CENTRAL RIVERS POWER MA, LLC
c/o William P. Short III
44 West 62nd Street, P.O. Box 237173
New York, New York 10023-7173
(917) 206-0001; (201) 970-3707
w.shortiii@verizon.net

July 29, 2019

Low Impact Hydropower Institute
Shannon Ames, Executive Director
329 Massachusetts Avenue, Suite 2
Lexington, Massachusetts 02420

Re: Application of Indian Orchard Project for Re-Certification by the Low Impact Hydropower Institute

Dear Ms. Ames:

Attached please find an application for re-certification by the Low Impact Hydropower Institute ("LIHI") of the Indian Orchard Project (the "Project" or the "Facility") of Central Rivers Power MA, LLC ("Central Rivers").[1] On July 14, 2013, 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 December 11, 2013, after a thorough review, LIHI certified the Indian Orchard Project as low impact for a five-year term, effective July 19, 2013 and expiring July 19, 2018. Its certificate number is 112. On July 19, 2018, November 30, 2018, and May 31, 2019, Indian Orchard Project was granted an extension of the current certificate term with a new expiration date of November 30, 2018, May 31, 2019 and November 30, 2019, 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 persons on the following page:

[1] On April 13, 2017, Essential Power Massachusetts, LLC ("Essential") transferred the direct ownership of its hydroelectric power facilities, including Indian Orchard Project, to Nautilus Hydro, LLC. In late June 2018, the name of Nautilus Hydro, LLC was changed to Central Rivers Power MA, LLC.

Primary Contact

William P. Short III
Consultant
44 West 62nd Street
P.O. Box 237173
New York, New York 10023-7173
(917) 206-0001 (Office)
(201) 970-3707 (Cell)
w.shortiii@verizon.net

Secondary Contact

Randall Osteen
General Counsel, Portfolio Companies
Central Rivers Power MA, LLC
c/o Hull Street Energy LLC
4920 Elm Street, Suite 205
Bethesda, Maryland 20814
(240) 800-3218 (Office)
(410) 303-4174 (Cell)
rosteen@hullstreetenergy.com

This application relies materially on the documents and descriptions 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 2013. 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 247 cfs minimum flow or inflow, if less	Same criteria	
Water Quality	While no new water quality certificate has been issued, Support for all activities has been verified by MDEP	While no water quality certificate has been issued, awaiting report from MDEP verifying status of the water quality for the Project.	Latest MDEP water quality study of this section of the river shows non-compliance due to the acts of others, namely the Wilbraham WTP.
Upstream Fish Passage	No requirement but a requirement could be imposed by US FWS or MDFW after a complete review and finding of a fish passage need.	No requirement but a requirement could be imposed by US FWS and/or MDFW after a complete review and finding of a fish passage need.	
Downstream Fish Passage	No requirement but a requirement could be imposed by US FWS or MDFW after a complete review and finding of fish passage need.	No requirement but a requirement could be imposed by US FWS and/or MDFW after a complete review and finding of a fish passage need.	
Watershed and Shoreline Protection	While watershed and shoreline activities are to be reported to appropriate	While watershed and shoreline activities are to be reported to appropriate	A new bottom discharge minimum flow gate was

	agencies, no watershed or shoreline activities have occurred.	agencies, no watershed or shoreline activities have occurred without the knowledge of state and federal agencies.	installed with the knowledge of appropriate agencies.
Threatened and Endangered Species Protection	No threatened or endangered fish species were found Project area in surveys of US FWS or NHESP.	Both US FWS and NHESP report no fish T&ES present in Project area. NHESP and US FWS reported that the Bald Eagle and Northern Long-eared Bat, respectively, may be present in the Project Area.	
Cultural and Historic Resources Protection	While changes to cultural and historic activities are to be reported to appropriate agencies, no change in cultural or historic activities have occurred.	While changes to cultural and historic activities are to be reported to appropriate agencies, no change in cultural or historic activities have occurred unless first reported to the agencies.	A new bottom discharge minimum flow gate was installed with the knowledge of appropriate agencies.
Recreational Resources	The latest FERC report from 2010 showed full compliance.	The latest FERC report from 2010 showed full compliance.	Project signage has been updated, where appropriate, and replaced, where necessary.

