August 18, 2016, of which a copy is attached at the end of the Application. This report applies to all of the ZoE.[21] The FERC officials found that no follow-up on any aspect of Cultural Resources matters was necessary. This statement applies to all ZoE.

In response to the request for previous documentation related to the Recreational Resource requirement, the following highlighted (in **blue**) text or computer files should be carefully read by the reviewer and are may be found in "Application of Gardners Falls Project for Certification by the Low Impact Hydropower Institute, dated February 2, 2011. If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

[20] See Attachment 11, "Demonstration of Cultural Resources Activities, Dated February 29, 2012."
[21] See Attachment 2, "FERC Environmental Inspection Report, Dated August 18, 2016"

Item[22]	Title of Document
1(2)	**Appendix 1-1, FERC order issuing new license, issued April 4, 1997** (A PDF copy of this document is attached to this Application)
6 (7)	**Appendix 1-6, FERC order approving cultural resources management plan, issued November 17, 1998** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-6-FERC-Order-1998_11_18-19981118-042614090321.pdf
17 (18)	**Appendix 3-4, Site Plan of the Facility** http://www.lowimpacthydro.org/assets/files/Gardner%20Falls%20text/Appendix%203-4%20Site%20Location%20Map.pdf
27 (28)	**Appendix F, Cultural Resource Protection** Starts at page 41 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf
28 (29)	**Appendix F-1, Demonstration of Cultural Resource Protection Compliance** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-F-1-Cultural-Resources-Plan-20100414-0020236691212.pdf

Each of the aforementioned documents from the original LIHI application applies to the each of the ZoE.

[22] The lower number applies to the numbering of the documents in the table at the end of this Re-Certification Application titled "List Of Appendices From LIHI Certification." The higher number applies to the numbering of documents in the cover letter in the original LIHI application.

Table B-9

B.2.8 Recreational Resources Standards

The instructions in Table B-9 identify information needed to meet the Recreational Resources criterion and to satisfy its goal. The applicant should provide only the information associated with the standard selected for a designated zone of effect. If the PLUS standard is also selected for this criterion, the information associate with that standard must also be provided. If more than one ZoE is designated for an application, this process should be repeated for other zones.

Table B-8. Information Required to Support Recreational Resources Standards.

Criterion	*Standard*	*Instructions*
H	2	Agency Recommendation: • Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations. • Document that the facility is in compliance with all such recommendations and plans.

There has been no change in the Recreational Resource requirement of the Facility since it was certified by LIHI in 2011 for any of the ZoE.[23] [24] The latest demonstration of compliance of the Project's Recreational Resource requirement is FERC's Environmental Inspection Report, dated August 18, 2016, of which a copy is attached at the end of the Application. This report applies to all of the ZoE.[25] The FERC officials found that no follow-up on any aspect of the Project was necessary. This statement applies to all ZoE.

The recreational facilities can be found throughout the Project area. In the Upper Impoundment ZoE on the west bank are toilet facilities, a picnic area and a scenic path. In the Bypassed Reach ZoE on the west bank are a scenic path and toilet facilities. On the River Below Tailrace ZoE on the opposite bank is Wilcox Hollow. The approximate location of each these facilities can be found in Appendix G-2 of the original LIHI certification application.

In response to the request for previous documentation related to the Recreational Resource requirement, the following highlighted (in **blue**) text or computer files should be carefully read by the reviewer and are may be found in "Application of Gardners Falls Project for Certification by the Low Impact Hydropower Institute, dated February 2, 2011. If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

[23] See Attachment 12, "Kleinschmidt Letter Regarding Recreation Report, Dated March 24, 2016"
[24] See Attachment 13, "2016 FERC Form 80 Recreation Report, Dated March 23, 2016"
[25] See Attachment 2, "FERC Environmental Inspection Report, Dated August 18, 2016"

Item[26]	Title of Document
1 (2)	**Appendix 1-1, FERC order issuing new license, issued April 4, 1997** (A PDF copy of this document is attached to this Application)
5 (6)	**Appendix 1-5, FERC order approving recreational use, erosion and sediment control plan, issued August 3, 1998** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-5-FERC-Order-1998_08_04-19980804-046814033391.pdf
8 (9)	**Appendix 1-8, FERC order approving recreation plan in part under article 406, issued April 18, 2001** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-8-FERC-Order-2001_04_18-20010419-05477012101.pdf
10 (11)	**Appendix 1-10, FERC order approving revised recreation plan, issued October 18, 2001** (A PDF copy of this is attached to this Application)
11 (12)	**Appendix 1-11, Memorandum of Agreement Between Consolidated Edison Energy Massachusetts, Inc. and MDEM** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-11-Memorandum-of-Agreement.pdf
12 (13)	**Appendix 1-12, FERC Environmental Inspection Report, dated October 26, 2004** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-12-FERC-Environmental-Inspection-Report_2004_10_26.pdf
17 (18)	**Appendix 3-4, Site Plan of the Facility** http://www.lowimpacthydro.org/assets/files/Gardner%20Falls%20text/Appendix%203-4%20Site%20Location%20Map.pdf
29 (30)	**Appendix G, Recreation** Starts at page 44 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf
30 (31)	**Appendix G-1, Demonstration of Recreation Compliance** Starts at page 48 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf
31 (32)	**Appendix G-2, Existing Recreational Facilities** http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-G-2-Existing-Recreational-Facilities.pdf

Each of the aforementioned documents from the original LIHI application applies to the each of the ZoE, except that Appendix 1-11 applies only to River Below Tailrace ZoE.

[26] The lower number applies to the numbering of the documents in the table at the end of this Re-Certification Application titled "List Of Appendices From LIHI Certification." The higher number applies to the numbering of documents in the cover letter in the original LIHI application.

Sworn Statement and Waiver Form

SWORN STATEMENT

As an Authorized Representative of Nautilus Hydro, LLC, the Undersigned attests that the material presented in the application is true and complete.

The Undersigned acknowledges that the primary goal of the Low Impact Hydropower Institute's Certification Program is public benefit, and that the LIHI Governing Board and its agents are not responsible for financial or other private consequences of its certification decisions.

The undersigned further acknowledges that if certification of the applying facility is issued, the LIHI Certification Mark License Agreement must be executed prior to marketing the electricity product as LIHI Certified.

The undersigned Applicant further agrees to hold the Low Impact Hydropower Institute, the Governing Board and its agents harmless for any decision rendered on this or other applications, from any consequences of disclosing or publishing any submitted certification application materials to the public, or on any other action pursuant to the Low Impact Hydropower Institute's Certification Program.

Company Name: Nautilus Hydro, LLC

Authorize Representative Name: Kim Marsili Title: General Manager

Kim C Marsili

State of Massachusetts)

County of Hampden)

On this, the 27th day of April, 2017, before me a notary public, the undersigned officer, personally appeared Kim Marsili, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

Notary Public: Ian Molbury

IAN J MOLBURY
Notary Public
Massachusetts
Commission Expires Dec 3, 2021

ATTACHMENTS TO LIHI RE-CERTIFICATION

1. 2016 Demonstration of Minimum Flow, Dated January 11, 2017
2. FERC Environmental Inspection Report, Dated August 18, 2016
3. MDEP Letter, Dated April 25, 2017
4. Massachusetts Year 2014 List of Integrated Waters
5. FERC Order Modifying And Suspending License Articles 403 And 404, Issued May 16, 2106
6. 2016 Demonstration of Watershed Protection, Dated January 13, 2017
7. US FWS Federally Listed Endangered and Threatened Species in Massachusetts
8. Deerfield River Watershed Assessment Report, 2004-2008
9. Results of Gardners Falls MESA Information Request, Dated April 5, 2017
10. Letter from MESA, Dated April ___, 2017
11. 2012 Demonstration of Cultural Resources Activities, Dated February 29, 2012
12. Kleinschmidt Letter Regarding Recreation Report, Dated March 24, 2016
13. 2016 FERC Form 80 Recreation Report, Dated March 23, 2016

LIST OF APPENDICES FROM LIHI CERTIFICATION

1. Appendix 1-1, FERC order issuing new license, issued April 4, 1997 (A PDF copy of this document is attached to this Application)

2. Appendix 1-2 FERC order approving and modifying minimum flow monitoring plan, issued May 4, 1998 http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-2-FERC-Order-1998_05_04-19980504-308413981441.pdf