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 P. Short III

enclosures

Table B-1. Facility Description Information for Indian Orchard Project (LIHI #112 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)	Indian Orchard Project[2]
Location	River name (USGS proper name)	Chicopee River
	River basin name	Chicopee River
	Nearest town, county, and state	Located in the Town of Ludlow and the City of Springfield in Hampden County, Massachusetts.
	River mile of dam above next major river	river mile 7.8
	Geographic latitude	42^0 09'39.76" N
	Geographic longitude	72^0 30'26.04" 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)	Central Rivers Power MA, LLC
	- Operating affiliate (if different from owner)	Central Rivers Power MA, LLC
	- Representative in LIHI certification	Randall Osteen
	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates	FERC No. P-10678; issued September 11, 1992 and subsequently amended on December 29, 1999 and November 8, 2001.
	FERC license type or special classification (e.g., "qualified conduit")	Exemption From License
	Water Quality Certificate identifier and issuance date, plus source agency name	While there is no Water Quality Certificate issued for Indian Orchard Project, FERC Project No.-10678, Massachusetts Department of Environmental Protection has listed all Indian Orchard ZOEs as Category 5, "Waters requiring a TMDL." Pollutants requiring a TMDL: Escherichia Coli and Fecal Coliform.
	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 Indian Orchard application filed for LIHI certification in July 2013.

[2] See Attachment 1 for aerial photographs of Indian Orchard Project.

Power Plant Character-istics	Date of initial operation (past or future for operational applications)	**1896 for initial power operations**
	Total name-plate capacity (MW)	**3.70 MW**
	Average annual generation (MWh)	**6,859 MWh (average for 2002-2018)**
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	**Two turbines;** **Unit #3: Westinghouse; 2,100 hp; 625 cfs Maximum hydraulic capacity** **Unit #4: Westinghouse; 3,000 hp; 900 cfs Maximum hydraulic capacity**
	Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.)	**Limited pond-and-release (operates with a year-round maximum 0.5 feet drawdown)**
	Dates and types of major equipment upgrades	**2001; re-rated Unit #3 Turbine-Generator to 1,500 KW** **2001; re-rated Unit #4 Turbine-Generator to 2.200 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	**1896**
	Dam height	**The existing major project works include a cut-stone dam with a crest elevation of 159.4 feet (NGVD), topped with 1.6-foot flashboards, an impoundment, a canal headgate house, a power canal, an intake structure for two operating penstocks, a powerhouse with two operating generating units, a tailrace channel (125.25 feet NGVD) and appurtenant facilities.** **The dam, built prior to 1885, crosses the Chicopee River in a roughly north-to-south direction, and is a masonry, gravity structure with a timber deck approximately 402-foot long by 28-foot high. The deck elevation is El. 159.4, topped with 1.6-foot flashboards to create an impoundment elevation of 161.0 feet.[3]**
	Spillway elevation and hydraulic capacity	**159.4 feet msl (flashboards down) 161.0 msl (flashboards up); 71,000 cfs**
	Tailwater elevation	**The two operating units discharge through two tailrace bays directly to the Chicopee**

[3] FWS noted a discrepancy in the impoundment elevation; either it is 160.0' for 160.308.' With the completion of the minimum flow gate discharge project, Essential Power intends to re-survey the dam, determine the exact elevation and file that information with the appropriate agencies.

		River. The normal tailrace elevation is 125.3 feet.
	Length and type of all penstocks and water conveyance structures between reservoir and powerhouse	The canal headgate structure is a brick structure on a concrete foundation, housing the seven intake gates that control the flow from the impoundment to the power canal.[4] The seven head gates are all of steel construction, 8.4 feet high by 9.4 feet wide. Each gate is equipped with rack and pinion hoists. The gate hoists are motor-driven by seven 3-hp, 60-cycle, 220/440V, 1730 rpm motors. In 2013-2014 a new bottom discharge minimum flow gate was installed just downstream of the canal gatehouse.[5] The power canal extends from the headgates to the penstock intake structure. The canal is approximately 1,300 feet long by 76 feet wide at the gatehouse, narrowing to 52 feet wide at the penstock intake. The inner sidewalls are constructed of cut-granite, and earthen embankments create the outer walls. The canal has a cobble floor. An 88-foot long canal is on the north wall of the canal, adjacent to the headgate house. The spillway has a crest elevation of 160.9 feet. The canal leads to the intake structure for the two operating and two abandoned penstocks. Adjacent to the trashracks[6] on the upstream face of the intake is a concrete sluiceway that discharges back to the Chicopee River. There are stop log slots for isolation of Unit 3. There are two steel penstock gates for Unit No.4, each measuring 11.3 feet wide by 14.7 feet wide. These gates also have filler gates. The penstock gates are operated by two 5-hp, 440 V, 60-cycle, 2-phase electrical motors. There is also one long steel skimmer gate, 2-foot-wide by 23 feet long. Two operable and two inoperable steel penstocks lead underground from the intake

[4] Early 2000s plans for the installation of a bar rack and/or a trash boom at the canal gatehouse were discussed but not implemented. A review of the FERC record shows that there is no requirement that the Project have such installations.
[5] See Attachment 2, "Essential Power Letter, Undated but Probably Issued August 7, 2013."
[6] The trashrack spacing for Unit No.3 is 3 inches while the trashrack spacing for Unit No. 4 is 3¼ inches.

		structure to the powerhouse. The two inoperable penstocks are plugged with concrete and were taken out of service in 1970. The penstock for Unit No.3 is 190 feet long and 11 feet in diameter. The penstock for Unit No.4 is 160 feet long and 16 feet in diameter. The Indian Orchard Project powerhouse is constructed of brick and concrete and was built ca. 1896. The original equipment included horizontal waterwheels that were belt-connected to generators. The original waterwheels for Units No.1 and No.2 were retired in 1970. The powerhouse measures approximately 190.5 feet by 50 feet in plan, with bays for the discontinued Units No.1 and No.2 at the easterly end, and operating Units No.3 and No.4 at the westerly end of the structure.[7] The two operating units discharge through two tailrace bays directly to the Chicopee River. The normal tailrace elevation is 125.3 feet.
	Dates and types of major, generation-related infrastructure improvements	2001; re-rated Unit #3 Turbine-Generator to 1,500 KW 2001; re-rated Unit #4 Turbine-Generator to 2,200 KW
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	Power generation
	Water source	Chicopee River
	Water discharge location or facility	Powerhouse tailrace
Characte-ristics of Reservoir and Watershed	Gross volume and surface area at full pool	At normal pond elevation the Indian Orchard Project impoundment extends approximately 4,200 feet upstream of the dam. At normal pond condition, the maximum surface area is approximately 74 acres at El. 161.0 feet. While the maximum useable storage of the reservoir is 70 acre-feet, the used storage capacity is just 35 acre-feet. While the permitted daily drawdown is 0.5 foot during the spring and 1 foot for the balance of the year (except during energy audits and system emergencies when this limit may be

[7] Unit No. 3 hydraulic capacity is 625 cfs while Unit No.4 hydraulic capacity is 900 cfs.

		exceeded), the actual year-round drawdown is six inches.
	Maximum water surface elevation (ft. MSL)	Maximum water surface elevation of 161.0 feet mean sea level (msl).
	Maximum and minimum volume and water surface elevations for designated power pool, if available	At normal pond elevation the Indian Orchard Project impoundment extends approximately 4,200 feet upstream of the dam. At normal pond condition, the maximum surface area is approximately 74 acres at El. 161.0'. While the maximum useable storage of the reservoir is 70 acre-feet (800 acre-feet of gross storage), the used storage capacity is just 35 acre-feet. While the permitted daily drawdown is 0.5 foot during the spring and 1 foot for the balance of the year (except during energy audits and system emergencies when this limit may be exceeded), the actual year-round drawdown is 0.5 foot.
	Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile	Immediately upstream of the Indian Orchard Bridge Project is Putts Bridge Project (P-10677), river mile 9.2, Collins Dam Project (P-6544), river mile 12.6, and immediately upstream of Collins Dam Project is Red Bridge Project (P-10676), river mile 15.2. On the upstream tributaries of the Chicopee River, the first dam on the Ware River is Thorndike Dam, river mile 20.5 while the first dam on the Swift River is the Upper Bondsville Dam, river mile 20.1. (No power dams were identified on the Quaboag River). Collins Hydro is owned and operated by an unrelated entity, Ampersand Hydro, as are all of the hydroelectric projects on the upstream tributaries of the Chicopee River.
	Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile	The Indian Orchard Bridge project is situated upstream of two other hydroelectric facilities located on the Chicopee River.[8] The order of these hydroelectric dams, starting with the lowest dam, on the Chicopee River is Dwight Station Project (P-10675) river mile 1.2 and Chicopee Falls Project (P-6522) river mile 3.0.