3. Appendix 1-3, FERC order approving and modifying revised fish passage plan, issued May 4, 1998 http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-3-FERC-Order-1998_05_04-19980504-308513981481.pdf

4. Appendix 1-4, FERC order approving and modifying fish passage effectiveness monitoring plan, issued May 4, 1998 (A PDF copy of this document is attached to this Application)

5. Appendix 1-5, FERC order approving recreational use, erosion and sediment control plan, issued August 3, 1998 http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-5-FERC-Order-1998_08_04-19980804-046814033391.pdf

6. Appendix 1-6, FERC order approving cultural resources management plan, issued November 17, 1998 http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-6-FERC-Order-1998_11_18-19981118-042614090321.pdf

7. Appendix 1-7, FERC order approving and modifying plunge pool plan, issued January 21, 1999 (A PDF copy of this document is attached to this Application)

8. Appendix 1-8, FERC order approving recreation plan in part under article 406, issued April 18, 2001 http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-8-FERC-Order-2001_04_18-20010419-05477012101.pdf

9. Appendix 1-9, FERC order approving final downstream fish passage effectiveness report and recommended modifications, issued June 14, 2001 http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-9-FERC-Order-2001_06_14-20010615-03306024291.pdf

10. Appendix 1-10, FERC order approving revised recreation plan, issued October 18, 2001 (A PDF copy of this is attached to this Application)

11. Appendix 1-11, Memorandum of Agreement Between Consolidated Edison Energy Massachusetts, Inc. and MDEM http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-11-Memorandum-of-Agreement.pdf

12. Appendix 1-12, FERC Environmental Inspection Report, dated October 26, 2004 http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-1-12-FERC-Environmental-Inspection-Report_2004_10_26.pdf

13. Appendix 2, Agency Contacts Starts at page 17 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

14. Appendix 3-1, Description of the Facility Starts at page 20 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

15. Appendix 3-2, Mode of Operation Starts at page 22 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

16. Appendix 3-3, Locations of Major Items of the Facility Starts at page 24 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

17. Appendix 3-4, Site Plan of the Facility http://www.lowimpacthydro.org/assets/files/Gardner%20Falls%20text/Appendix%203-4%20Site%20Location%20Map.pdf

18. Appendix A, Flows Starts at page 26 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

19. Appendix A-1, Demonstration of Minimum Flows (A PDF copy of this document is attached to this Application)

20. Appendix B, Water Quality Starts at page 29 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

21. Appendix B-1, MDEP Water Quality Certificate, issued December 14, 1994 http://www.lowimpacthydro.org/assets/files/Gardner%20Falls%20text/MDEP%20Water%20Quality%20Certificate%20%281994-12-14%29.pdf

22. Appendix C, Fish Passage and Protection Starts at page 32 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

23. Appendix C-1, Fish Passage Effectiveness Study http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-C-1-Fish-Passage-Effectivenes-Study.pdf

24. Appendix D, Watershed Protection Starts at page 36 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

25. Appendix D-1, Demonstration of Watershed Protection Starts at page 38 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

26. Appendix E, Threatened and Endangered Species Protection Starts at page 39 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

27. Appendix F, Cultural Resource Protection Starts at page 41 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

28. Appendix F-1, Demonstration of Cultural Resource Protection Compliance http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-F-1-Cultural-Resources-Plan-20100414-0020236691212.pdf

29. Appendix G, Recreation Starts at page 44 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

30. Appendix G-1, Demonstration of Recreation Compliance Starts at page 48 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

31. Appendix G-2, Existing Recreational Facilities http://lowimpacthydro.org/wp-content/uploads/2011/10/Appendix-G-2-Existing-Recreational-Facilities.pdf

32. Appendix H, Facilities Recommended for Removal Starts at page 50 of 50 of http://lowimpacthydro.org/wp-content/uploads/2011/10/Gardners-Falls-Application-Letter-and-Appendices-Final-Pictures.pdf

LIST OF APPENDICES FROM THE ORIGINAL LIHI APPLICATION NOT FOUND ON THE LIHI WEBSITE

1. Appendix 1-1, FERC order issuing new license, issued April 4, 1997 (A PDF copy of this document is attached to this Application)

2. Appendix 1-4, FERC order approving and modifying fish passage effectiveness monitoring plan, issued May 4, 1998 (A PDF copy of this document is attached to this Application)

3. Appendix 1-7, FERC order approving and modifying plunge pool plan, issued January 21, 1999 (A PDF copy of this document is attached to this Application)

4. Appendix 1-10, FERC order approving revised recreation plan, issued October 18, 2001 (A PDF copy of this is attached to this Application)

5. Appendix A-1, Demonstration of Minimum Flows (A PDF copy of this document is attached to this Application)

UNITED STATES OF AMERICA79 FERC 61,007
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Elizabeth Anne Moler, Chair;
Vicky A. Bailey, James J. Hoecker,
William L. Massey, and Donald F. Santa, Jr.

Western Massachusetts Electric Company) Project No. 2334-001

ORDER ISSUING NEW LICENSE

(Issued April 4, 1997)

Western Massachusetts Electric Company (WMEC), a wholly-owned subsidiary of Northeast Utilities Service Company (Northeast Utilities), filed an application pursuant to Sections 4(e) and 15 of the Federal Power Act (FPA) 1/ for a new license authorizing the continued operation and maintenance of the 3.58-megawatt (MW) Gardners Falls Project, located on the Deerfield River, a navigable waterway of the United States, in Franklin County, Massachusetts. 2/

The Commission issued the original license for the Gardners Falls Project on July 15, 1964. 3/ That license expired on December 31, 1993, and since then WMEC has operated the project pursuant to successive annual licenses pending the disposition of its application for a new license. For the reasons discussed below, we will issue a new license to WMEC for the Gardners Falls Project.

I. BACKGROUND

Notice of the application has been published. Motions to intervene were filed by the Deerfield River Watershed Association, the Deerfield River Compact, the United States Environmental Protection Agency, the United States Department of the Interior (Interior), the Commonwealth of Massachusetts (Massachusetts), and North American Whitewater Expeditions. A

/ 16 U.S.C. 797(e), 808.

/ See New England Power Company, 30 FPC 1120 (1963).

/ 32 FPC 129 (1964).

motion to intervene in opposition to relicensing was filed by Trout Unlimited. 4/

The Commission s staff issued a Draft Environmental Impact Statement (EIS) for Gardners Falls and two other projects in the Deerfield River Basin on March 8, 1996. 5/ Numerous comments on the draft EIS were filed, and the Commission s staff considered these comments in preparing the final EIS, which was issued on August 23, 1996, and is incorporated by reference in this order. The staff also prepared a Safety and Design Assessment, which is available in the Commission s public file for this project.

II. PROJECT DESCRIPTION

The Gardners Falls Project is located on the Deerfield River between the Deerfield No. 2 and Deerfield No. 3 developments of New England Power Company s Deerfield River Project No. 2323. Flows to the project are regulated by releases from the Deerfield No. 3 development, located about one mile upstream, and may vary considerably. Water is released from the Gardners Falls powerhouse directly into the Deerfield No. 2 impoundment.

The existing project consists of a dam, an impoundment with a surface area of 21 acres, a powerhouse containing four turbine-generator units with a total installed capacity of 3.58 MW, and appurtenant facilities. A more detailed description of the project is set forth in ordering paragraph B(2). WMEC proposes no new capacity and no new construction.

III. APPLICANT S PLANS AND CAPABILITIES

In accordance with Sections 10(a)(2)(C) and 15(a) of the FPA, 6/ we have evaluated WMEC s record as a licensee with respect to the following areas: (A) consumption improvement program; (B) compliance history and ability to comply with the new license; (C) safe management, operation, and maintenance of

the project; (D) ability to provide efficient and reliable electric service; (E) need for power; (F) transmission services; (G) cost effectiveness of plans; and (H) actions affecting the public.

/ Trout Unlimited does not ask for any specific relief associated with denial of WMEC s relicense application.

/ Those projects are New England Power Company s Deerfield River Project No. 2323 and Bear Swamp Project No. 2669.

/ 16 U.S.C. 803(a)(2)(C) and 808(a).