[8] The order of the hydroelectric dams, starting with the lowest dam, on the Chicopee River is Dwight Station Project (P-10675) river mile 1.2, Chicopee Falls Project (P-6522) river mile 3.0, Indian Orchard Project (P-10678) river mile 7.8, Putts Bridge Project (P-10677) river mile 9.2, Collins Hydro Project (P-6544) river mile 12.6 and Red Bridge Project (P-10676) river mile 15.2.

		One of the two downstream hydroelectric facilities is owned and operated by Central Rivers – Dwight Station Project (P-10675). Chicopee Falls Hydro is owned and operated by an unrelated entity, Chicopee Municipal Light District.
	Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation	None
	Area inside FERC project boundary, where appropriate	No survey of the project boundary was found; however, 133 acres were used for the study area for the Environmental Report. From that study, 74 acres are open water, 41 acres are deciduous forest, 13 acres of developed land and 4 acres are mixed forest.
Hydrologic Setting	Average annual flow at the dam	926 cfs at dam; 927 cfs at gage; flow at dam is a straight drainage area ratio adjustment from the gage.
	Average monthly flows	January 1,009 cfs at dam; 1,010 cfs at gage February 1,019 cfs at dam; 1,020 cfs at gage March 1,588 cfs at dam; 1,590 cfs at gage April 1,817 cfs at dam; 1,820 cfs at gage May 1,178 cfs at dam; 1,180 cfs at gage June 835 cfs at dam; 836 cfs at gage July 498 cfs at dam; 499 cfs at gage August 457 cfs at dam; 458 cfs at gage September 487 cfs at dam; 488 cfs at gage October 552 cfs at dam; 553 cfs at gage November 740 cfs at dam; 741 cfs at gage December 933 cfs at dam; 934 cfs at gage
	Location and name of relevant stream gauging stations above and below the facility	Indian Orchard Gage; LOCATION--Lat 42° 09'38", long 72° 30'52", Hampden County, Hydrologic Unit 01080204, on left bank 1,000 ft downstream from West Street Bridge at Indian Orchard, 1.1 mi upstream from Fuller Brook, and 7.2 mi upstream from mouth of the Chicopee River.
	Watershed area at the dam	687 square miles at dam; 689 square miles at gage
Designated Zones of Effect	Number of zones of effect	Three
	Upstream and downstream locations by river miles	Impoundment – above river mile 7.8—8.7 Bypassed Reach -- river mile 7.6 –7.8 Tailrace – river mile 7.6
	Type of waterbody (river, impoundment, by-passed reach, etc.)	River – after river mile 8.7 Impoundment – above river mile 7.8 to 8.7 Bypassed Reach – between river mile 7.8 and river mile 7.6