A. Consumption Improvement Program

Appendix J of WMEC s application for the new license contains a copy of the 1990 WMEC Annual Conservation and Load Management (C&LM) Report, outlining the content of WMEC s C&LM programs. The Massachusetts Department of Public Utilities (DPU) requires WMEC to file to conservation and load-management programs with the Department annually for approval. WMEC has complied with this requirement since its existence in 1990. All programs comply with the directives set forth by the DPU. We conclude that WMEC has in place an adequate electricity consumption improvement program.

B. Compliance History and Ability to Comply with the New License

We have reviewed WMEC s compliance with the terms and conditions of the existing license. WMEC s overall record of making timely filings and compliance with its license is satisfactory. Therefore, we believe WMEC can satisfy the conditions of a new license and of orders issued thereunder.

C. Safe Management, Operation and Maintenance of the Project

WMEC owns and operates the Gardners Falls Project. The project dam and appurtenant facilities are subject to Part 12 of the Commission s regulations, concerning project safety. We have reviewed WMEC s management, operation, and maintenance of the project pursuant to the requirements of Part 12 and the associated Engineering Guidelines, including all applicable

safety requirements, such as warning signs and boat barriers. The emergency action plan, and the independent consultant s safety inspection report. We conclude that the project is being safely managed, operated, and maintained.

D. Ability to Provide Efficient and Reliable Service

Coordination and management of generation dispatch of all the Deerfield River hydroelectric facilities (including the Gardners Falls Project) is performed by the New England Power Exchange (NEPEX). NEPEX is a region-wide electricity coordinating body which dispatches regional facilities in the manner that will provide regional consumers with the lowest-cost capacity and energy. We conclude that WMEC s plans and abilities are adequate to operate and maintain the project in a manner that will continue to provide efficient and reliable electric service.

E. Need for Power

The Gardners Falls Project is located in the New England Power Pool (NEPOOL) Sub-Region of the Northeast Power Coordinating Council (NPCC). NPCC annually forecasts electrical

supply and demand in the nation and in the region for a ten-year period. These reports are mandated by the United States Department of Energy (DOE) and are referred to as DOE Form OE-411 Reports.

NPCC s 1995 OE-411 Report forecasts a continued demand growth rate during the ten-year period in the NEPOOL area and little or no net resource additions, resulting in decreased reserve margins. The Gardners Fall Project, which generates about 14.0 gigawatt-hours annually, is included in this forecast as part of the existing resource mix. The electricity generated from the project would benefit the region by providing a portion of the needed regional power.

We conclude that present and future use of the project s power, its displacement of non-renewable fossil-fired generation, and its contribution to a diversified generation mix support a finding that the power from the Gardners Falls Project will help meet a need for power in the NEPOOL area in the short and long terms.

F. Transmission Services

The existing transmission services consist of a line extending from the project site to WMEC s Montague substation, which is part of the Northeast Utilities transmission system.

G. Cost Effectiveness of Plans

WMEC has no plans for additional facilities or project modifications, other than recreational and environmental enhancements. We conclude that the project, as presently configured and as operated according to this order consistent with environmental considerations, fully develops the economical hydropower potential of the site in a cost-effective manner.

H. Actions Affecting the Public

The environmental enhancement measures included in this license will result in beneficial changes to the environmental quality of the project area, including aquatic resources, and to public recreation. These measures are discussed below.

IV. WATER QUALITY CERTIFICATION

Under Section 401(a)(1) of the Clean Water Act (CWA), 7/ an applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters must

/ 33 U.S.C. 1341(a)(1).

obtain from the state in which the discharge originates certification that any such discharge will comply with applicable water quality standards. The Commission may therefore not issue a license for a hydropower project unless the relevant state agency either has issued a water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. 8/

The Massachusetts Department of Environmental Protection, on December 14, 1994, issued a Section 401 certification for Gardners Falls Project located in Massachusetts. 9/ The certification contains ten conditions, labeled A to J. All the certification conditions are included in the new license, except for those discussed next, which we conclude are beyond the scope

of CWA Section 401.

Condition H of the certification provides that any modification of project operation that would affect the state s certification conditions must be approved by Massachusetts, and Condition J reserves Massachusetts right to review, and modify if necessary, its certification conditions if the Vermont certification for the Vermont developments of Project No. 2323 results in non-compliance with the Massachusetts certification. These conditions in effect give Massachusetts the opportunity to revisit its certification. Section 401(a)(3) of the CWA sets out the exclusive manner in which state certifications may be modified and makes clear that the process is to be initiated by the federal licensing agency, not the state. 10/ Thus, the Commission determines whether proposed license amendments require new water quality certification. 11/ Conditions H and J are therefore beyond the scope of Massachusetts authority under Section 401 and will not be included in the license.

/ Id.

/ See Appendix A to this order.

/ See, e.g., Great Northern Paper, Inc., 77 FERC 61,068 at pp. 61,271-73 (1996).

/ The Commission s regulations, 18 C.F.R. 4.38(7)(iii), provide that, if an applicant seeks to amend its application or license, it must make a new request for water quality certification if the amendment would have a material adverse impact on the discharge from the project.

V. SECTION 18 FISHWAY PRESCRIPTIONS

Section 18 of the FPA 12/ provides that the Commission shall require construction, operation and maintenance by a licensee of such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate. Interior, on October 5, 1994, submitted its Section 18 fishway

prescription, requiring construction of a permanent downstream fishway at the project. Interior further requests reservation of its authority to prescribe fishways.

A valid Section 18 prescription should mandate a specific physical structure, facility, or device for fish passage, or measures related to such structures. Interior s purported prescription includes conditions that are beyond the scope of its authority under FPA Section 18. Interior discussed the licensee s proposal to install a louver system with bypass at the project but did not adopt the proposal as its own. Interior did not specify the exact type of downstream fish passage facility to be installed at the project. Interior would require WMEC to provide functional design drawings for Interior s approval four months from the issuance date of the license and final designs within two years after issuing the license. The Commission, however, retains final authority to approve all project structures, including fishways. 13/ Interior would require that the facility be constructed and operational within two years of the issuance of the license. Only the Commission, however, has the authority to control the timing of activities under a Commission-issued license. We conclude that in these respects Interior s October 5, 1994 submission is not a valid Section 18 prescription. We will, however, follow the recommendations of the EIS, and require, in Article 403, that the licensee submit a plan to the Commission for the construction of downstream fish passage facilities at the project.

We recognize that future fish passage needs cannot always be determined at the time of project licensing. The Commission s practice has been to include a license article that reserves the Secretary s authority to prescribe facilities for fish passage. 14/ Therefore, Article 405 reserves the Commission s

/ 16 U.S.C. 811.

/ Lynchburg Hydro Associates, 39 FERC 61,079 (1987).

/ The Commission has specifically sanctioned the reservation of fishway prescription authority at relicensing. See Wisconsin Public Service Corporation, 62 FERC 61,095

(continued...)

authority to require fishways that the Secretary of the Interior

may prescribe in the future.

VI. RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES AND THE SECTION 10(J) PROCESS

Section 10(j)(1) of the FPA 15/ requires the Commission, when issuing a license, to include license conditions, based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act, to adequately and equitably protect, mitigate damages to, and enhance, fish and wildlife (including related spawning grounds and habitat) affected by the project.

By letter of October 5, 1994, Massachusetts, on behalf of its Department of Environmental Management, Department of Environmental Protection, and Division of Fisheries and Wildlife and Environmental Law Enforcement, submitted Section 10(j) recommendations concerning minimum flows and downstream fish passage. Interior s October 5, 1994 filing submitted recommendations pursuant to Section 10(j) concerning minimum flows and monitoring the effectiveness of the downstream fish passage facilities. The license contains conditions consistent with those recommendations.

VII. OTHER AGENCY RECOMMENDATIONS

Massachusetts and Interior s letters of October 5, 1994, included recommendations pursuant to Section 10(a) of the FPA. 16/ Massachusetts and Interior both recommend that WMEC be required to establish an environmental enhancement fund in the amount of $50,000, to finance future watershed conservation, and the development and maintenance of low impact recreational and educational projects and facilities in the Deerfield River Basin. The agencies propose that the fund be operated and administered similarly to the enhancement fund proposed by New England Power for its Deerfield River Project No. 2323. 17/

(...continued)
(1993), aff d, Wisconsin Public Service Corporation v. FERC, 32 F.3d 1165 (7th Cir. 1994).