		Tailrace – river mile 7.6 River – below river mile 7.6
	Delimiting structures	1) Impoundment – from the impoundment of Indian Orchard to dam of Indian Orchard[9] 2) Bypassed Reach – Indian Orchard Dam to tailrace of Indian Orchard[10] 3) River -- Tailrace of Indian Orchard to the confluence with the Bypassed Reach[11]
	Designated uses by state water quality agency	Massachusetts Department of Environmental Protection has listed Indian Orchard Project for each ZOE are as Category 5, "Waters requiring a TMDL." Pollutants requiring a TMDL: Escherichia Coli and Fecal Coliform.
Additional Contact Information	Names, addresses, phone numbers, and e-mail for local state and federal resource agencies	See Section 2. of the Facility Contacts Form for this information on relevant governmental officials.
	Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders	See original LIHI certification application for the names of the local non-governmental stakeholders involved with the Chicopee River.
Photographs and Maps	Photographs of key features of the facility and each of the designated zones of effect	Except for photographs of the new bottom discharge minimum flow gate,[12] repair to the power canal wall[13] and repair to the Penstock #4,[14] no new photographs have been provided since the original application for certification contained nearly 40 and none of those have changed since they were taken.
	Maps, aerial photos, and/or plan view diagrams of facility area and river basin	See attachments

[9] See Attachment 3, "Aerial Photograph of Indian Orchard Impoundment ZoE."
[10] See Attachment 4, "Aerial Photograph of Indian Orchard Bypassed Reach ZoE."
[11] See Attachment 5, "Aerial Photograph of Indian Orchard Tailrace ZoE."
[12] See Attachment 6, "Photograph of New Bottom Discharge Minimum Flow Gate"
[13] See Attachment 7, "Photographs of Repair to Power Canal Wall."
[14] See Attachment 8, "Photograph of Repair to Penstock #4."

FACILITY CONTACTS FORM

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

Project Owner: Central Rivers Power MA LLC	
Name and Title	**Randall Osteen, General Counsel, Portfolio Companies**
Company	**Central Rivers Power MA, LLC, c/o Hull Street Energy, LLC**
Phone	**(410) 303-4174**
Email Address	**rosteen@hullstreetenergy.com**
Mailing Address	**4920 Elm Street, Suite 205, Bethesda, Maryland 20814**
Project Operator (if different from Owner):	
Name and Title	**Lucas W. Wright, President**
Company	**Ware River Power, Inc.**
Phone	**(978) 852-6034**
Email Address	**lwright@wareriverpower.com**
Mailing Address	**P.O. Box 512, Barre, Massachusetts 01005**
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	**Randall Osteen, General Counsel, Portfolio Companies**
Company	**Central Rivers Power MA, LLC, c/o Hull Street Energy, LLC**
Phone	**(410) 303-4174**
Email Address	**rosteen@hullstreetenergy.com**
Mailing Address	**4920 Elm Street, Suite 205, Bethesda, Maryland 20814**
Party responsible for accounts payable:	
Name and Title	**Ryan McQueeney, Chief Financial Officer**
Company	**Central Rivers Power MA, LLC, c/o Hull Street Energy, LLC**
Phone	**(301) 664-7702**
Email Address	**rmcqueeney@milepostpower.com**
Mailing Address	**4920 Elm Street, Suite 205, Bethesda, Maryland 20814**

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 & Chief Engineer**
Phone	**(508) 389-7810**
Email address	**jack.sheppard@state.ma.us**
Mailing Address	**1 Rabbit Hill Road, Westborough, Massachusetts 01581**

Agency Contact (Check area of responsibility: **Flows X**, **Water Quality X**, **Fish/Wildlife Resources X**, Watersheds __, **T/E Spp. X**, 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, Massachusetts 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: Indian Orchard Project **Zone of Effect: Impoundment**

	Criterion	*Alternative Standards*				
		1	*2*	*3*	*4*	*Plus*
A	**Ecological Flow Regimes**		X			
B	**Water Quality**		X			
C	**Upstream Fish Passage**	X				
D	**Downstream Fish Passage**	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.

Matrix of Alternative Standards Template:
(Please duplicate this table for each Zone of Effect)
Facility Name: Indian Orchard Project **Zone of Effect: Bypassed Reach**

	Criterion	*Alternative Standards*				
		1	*2*	*3*	*4*	*Plus*
A	**Ecological Flow Regimes**		X			
B	**Water Quality**		X			
C	**Upstream Fish Passage**	X				
D	**Downstream Fish Passage**	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.

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

Facility Name: Indian Orchard Project **Zone of Effect:** Tailrace to the Confluence with the Bypassed Reach

	Criterion	*Alternative Standards*				
		1	*2*	*3*	*4*	*Plus*
A	Ecological Flow Regimes		X			
B	Water Quality		X			
C	Upstream Fish Passage	X				
D	Downstream Fish Passage	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.

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 on December 11, 2013 (retroactive to July 19, 2013) for any of the ZoE. Demonstrations of compliance of the Project's minimum flow requirement for 2012 through 2018 are attached at the end of the Application and specifically applies to the Bypassed Reach ZoE but these indirectly apply both to the Upper Impoundment ZoE and the Tailrace to the Confluence with the Bypassed Reach ZoE.[15]

[15] See Attachments 6-12, "2012 Demonstration of Minimum Flow, Dated March 7, 2013, 2013 Demonstration of Minimum Flow, Dated October 25, 2018, 2014 Demonstration of Minimum Flow, Dated October 25, 2018, 2015 Demonstration of Minimum Flow, Dated October 25, 2018, 2016 Demonstration of Minimum Flow, Dated January 11, 2017, 2017 Demonstration of Minimum Flow, Dated March 28, 2018 and 2018 Demonstration of Minimum Flow, Dated March 13, 2019."

Since the filing of the LIHI application for certification for the Project in July 2013, there has not been a formal FERC environmental inspection report performed for the Project since the one performed in September 30, 2010. This report applied to each of the ZoE. There are numerous Dam Safety Reports prepared by FERC since that time. Each were reviewed for ecological flow issues and no issues were mentioned. These reports apply to each of the ZoE.

The Ecological Flows Standards for the Facility were developed during the late 1980 and early 1990s FERC licensing process as well the FERC licensing process for the other dams on the Chicopee River that were owned and operated by WMECO. The exemption required a continuous minimum flow release of 247 cfs, or inflow (if less), at the Project dam to the bypass reach. The exemption also limits pond drawdowns to one-half foot below the top of the flashboards from April to June and one foot for the remainder of the year.

During a June 22, 1999 meeting, FWS requested evidence that operation of the Putts Bridge Project does not impact the minimum flow release at the downstream Indian Orchard Project. In response to FWS concerns, ConEd Energy Incorporated ("CEEI") filed on December 6, 1999, calculation tables on pond fluctuations permitted by the exemptions. Based on the results, it appears that the pond level control at the Indian Orchard Project should be set at 6 inches during the spring period. This measure would provide sufficient storage to permit the continuous discharge of the minimum flow at the Indian Orchard Project. Therefore, CEEI indicated in a December 6, 1999 letter, that it plans to operate the upgraded units within the head pond restrictions such that the total outflow from the Putts Bridge Project (i.e., the turbine discharge plus the 25 cfs minimum flow) is adequate to maintain the 247 cfs minimum flow requirement at the Indian Orchard Project. These statements apply to each of the ZoE.

On January 27, 2000, FWS also requested evidence that the reduced flow to the bypass reach at Putts Bridge would not create unacceptable water quality in the bypass reach of Putts Bridge or indirectly downstream in the impoundment of Indian Orchard. To that end, FWS required that a water quality study be performed in order to verify that a flow of 25 cfs will protect water quality in the bypass reach. FWS also conditioned its approval on the study taking place during the summer. On June 7, 2000, after incorporating comments from FWS, MDFW and MDEP, CEEI released its Putts Bridge Bypass Water Quality Study Plan. Over a sixty-day period (between July 7 and September 6, 2000), the water was sampled at three points downstream of the dam. Data collected during the water quality monitoring plan indicated that D.O. concentrations and water temperatures in the Putts Bridge bypass reach exceeded MDEP Class B water quality standards.[16] As such, it was concluded that the minimum flows, as released by the electronically operated skimmer gate at the dam, are sufficient for maintaining adequate water quality in the Putts Bridge bypass reach. These statements apply to each of the ZoE.

To date, the Exemptee has not been notified by the FWS, MDEP or MDFW of the need to modify, increase or decrease its minimum flow. This statement applies to each of the ZoE.

[16] According to the MDEP, the Chicopee River is classified as class B water and is listed as a warm water fishery. This classification requires that dissolved oxygen levels shall not be less than 5.0 mg/L and that levels of dissolved oxygen shall not be lower than 60 percent in warm water fisheries. Water temperature shall also not exceed 28.3^{o}C in warm water fisheries.