/ 16 U.S.C. 803(j)(1).

/ 16 U.S.C. 803(a).

/ The Environmental Enhancement Fund proposed in the Offer of Settlement in the relicensing proceeding for New England Power s Deerfield River Project No. 2323 provides for
(continued...)

The recreational and fish and wildlife measures we are requiring of WMEC in the new license will provide sufficient mitigation and enhancement for recreational and fish and wildlife resources affected by the Gardners Falls Project. We determine that Massachusetts and Interior have not demonstrated why WMEC should be required to establish an enhancement fund in addition to the obligations required by the new license. We further note that, unlike New England Power, WMEC neither proposed nor agreed to the establishment of such a fund.

Massachusetts also recommends that WMEC be required to place interpretive signs at all cultural and historic sites throughout the project. The appropriate handling of these matters will be decided through the procedures under the Programmatic Agreement for the Gardners Falls Project implemented in the new license (Article 408).

Finally, Massachusetts recommends that WMEC be required to provide teacher training workshops in area schools, to address the natural resources of the project area. We find that Massachusetts has not shown how this measure relates to resources affected by the project or is an appropriate measure for this project under the FPA.

VIII. COMPREHENSIVE PLANS

Section 10(a)(2)(A) of the FPA requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. 18/ Of the comprehensive plans filed with the Commission, the Commission staff identified 18 plans (four Massachusetts plans, ten Vermont plans, and four federal plans) as relevant to the hydroelectric projects on the Deerfield River and reviewed those

(...continued)
expenditures by the licensee in addition to its obligations to provide specific recreational and fish and wildlife enhancements for that project.

/ Comprehensive plans for this purpose are defined at 18 C.F.R. 2.19 (1996).

plans. 19/ The Commission staff also reviewed another plan that

/ Massachusetts plans: (1) Deerfield River comprehensive management plan, Franklin County Planning Department, June 1990; (2) Massachusetts outdoors for our common good: open space and outdoor recreation in Massachusetts, Massachusetts Department of Environmental Management, Division of Planning and Development, December 1988; (3) Connecticut River Basin water quality management plan, Massachusetts Department of Environmental Quality Engineering, Division of Water Pollution Control, June 1983; and (4) Connecticut River Basin fish passage, flow, and habitat alteration considerations in relation to anadromous fish restoration, Technical Committee for Fisheries Management of the Connecticut River, October 1981.

Vermont plans: (1) The waterfalls, cascades, and gorges of Vermont, Jenkins, J. and P. Zika, Vermont Agency of Natural Resources, May 1986; (2) Vermont state comprehensive outdoor recreation plan, 1983-1988, Vermont Agency of Environmental Conservation, June 1983; (3) Vermont Rivers Study, Vermont Agency of Environmental Conservation, 1986; (4) Hydropower in Vermont: an assessment of environmental problems and opportunities, Vermont Agency of Natural Resources, Department of Environmental Conservation, May 1988; (5) Preliminary comprehensive rivers plan for the Deerfield River, Vermont: an inventory of uses, values, and goals, Vermont Agency of Natural Resources, Department of Environmental Conservation, Windham Regional Commission, July 1991; (6) Comprehensive river plan for the Deerfield River watershed, Vermont Department of Environmental Conservation, November 1992; (7) 1988 Vermont recreation plan, Vermont Agency of Natural Resources, Department of Forests, Parks and Recreation, 1988; (8) Wetlands component of the 1988 Vermont recreation plan, Vermont Agency of Natural Resources, Department of Forests, Parks and Recreation, Wetlands Steering Committee, July 1988; (9) Vermont's lake trout management plan for inland waters, Vermont Agency of Natural Resources, Department of Fish and Wildlife, May and July, 1990; and (10) A strategic plan for

the restoration of Atlantic salmon to the Connecticut River Basin, Policy Committee for Fisheries Management of the Connecticut River, September 1982.

Federal plans: (1) North American waterfowl management plan, U.S. Fish and Wildlife Service, May 1986; (2) Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service, U.S. Fish and Wildlife Service, undated; (3) Final environmental impact statement -

(continued...)

addresses resource concerns for the area but is not designated as a Commission-approved comprehensive plan. 20/ The project does not conflict with any of the comprehensive plans.

IX. COMPREHENSIVE DEVELOPMENT

Sections 4(e) and 10(a)(1) of the FPA 21/ require the Commission, in acting on applications for license, to give equal consideration to the power and development purposes and to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

The project as proposed by WMEC, and based on current economic conditions without future escalation or inflation, would cost about $799,000 annually (47.6 mills/Kwh) and would produce about 16.8 Gwh of energy annually having a current value of about $903,000 (53.8 mills/Kwh) for a current net annual power benefit of about $104,000 (6.2 mills/Kwh). If licensed with the added requirements of the Massachusetts water quality certification and the new license, the project will produce about 13.8 Gwh of energy annually, at a current net annual loss of about $66,000.

The EIS recommends a number of measures to protect and enhance environmental resources, which we have adopted and included in the new license. These measures include: minimum flows (Article 401); preparation and implementation of a flow monitoring plan (Article 402); downstream fish passage facilities

(Article 403); preparation and implementation of a plan to monitor the effectiveness of the permanent downstream fish passage facilities (Article 404); recreation enhancements (Article 406); and preparation of a recreational use erosion and sediment control plan (Article 407).

(...continued)
restoration of Atlantic salmon to New England rivers, Department of the Interior, May 1989; and (4) The Nationwide rivers inventory, National Park Service, January 1982.

/ Green Mountain National Forest Land and Resource Management Plan, U.S. Forest Service 1986.

/ 16 U.S.C. 797(e) and 803(a)(1).

Based on our review and evaluation of the existing Gardners Falls Project, the agencies recommendations, and the alternatives documented in the EIS prepared in this proceeding, we find that the Gardners Falls Project, with our mitigative and enhancement measures, will be best adapted to comprehensive development of the Deerfield River for beneficial public use under Sections 4(e) and 10(a)(1) of the FPA. Although we find that the project would be operated at a loss, ultimately it is WMEC which must decide whether it wishes to continue operating the project.

X. LICENSE TERM

Pursuant to Section 15(e) of the FPA, 22/ relicense terms shall be for a term that the Commission determines to be in the public interest, but not less than 30 years, nor more than 50 years from the date on which the license is issued. Commission policy is to grant 30-year terms for the licenses of projects with little or no redevelopment, new construction, new capacity or environmental mitigative or enhancement measures; 40-year terms for projects with a moderate amount thereof; and 50-year terms for projects with an extensive amount thereof.

This license does not authorize construction of new capacity or project redevelopment. Although the license requires additional expenditures by WMEC for mitigation and enhancement measures, as well as changes in minimum flow releases, we do not

believe they warrant a term longer than 30 years. However, concurrently with this order, we are issuing New England Power a new license for a 40-year term for its Deerfield River Project No. 2323. In accordance with the Commission s policy of coordinating the expiration dates of licenses for projects located within the same river basin, 23/ we are issuing the new license to WMEC for a 40-year term.

XI. SUMMARY

The EIS issued for this project includes background information, analysis of impacts, and support for related license articles. Issuance of this license is a major federal action significantly affecting the quality of the human environment.

The design of this project is consistent with engineering safety standards. The project will be safe if operated and maintained in accordance with the requirements of this license.

/ 16 U.S.C. 808(e).

/ See 18 C.F.R. 2.23.

We provide analysis of related issues in the Safety and Design Assessment prepared for this project.

The Commission orders:

(A) This license is issued to the Western Massachusetts Electric Company (licensee) for a term of 40 years, effective the first day of the month in which it is issued, to operate and maintain the Gardners Falls Project No. 2334. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

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

Exhibit G FERC No. Showing

Sheet 1 of 6	2334-2008	Detail Project Map
Sheet 2 of 6	2334-2009	Detail Project Map
Sheet 3 of 6	2334-2010	Detail Project Map
Sheet 4 of 6	2334-2011	Detail Project Map
Sheet 5 of 6	2334-2012	Detail Project Map
Sheet 6 of 6	2334-2013	Detail Project Map

(2) Project works consisting of: (1) a concrete gravity dam, 337 feet long with a maximum height of 30 feet at permanent crest elevation 332.79 feet mean sea level (msl) and flashboard elevation 334.79 feet msl, (2) an impoundment 3,200 feet long, with a surface area of 21 acres, 190 acre-feet gross storage, and 37.2 acre-feet usable storage, (3) a brick and concrete powerhouse equipped with four turbine-generator units with total capacity 3.58 MW, (4) a 1300-foot power canal 31 feet wide and 15 feet deep, and (5) a double circuit 13.8 kV transmission line connecting the Gardners Falls project to the Montague substation.