Update letters have been requested from the US Fish & Wildlife Service (FWS),[17] Massachusetts Division of Fisheries and Wildlife (MDFW)[18] and the Massachusetts Department of Environmental Protection (MDEP)[19] on the adequacy of the minimum flow standard and impoundment fluctuation. It is believed that each correspondence will mirror those already received for the re-certification of Red Bridge Project. [20] [21] [22] As those letters for Indian Orchard Project are received, they will be appended to this application. These statements apply to each of the ZoE.

As the Project is currently operated, the Facility has limited storage, 35 acre-feet of usable storage (approximately 70 acres of reservoir surface times 1/2 feet of drawdown). At 247 cfs of minimum flow and no inflow, it takes just over 1 hour and 43 minutes to empty the Facility's useable storage. These statements apply to each of the ZoE.

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 Orchard Indian Project for Certification by the Low Impact Hydropower Institute, dated July 14, 2013." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item [23]	Title of Document
22 (5)	**Appendix 1-4, FWS letter setting minimum flows, dated July 14, 1989** starts at page **8** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
23 (6)	**Appendix 1-5, DOI letter setting mandatory terms and conditions, dated July 31, 1992** starts at page **9** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
24 (10)	**Appendix 3-2, Mode of Operation** starts at page **18** of 73 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
25 (12)	**Appendix 3-4, Site Plan of the Facility** starts at page **21** of 73 of the 2013 Application of Indian Orchard Project by the Low Impact Hydropower Institute. This document applies to each of the ZoE.

[17] See Attachment 16, "US F&WS E-Mail, Dated July 7, 2019."
[18] See Attachment 17, "MDFW E-Mail, Dated July 7, 2019."
[19] See Attachment 18, "MDEP E-Mail, Dated July 7, 2019."
[20] See Attachment 19, "US F&WS E-Mail, Dated November 6, 2018."
[21] See Attachment 20, "MDFW Letter, Dated November 7, 2018."
[22] See Attachment 21, "MDEP Letter, Dated November 7, 2018."
[23] The first number applies to the numbering of the documents in the table at the end of this LIHI Re-Certification Application titled "LIST OF ATTACHMENTS FROM LIHI RE-CERTIFICATION APPLICATION FOR INDIAN ORCHARD PROJECT." The second number applies to the numbering of documents in the cover letter in the original Putts Bridge LIHI application.

26 (16)	**Appendix A, Flows** starts at page **25** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
27 (NA)	**C. Slater Letter to Mark Noyes, dated February 15, 2000** is attached as Attachment 20 to this Application for Re-Certification. This document applies to each of the ZoE.
28 (28)	**Appendix A-12, FWS E-mail, dated December 3, 2012** starts at page **39** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
29 (29)	**Appendix A-14, MDEP Letter, dated November 21, 2012** starts at page **41** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
30 (30)	**Appendix A-15, MDFW Letter, dated October 1, 2012** starts at page **42** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.

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 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 on December 11, 2013 (retroactive to July 19, 2013) for any of the ZoE. The latest Massachusetts DEP report (June 2017)[24] on the status of the Project's Water Quality is attached at the end of the Application and applies to each of the ZoE.

Massachusetts Department of Environmental Protection has listed all of the Indian Orchard ZoEs as Category 5, "Waters requiring a TMDL." Pollutants requiring a TMDL: Escherichia Coli and Fecal Coliform.

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 ZoEs.

While there is no Water Quality Certificate, e-mails or letters from the United States Fish & Wildlife Service[25] and Massachusetts Department of Environmental Protection[26] have been requested to verify that none of the ZoEs of the Indian Orchard Project contribute or cause to the violations of state water quality standards. It is believed that each correspondence will mirror those

[24] See Attachment 31, "Massachusetts Year 2016 List of Integrated Waters."
[25] See Attachment 16, "US F&WS E-Mail, Dated July 7, 2019."
[26] See Attachment 18, "MDEP E-Mail, Dated July 7, 2019."