The project works generally described above are more specifically shown and described by the following exhibits that also form a part of the application for license and that are designed and described as:

Exhibit A:

Exhibit A, Section 1.0 entitled TURBINES, Section 2.0 entitled GENERATORS, and Subsection 8.5 entitled TRANSMISSION FACILITIES, filed on December 20, 1991 with the application for license.

Exhibit F: Project Drawings

Exhibit F Drawing	FERC No.	Description
Sheet 1	2334-2001	Plan and Sections of Dam and Headgates
Sheet 2	2334-2002	Elevations and Sections of Dam

Sheet 3	2334-2003	Plan and Sections of Power Canal
Sheet 4	2334-2004	Plan of Powerhouse
Sheet 5	2334-2005	Cross Section of Generating Unit 2
Sheet 6	2334-2006	Cross Section of Generating Units 3 & 4
Sheet 7	2334-2007	Cross Section of Generating Unit 5

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

(C) Exhibits A, F and G of the license application are approved and made part of the license.

(D) This license is subject to the articles set forth in Form L-3 (October 1975) entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters of the United States" and the following additional articles:

Article 201. The Licensee shall pay the United States an annual charge effective as of the first day of the month in which this license is issued, for the purposes of reimbursing the United States for the Commission's administrative costs, pursuant

to Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 3,600 kilowatts.

Article 202. If the Licensee's project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license

(including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license.

Article 203. Pursuant to Section 10(d) of the FPA, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The Licensee shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the Licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The Licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The Licensee shall maintain the amounts established in the project amortization reserved account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly includible in the Licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10 year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 301. Within 90 days of completion of the construction of the facilities authorized by this license, the Licensee shall file with the Commission for approval, the

appropriate revised Exhibit F drawings, to show those facilities as-built.

Article 401. The Licensee shall release from Gardners Falls Dam a minimum flow of 150 cubic feet per second (cfs), or inflow to the project reservoir, whichever is less, for the protection and enhancement of fish resources in the bypassed reach of the Deerfield River. The minimum flow shall be comprised of the total flows over the dam and flows through the downstream fish passage facility.

This flow may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods upon agreement between the Licensee and the Massachusetts Division of Fisheries and Wildlife. If the flow is so modified, the Licensee shall notify the Commission as soon as possible, but no later than ten days after each such incident.

Article 402. Within 180 days from the date of issuance of this license, the Licensee shall file with the Commission, for approval, a plan to monitor the flows required in Article 401.

The monitoring plan shall include, but not be limited to: (1) a schedule for installing the monitoring equipment; (2) the proposed location, design, and calibration of the monitoring equipment; (3) the method of flow data collection; (4) methods of maintaining flow records; (5) a schedule for consulting with the appropriate federal and state agencies concerning the results of the monitoring; and (6) filing of the results of agency comments, and the Licensee's response to agency comments, with the Commission.

The Licensee shall prepare the monitoring plan after consultation with the Massachusetts Division of Fisheries and Wildlife and the U.S. Fish and Wildlife Service. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the Minimum Flow Monitoring Plan, including any changes required by the Commission.

If the results of the monitoring indicate that changes in project structures or operations, including alternative flow releases, are necessary to protect fishery resources, the Commission reserves the right to direct the Licensee to modify project structures or operations accordingly.

Article 403. Within 120 days from the date of issuance of this license, and before any land-clearing or land-disturbing activities at the project site, the Licensee shall file, for Commission approval, detailed design drawings of the Licensee's proposed downstream fish passage facilities together with a plan and schedule to construct and install the facilities.

The plan shall include quantification of flows required to operate the proposed facility, an operation and maintenance schedule, measures to control erosion and sedimentation during project construction, and a construction schedule for installation of the fish passage facilities, with a target date that the facilities be operational within two years from the date of issuance of this license. Once constructed, the Licensee shall operate the downstream fish passage facilities from April 1 through June 15 and from September 15 to November 15 each year. The Licensee shall provide as-built drawings to the U.S. Fish and Wildlife Service within 30 days from the completion of construction of the downstream fish passage facilities.

The Licensee shall prepare the aforementioned drawings and schedule after consultation with the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife. The Licensee shall include with the drawings documentation of consultation, copies of comments and recommendations on the drawings and schedule after they have been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the Licensee's facilities. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the drawings and schedule with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed facilities and schedule. Upon Commission approval, the Licensee shall implement the downstream fishways plan and schedule, including any changes required by the Commission.

Article 404. Within one year from the date of issuance of this license, the Licensee shall file with the Commission, for approval, a plan to monitor the effectiveness of the permanent downstream fish passage facilities required by Article 403 and associated operational flows at the facility to safely and efficiently pass Atlantic salmon smolts down the Deerfield River

past the Gardners Falls Project. The Licensee shall also provide this monitoring plan to the Massachusetts Division of Fisheries and Wildlife within one year from the date of issuance of this license.

The plan shall include provisions for: (1) facility oversight and personnel commitments; and (2) back-up equipment and supplies that would be maintained to ensure efficient and consistent operation of the facilities. The monitoring plan shall also include a schedule for: (1) implementing the plan; (2) consulting with appropriate federal and state agencies concerning the results of the monitoring; (3) assessing the effectiveness of the bypassed facilities to reduce fish injury and mortality; and (4) filing the results, agency comments, and Licensee's responses to agency comments with the Commission.

The Licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the monitoring plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The monitoring program shall not begin until the Licensee is notified by the Commission that the plan is approved. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 405. Authority is reserved to the Commission to require the Licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of such fishways as may be prescribed by the Secretary of the Interior.

Article 406. Within one year of license issuance, the Licensee shall file with the Commission, for approval, a Recreation Plan describing existing recreation facilities, evaluating whether the existing recreation facilities are meeting

public recreation needs, and proposing specific recreation improvements to address the need for new public recreation facilities and improvements at the project. The Recreation Plan shall provide for implementing specific new recreation facilities and improvements as already agreed to by the Licensee in consultation with federal and state fish and wildlife agencies.

These specific agreed-upon recreation facilities and improvements are described below.

The Licensee shall prepare the Recreation Plan in consultation with the National Park Service, U.S. Fish and Wildlife Service, Natural Resources Conservation Service, Massachusetts Department of Environmental Management, and the Massachusetts Division of Fisheries and Wildlife. The Licensee shall make the Recreation Plan available to consulting entities for comment at least 30 days prior to filing the Recreation Plan with the Commission for approval. The Licensee s documentation of consultation shall include copies of the consulted entities comments and recommendations on the completed plan and a discussion of how the entities comments are specifically accommodated by the Recreation Plan. If the Licensee does not adopt a recommendation, the filing shall include the Licensee s reasons, based on project-specific information.

The Recreation Plan filed pursuant to this article shall provide for implementing the recreational facilities and improvements described in WMEC s Gardners Falls Project recreation plan, filed on December 23, 1991, and supplemented on December 11, 1992, including: (1) providing an impoundment boat launch; (2) improving the Gardners Falls Picnic Area, the Gardners Falls Nature Trail, and the Powerhouse Access Area; (3) improving the Wilcox Hollow Access Area by paving the access road entrance, improving the access road, expanding parking; and providing directional signs, trash barrels, restroom facilities, and a carry-in boat launch.

The Commission reserves the right to require changes to the Recreation Plan. No land-disturbing or land-clearing activities for recreation facilities shall begin until the Licensee is notified by the Commission that the plan is approved. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Within six months from the completion of these facilities,

the Licensee shall file with the Commission, for approval, the as-built drawings, which shall include the identity of the entity responsible for operation and maintenance of the facilities.

Article 407. Within 180 days after the license is issued, the Licensee shall file with the Commission, for approval, a Recreational Use Erosion and Sediment Control Plan.

The plan shall include provisions for: (1) designing and implementing appropriate erosion and sediment control measures and measures for revegetation for land-clearances and ground-disturbances associated with improvement and construction of any new recreational facilities not covered by this licensing action;

and (2) regularly-scheduled monitoring and maintenance for all recreational use areas at the Gardners Falls Project for the purpose of identifying and implementing appropriate and timely measures to control and remedy erosion, sediment, and reservoir and river bank problems which may develop over time as a result of recreational use at the project.

The Licensee shall prepare the plan after consultation with the National Park Service, the U.S. Fish and Wildlife Service, the Massachusetts Department of Environmental Management, and the Natural Resources Conservation Service. The Licensee shall include with the plan, documentation of consultation, copies of comments and recommendations on the plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comments and make recommendations before filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the Recreation Use Erosion and Sediment Control Plan, including any changes required by the Commission.

Article 408. The Licensee shall implement the "Programmatic Agreement among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the Massachusetts State Historic Preservation Officer, for Managing Historic Properties that May Be Affected by a License

Issuing to the Western Massachusetts Electric Company for the Continued Operation of the Gardners Falls Hydroelectric Power Project in Massachusetts," executed on September 4, 1996, including the Cultural Resources Management Plan for the project. In the event that the Programmatic Agreement is terminated, the Licensee shall implement the provisions of its approved Cultural Resources Management Plan. The Commission reserves the authority to require changes to the Cultural Resources Management Plan at any time during the term of the license. If the Programmatic Agreement is terminated prior to Commission approval of the Cultural Resources Management Plan, then the Licensee shall obtain Commission approval before engaging in any ground-disturbing activities or taking any other action that may affect any cultural properties within the project's area of potential effect.

Article 409. (a) In accordance with the provisions of this article, the Licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands

and waters for certain types of use and occupancy, without prior Commission approval. The Licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the Licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the Licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the Licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and water for which the Licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-

commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the Licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The Licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the Licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the Licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the Licensee's costs of administering the permit program. The Commission reserves the right to require the Licensee to file a description of its standards, guidelines,

and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The Licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69 kilovolts or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the

Licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed. If no conveyance was made during the prior calendar year, the Licensee shall so inform the Commission and the Regional Director in writing no later than January 31 of each year.

(d) The Licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the Licensee must submit a letter to the Director, Office of

Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the Licensee to file an application for prior approval, the Licensee may convey the intended interest at the end of that period.

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

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

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

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

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

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and

maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances,

proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised exhibit G or K drawings would be filed for approval for other purposes.

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

(E) This license is subject to the conditions submitted by the Massachusetts Department of Environmental Protection under Section 401 of the Clean Water Act, as those conditions are set forth in Appendix A to this order, except Conditions H and J.

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

(G) This order is final unless a request for rehearing is filed within 30 days of the date of its issuance, as provided in Section 313 of the Federal Power Act. The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. The Licensee's failure to file a request for rehearing shall constitute acceptance of this license.

By the Commission.

(S E A L)

Lois D. Cashell,
Secretary.

APPENDIX A

WATER QUALITY CERTIFICATION CONDITIONS

In accordance with the provisions of MGL Ch. 21, s.26-53,

314 CMR 4.00, 314 CMR 9.00, and Section 401 of the Federal Clean Water Act (Public Law 92-500 as amended), this Department has determined that the project can be operated to minimize impacts to waters and wetlands and that there is reasonable assurance that the project can be conducted in a manner which will not violate applicable water quality standards, as required by 314 CMR 4.00 and 314 CMR 9.04, and will be in compliance with Sections 301, 302, 303, 306, and 307 of the Federal Clean Water Act. The Department issues this Water Quality Certification for this project subject to the following conditions:

A. The project shall be operated in accordance with the conditions contained in this certification and the provisions included in the FERC application (#2334) and any modifications made thereto, to the extent such application provisions and modifications are consistent with this water quality certification. The operation of the hydrofacility (including high flow, peaking releases) should not interfere with the attainment of the designated uses of the Deerfield River as outlined in the Massachusetts Surface Water Quality Standards (314 CMR 4.00) and the maintenance of an integrated and diverse biological community in the Deerfield River.

B. The release and maintenance of minimum flows at the by-pass reach and at the powerhouse which are consistent with the goals of the DRFMP. The required flow at the site is as follows:

1. Location: Below Gardners Falls Dam
   Flow: 150 cubic feet per second (cfs) continuous minimum or inflow from New England Power Company #3 project if such inflow is lower than 150 cfs; minimum flow is comprised of the total flow through the fish passage unit (attraction and transport flows) and flow over the dam
   Condition: flow into the by-pass reach should be maintained at 150 cfs during high flow conditions if operationally possible

C. This certification requires the following conditions related to fisheries in the Deerfield River:

1. Location: At Gardners Falls Dam
   Requirements:
   a. construction of a louver system (or other bypass system approved by MADF&W and United States Fish

and Wildlife Service (USFWS)) for downstream salmon smolt passage

b. facility operational within two construction seasons after issuance of the new FERC license

c. flows necessary to operate the facility should be provided during the periods of downstream migration (April 1 to June 15 and September 15 to November 15); these flow periods can be modified by this Department if additional information regarding the period of migration warrants such change

d. plans to evaluate the effectiveness of the facility should be submitted by WMECO to MADF&W within one year of the issuance of the FERC license

D. Any construction activities shall be conducted in compliance with the Massachusetts Wetlands Protection Act (MGL c.131, s.40).

E. The applicant shall comply with MGL c.91.

F. All maintenance and repair activities, including disposal of debris and removal of sediments in impounded areas, and construction of fish passage facilities shall be conducted in a manner so as not to impair water quality.

G. Any recreational facilities and/or recreational uses of the project area shall be planned and conducted in such a manner as presented in the FERC application and conducted to protect and maintain water quality of the Deerfield River. The applicant shall enhance access for recreational uses according to the recreation plan submitted as part of the FERC application. Recreational access must comply with applicable state and federal regulations.

H. Any modification of the operation of the project which would affect the conditions of this certification must be approved by this Department.

I. This Department may request, at any time during which this certification is in effect, that the Federal Energy Regulatory Commission reopen the license to make modifications necessary to maintain compliance with the Massachusetts Surface Water Quality Standards.

J. This Department reserves the right to review, and modify if necessary, the conditions of this certification if the State of Vermont Water Quality Certification (or future changes therein) results in non-compliance with this certification.

UNITED STATES OF AMERICA 83 FERC 62,101
FEDERAL ENERGY REGULATORY COMMISSION

Western Massachusetts) Project No. 2334-015
Electric Company)

ORDER APPROVING AND MODIFYING FISH PASSAGE EFFECTIVENESS MONITORING PLAN
(Issued May 4, 1998)

On April 6, 1998, Western Massachusetts Electric Company (licensee), filed a plan to monitor the effectiveness of the permanent downstream fish facilities and associated operational flows at the Gardners Falls Project. The plan was filed pursuant to Article 404 of the project license.[1] The purpose of the plan is to assess the effectiveness of the bypass facilities to safely pass fish downstream. The Gardners Falls Hydroelectric Project is located on the Deerfield River in Franklin County, Massachusetts.

LICENSE REQUIREMENTS

Article 404 requires the licensee to file, for Commission approval, a plan to monitor the effectiveness of the permanent downstream fish passage facilities required by Article 403 and operational flows to safely pass Atlantic salmon smolts downstream. The monitoring plan is required to include provisions for: (1) facility oversight and personnel commitments; (2) back-up equipment and supplies for maintenance and consistent operation; (3) and a schedule for implementing the plan, consulting with the appropriate federal and state agencies on the results of the monitoring, assessing the effectiveness of the facilities to reduce fish injury and mortality, and filing the results with agency comments and responses with the Commission.

Article 404 also requires that the plan be prepared after consultation with the U.S. Fish and Wildlife Service (FWS) and the Massachusetts Division of Fisheries and Wildlife (MDFW). The licensee is required to include with the plan documentation of consultation and specific descriptions of how the agencies' comments are accommodated by the plan. If the licensee does not adopt a recommendation, the filing must include the reasons, based on project-specific information.

LICENSEE'S PLAN

The licensee proposes to implement a radio tagging program in late April or early May 1999 to evaluate the effectiveness of the new downstream passage facilities for Atlantic salmon smolts.

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FERC 61,009

Project No. 2334-015 2

Radio tags would be inserted into the stomachs of hatchery-reared Atlantic salmon smolts that would be held for 24 hours and then released into the Gardners Falls impoundment within ¬ mile of the upstream Deerfield No. 3 development. Smolts would be released when water temperature exceeds 10ø C, but before it exceeds 18ø C; if conditions allow, releases would be made after spill over the dam crest has stopped. Monitors would be placed at the end of the concrete jetty, along and downstream of the louver guidance structure, at the new fish passage gate, and downstream in the bypassed reach. The licensee would monitor water temperature on a spot basis before and during the study. The licensee proposes to measure the effectiveness of the new passage facilities by dividing the total number of smolts passing through the new gate by the total number of smolts passing through either the new gate or the canal. After completion of the study the licensee would provide the results to the FWS and the MDFW for comment by October 15, 1999, allowing 30 days. Results of the study along with agency comments would be filed with the Commission by December 15, 1999.

As required by Article 404 the licensee would provide facility oversight and backup equipment and supplies to ensure efficient operation of the facilities. The passage facilities would be inspected two or three times per week. Further, the fish passage facilities can be operated and monitored remotely at the Northfield Mountain Pumped Storage Project. The licensee would perform maintenance as required.

RESOURCE AGENCY CONSULTATION

The licensee by letter dated January 28, 1998, submitted a draft of the monitoring plan to the FWS and the MDFW. The MDFW and the FWS responded by letters dated February 18 and 27, 1998, respectively.

The MDFW recommends that the test fish be released as far

upstream in the Gardners Falls impoundment as possible and that the test fish be held in an enclosure that is open to the surface so that the fish can refill their swimbladder after the tag is inserted. The MDFW also recommends that: the test fish be released after spillage has ceased; an attempt be made to coordinate the release of fish with high and low generation levels; and, the plan should indicate where and how often water temperatures will be monitored.

The FWS states that while the draft plan proposes only one season for monitoring, there may be a need for follow-up if there are problems during the monitoring period or if the passage facilities do not adequately protect smolts. The FWS recommends that: the release of tagged smolts be delayed until there is no spill at the dam; release of test fish should be timed so that the louver can be tested under low and high generation flows;

and, velocity profiles be taken along the louver and at the bypass under low, high and intermediate project generation and various gate settings.

DISCUSSION AND CONCLUSION

The licensee's plan to monitor the effectiveness of the downstream fish passage facilities at the Gardners Falls project satisfies the requirements of Article 404. The plan includes a program to monitor the downstream movement of radio tagged Atlantic salmon smolts to determine the effectiveness of the fish passage facility. The licensee's plan includes a schedule for providing and filing the results of the monitoring to the resource agencies and with the Commission, respectively.

Provided that flow conditions and water temperatures in the range of 10 to 18ø C occur during the scheduled release time the licensee would delay the smolt release until there is no spill at the dam. Since flows are expected to be variable during the proposed release, it may be difficult to coordinate the smolt release with no spill at the dam. If these conditions do not occur, then the licensee may need to delay smolt releases since the purpose of the monitoring plan is to test the effectiveness of the bypass facility only. If a delay in the smolt release program is necessary due to the spilling of flows at the dam that would interfere with evaluating the passage facilities, the licensee should obtain concurrence from the FWS and MDFW and advise the Commission.

In an effort to evaluate the effectiveness of the passage facilities during a range of generation flows, the licensee should attempt to coordinate the experimental release and monitoring of smolt passage during high and low generation flows. The licensee expects that flows in the power canal would be variable during the study period. Therefore, it is likely that high and low generation flows would occur during the study. Such information would be useful in evaluating the success of passage and assessing the need for any adjustments or modifications to the passage facilities under actual project operating conditions. Further, the licensee proposes to monitor velocities along the guidance louver under at least two levels of generation flows. Since velocities along the louver could influence smolt behavior upon reaching this barrier and affect subsequent movement to the bypass gate, the licensee should monitor velocities under high, low and intermediate generation flows; the bypass gate settings should be included in this monitoring effort. These velocity measurements should be included in the report that the licensee would prepare on the monitoring results.

The licensee proposes to monitor water temperature on a "spot basis" before and during the monitoring program. The MDFW

recommends that the plan should specify where and how often water temperatures would be monitored. While licensee's plan includes water temperature monitoring, it does not provide any details. Water temperature is an important variable that could influence the migration of smolts downstream. Therefore, the licensee should include the location and frequency of water temperature monitoring during the evaluation of the downstream fish passage facilities. This data should be included in the report that licensee would prepare on the monitoring results.

In regard to a follow-up fish passage effectiveness study raised by the FWS, the licensee's plan does not provide for this contingency. Additional study may be necessary if problems arise during the monitoring program or if the passage facilities do not adequately protect smolts, thereby requiring modifications. The licensee should include in the report on the results of the monitoring program any recommendation for follow-up study to address problems during the monitoring described herein or for any proposed modifications to the passage facilities. The licensee would provide a report to the agencies for comment by October 15, 1999, and would file a report with agency comments with the Commission by December 15, 1999.

The licensee's plan to monitor the effectiveness of the downstream fish passage facilities required by Article 403 fulfills the requirements of Article 404 and should contribute to the restoration of Atlantic salmon in the Deerfield River basin. The licensee's plan as modified should be approved.

The Director orders:

(A) The licensee's plan, filed April 6, 1998, that provides for monitoring the effectiveness of the downstream fish passage facilities and associated operational flows, required by Article 404, and as modified by paragraphs B, C and D, is approved.

(B) The licensee shall coordinate the release of radio tagged Atlantic salmon smolts with no spill at the project dam and with high and low generation flows. If the no spill condition does not occur during the scheduled smolt release (April/May 1999), the licensee shall consult with the FWS and MDFW and develop an alternative strategy for the release. The licensee shall file any alternative release strategy with the Commission to include letters and comments documenting consultation with the agencies.

(C) The licensee shall measure water temperature in the Deerfield River and velocities along the louver guidance structure during the release and monitoring of smolt movement through the project. The licensee shall include this data along

with location, sampling frequency, and generation flows in the report on the results of the monitoring program.

(D) The licensee shall provide the FWS and MDFW with a report on the results of the fish passage effectiveness monitoring program by October 15, 1999, allowing 30 days for comments. By December 15, 1999, the licensee shall file the report with the Commission to include any agency comments, licensee's responses, and for approval any recommendations for further study or for modifications to the passage facilities and study of these modifications.

(E) This order constitutes final agency action. Request for rehearing by the Commission may be filed within 30 days from the date of issuance of this order, pursuant to 18 CFR 385.713.

Carol L. Sampson
Director
Office of Hydropower Licensing

86 FERC ¶ 62,050

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Western Massachusetts Electric Company) Project No. 2334-016

ORDER APPROVING AND MODIFYING PLUNGE POOL PLAN

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On November 25, 1998, Western Massachusetts Electric Company (licensee), filed a plunge pool design plan with drawings for the Gardners Falls Project. The licensee filed a supplement to the plan on December 31, 1998. The plan was filed pursuant to paragraph (B) of the Commission order issued May 4, 1998. The purpose of the plan is to provide for safe downstream fish passage during project operation. The Gardners Falls Hydroelectric Project is located on the Deerfield River in Franklin County, Massachusetts.

The licensee has constructed a reinforced wood flashboard type wall near the south end of the dam to impound the plunge pool. Within the plunge pool a short wall was constructed to divert flows away from the dam abutment and into the deeper part of the plunge pool. Also some bedrock was removed near the toe of the dam to improve the effectiveness of the plunge pool. The licensee proposed to began testing of the plunge pool in December 1998 and proposes to monitor the plunge pool during the spring of 1999. If modifications are necessary to the plunge pool, the licensee would make any changes dependent upon flow conditions. The licensee would replace the wood structure, if economical, with a more permanent concrete wall during the summer of 1999.

In a letter dated December 23, 1998, the Massachusetts Division of Fisheries and Wildlife (MDFW) stated that based on discussions with staff of the U.S. Fish and Wildlife Service (FWS) who had observed construction of the plunge pool, the design satisfied the requirements of the Commission order. However, the FWS representative indicated that the plunge pool may need to be deeper but that a recommendation would not be made until after the bypass system with plunge pool is in operation.

As stated in the plan the licensee proposes to monitor the operation of the plunge pool during the spring of 1999 and if found necessary make modifications dependent upon flow conditions. The licensee should file with the Commission by June 30, 1999, a report on the results of monitoring operation of the plunge pool to include a description with drawings of any modifications found necessary with an implementation schedule. The report should include documentation of consultation with the MDFW and the FWS and licensee's response to any comments received from these agencies. The licensee should allow the agencies 30 days to provide any comments.

The licensee's plan for a plunge pool as constructed to provide for safe downstream fish passage at the Gardners Falls dam satisfies the requirements of paragraph (B) of the Commission order dated May 4, 1998. The licensee's plan for the plunge pool would contribute to meeting the fish resource management goals of the Deerfield River. The licensee's plan, as modified, should be approved.

The Director orders:

(A) The licensee's plunge pool plan with drawings, filed on November 25, 1998, pursuant to paragraph (B) of the May 4, 1998 order, and as modified by paragraph (B) herein, is approved.

(B) The licensee shall file with the Commission by June 30, 1999, a report on the results of monitoring the operation of the plunge pool to include a description with drawings of any modifications found necessary with an implementation schedule. The filing shall include letters and comments documenting consultation with the MDFW and the FWS and licensee's responses to any comments. The licensee shall allow the agencies 30 days to comment before filing the report with the Commission. The Commission reserves the right to require changes to the plan.

(C) This order constitutes final agency action. Request for rehearing by the Commission may be filed within 30 days from the date of issuance of this order, pursuant to 18 CFR § 385.713.

J. Mark Robinson
Director
Division of Licensing and Compliance

97 FERC ¶ 62,051
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Consolidated Edison Energy Massachusetts Project No. 2334-031

ORDER APPROVING REVISED
RECREATION PLAN (ARTICLE 406)

(Issued October 18, 2001)

On June 1, 2001, Consolidated Edison Energy Massachusetts, (Consolidated or licensee), filed a revised recreation plan pursuant to the Order Approving Recreation Plan in Part under Article 406 issued on April 18, 2001 (April order) for the Gardners Falls Project, FERC No. 2334.[1] The Gardners Falls Project is located on the Deerfield River in Franklin County, Massachusetts.

BACKGROUND

The recreation plan for the project was filed on April 6, 1998, and approved, in part, by the April order. Ordering paragraph (b) required the licensee to file, for approval, by June 1, 2001, a revised recreation plan for constructing an access facility at Wilcox Hollow. The plan was to be completed in consultation with the National Park Service (NPS), U.S. Fish and Wildlife Service (FWS), Natural Resources Conservation Service (NRCS), Massachusetts Division of Environmental Management (MDEM), and the Massachusetts Division of Fisheries and Wildlife (MDFW) and include their comments. Article 406 of the license, in part, required the licensee to improve the Wilcox Hollow Access Area by paving the access road entrance, improving the access road, expanding parking, and providing directional signs, trash barrels, restroom facilities, and a carry-in boat launch.

LICENSEE'S REVISED PLAN

The licensee described its plan to modify the Wilcox Hollow property to provide shoreline fishing and car-top boat launching opportunities. The modifications include: (1) enhancements to the entrance to the access road; (2) construction of a new parking area; (3) enhancements to the existing water access area; and (4) installation of signage

[1] See Order Issuing New License, 79 FERC ¶ 61,007 (1997) and 95 FERC ¶ 62,060 (2001).

as appropriate. In addition, the licensee will assist MDEM in developing a universal fishing site within a 20-mile radius of the Wilcox Hollow site.

The licensee will redesign the road entrance at Route 2 to provide better access. It also will provide proper drainage and paving and will remove foliage necessary to improve visibility. The licensee will also install an entrance sign. All improvements will be in the Massachusetts Highway Department's right of way.

The parking area will be constructed midway between the site entrance and the shoreline. It will be located on Commonwealth of Massachusett's property. The parking area will accommodate approximately 10 vehicles. The existing parking area at the shoreline will be designated as a turn-around. Enhancements will be provided for a car-top boat launch and angler access site. Boulders matching the existing rock will be placed along the shoreline to stabilize the area and provide river access.

In consultation with the agencies, the licensee determined there was no need for restroom facilities or trash barrels, but agreed to monitor the site to determine how to address these issues should a need arise.

The licensee states it will operate and maintain a portion of Wilcox Hollow in cooperation with MDEM. Annual maintenance will include inspection of the car-top launch site and grading of the access road on licensee property and the proposed parking facilities. The licensee plans to construct the facilities in the fall of 2001 or 2002, and file as-built drawing by December 2002, as required by the April order.

AGENCY CONSULTATION

The licensee consulted with the NPS, FWS, NRCS, MDEM, MDFW and the Deerfield River Watershed Association. The licensee held two meetings, including one site visit. All parties agreed to keep the area in an undeveloped rustic setting. MDEM and DWRA identified several improvements to the area. MDEM also requested the site be designed to provide universal angler access. The licensee determined the universal access could pose a safety risk given the river rises rapidly when the project begins generating and agreed to assist MDEM in providing angler access at an alternative location. The licensee further incorporated all comments and requests into the revised recreation plan for Wilcox Hollow.

DISCUSSION

The recreation improvements will provide better opportunities for anglers and boaters. We agree with the licensee and the MDEM that universal access is not appropriate at this site and encourage the licensee to work with the MDEM to find a suitable alternative location.

The parking area provided by the licensee will be located on Commonwealth of Massachusetts land. The licensee indicated it is finalizing a Memorandum of

Understanding (MOU) with the Commonwealth to construct, operate, and maintain the parking area on Commonwealth land.[2] The MOU will give the licensee the rights needed to operate the parking area as part of the approved recreation plan. The licensee should include the land within the project boundary and file a revised Exhibit G drawing showing the revision to the project boundary.

The licensee's revised recreation plan meets the requirements of ordering paragraph (B) of the April order. The recreation modifications and improvements to the site access and parking areas will maintain the natural character of the area as requested by the agencies, while providing access to the river. The revised recreation plan for Wilcox Hollow should be approved.

The Director orders:

(A) The revised recreation plan for improvements to Wilcox Hollow, filed on June 1, 2001, pursuant to article 406, is approved and made part of the license.

(B) The licensee shall file revised Exhibit G drawings showing the change to the project boundary incorporating the new parking area.

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[2] In a conversation on September 24, 2001, between Alfred Nash of Kleinschmidt Associates, the licensee's consultant, and Heather Campbell of the Commission staff, Mr. Nash stated the licensee is working on the MOU with the Commonwealth which will be finalized once the licensee receives approval from the Commission on the revised recreation plan.

(C) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 CFR § 385.713.

Hossein Ildari
Division of Hydropower Administration
and Compliance

Kleinschmidt
Energy & Water Resource Consultants

February 24, 2010

VIA FEDERAL EXPRESS

Mr. Peter Valeri
Regional Engineer
Federal Energy Regulatory Commission
PJ-13.3 Mail Code
New York Regional Office
19th West 34th Street – Suite 400
New York, NY 10001

FERC Project No. 10675, 10676, 10677, 10678, and 2334
Release of Minimum Flows

Dear Mr. Valeri:

NAEA Energy Massachusetts, LLC (NAEA) owns and operates the Dwight Project (FERC No. 10675), the Red Bridge Project (FERC No. 10676), the Putts Bridge Project (FERC No. 10677) and the Indian Orchard Project (FERC No. 10678) located on the Chicopee River in Western Massachusetts. NAEA also owns and operates the Gardners Falls Project (FERC No. 2334) located on the Deerfield River in Western Massachusetts. Passage of minimum flows in the river bypass reach is required at each project. On behalf of our client, we are providing the annual report on minimum flow releases at the projects during 2009.

For the twelve months of the year 2009, NAEA met or exceeded the required flows at each project. Documentation of the releases is available for review during the next operation and safety inspection. If you have any questions or require additional information regarding the release of minimum flows, please contact David Schmidt of NAEA at (413) 730-4723 (email: schmidtda@coneddev.com).

Sincerely,

KLEINSCHMIDT ASSOCIATES

Christine A Tomichek

Chris Tomichek
Project Manager

CAT:sdm
cc: K. Marsili (NAEA)
J. Bahrs (NAEA)
C. Lane (NAEA)
D. Schmidt (NAEA)

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