already received for the re-certification of Red Bridge Project. [27] [28] These statements apply to each 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 Indian Orchard Project for Certification by the Low Impact Hydropower Institute, dated July 14, 2013." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item [29]	Title of Document
32 (32)	**Appendix B, Water Quality** starts at page **43** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
33 (33)	**Appendix B-1, Dissolved Oxygen at Gatehouse** starts at page **47** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to the Impoundment ZoEs.
34 (34)	**Appendix B-2, WMECO Exhibit E -- Environmental Report, dated November 1989** starts at page **48** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
35 (35)	**Appendix B-3, WMECO Exhibit E -- Environmental Report, Appendix D -- Water Quality Report, dated November 1989** starts at page **49** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
36 (36)	**Appendix B-4, Chicopee River Watershed 2003 Water Quality Assessment Report** starts at page **50** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
37 (37)	**Appendix B-5, MDEP Letter, Dated October 31, 2012** starts at page **51** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.

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

[27] See Attachment 19, "US F&WS E-Mail, Dated November 6, 2018."
[28] See Attachment 20, "MDEP Letter, Dated November 7, 2018."
[29] The first number applies to the numbering of the documents in the table at the end of this LIHI Re-Certification Application titled "LIST OF ATTACHMENTS FROM LIHI RE-CERTIFICATION APPLICATION FOR INDIAN ORCHARD PROJECT." The second number applies to the numbering of documents in the cover letter in the original Indian Orchard 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	1	Not Applicable / De Minimis Effect: • Explain why the facility does not impose a barrier to upstream fish passage in the designated zone. • Document available fish distribution data and the lack of migratory fish species in the vicinity. If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.

There has been no change in the Upstream Fish Passage requirement of the Facility since it was certified by LIHI on December 11, 2013 (retroactive to July 19, 2013) for any of the ZoE. At that time, no Upstream Fish Passage requirement had been imposed. This lack of an upstream fish passage requirement applies to each of the ZoE.

At the suggestion of Caleb Slater, the Chicopee River, A Comprehensive Watershed Assessment, 2003,[30] and the Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010[31] were reviewed. No list of migratory fish that occur now or have occurred historically in vicinity of the Facility for any of the ZoE was found in these documents. However, American Shad, Atlantic Salmon, Blueback Herring, Gizzard Shad, Sea Lamprey and Stripped Bass were mentioned as being found in the Connecticut River upstream of the confluence of the Chicopee and Connecticut Rivers. Strangely, there is no mention of the American eel. None of these former fish appear now to be present in any of the ZoE except for the possibility of the American Eel. Doctor Slater provided the following list of riverine fish. These are American Eel, Banded Killifish, Black Crappie, Bluegill, Brown Bullhead, Chain Pickerel, Common Shiner, Golden Shiner, Largemouth Bass, Pumpkinseed, Redbreast Sunfish, Rock Bass, Smallmouth Bass, Spottail Shiner, Tesselated Darter, White Catfish, White Perch, White Sucker, Yellow Bullhead, Yellow Perch and were found in 2017 in the Chicopee River but no necessarily above or below the Indian Orchard Dam.

[30] See Attachment 38, "Chicopee River, A Comprehensive Watershed Assessment, 2003, dated July 29, 2003."
[31] See Attachment 39, "Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010."

While the Indian Orchard Project does impose a barrier to upstream fish passage on the Chicopee River, it is the third dam on the river with two other dams downstream within 7 miles. The oldest of these dams dates to the late 1800s and was constructed well before there were any hydro-electric generating facilities constructed on the river. Thus, Indian Orchard Project was constructed after migratory fish were extirpate from the project area.

Both MDFW[32] and FWS[33] have been asked if the Project is in compliance with its Fish Passage and Protection. Once those e-mails or letters have been obtained, they will be appended to this application. Previously, both entities responded that the Project was in compliance and, despite the fact the agencies could request appropriate passage at any time, there were no pending agency request for passage. [34] [35] These statements apply to each 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 Indian Orchard Project for Certification by the Low Impact Hydropower Institute, dated July 14, 2013." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item [36]	Title of Document
40 (38)	**Appendix C, Fish Passage and Protection** starts at page **52** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
41 (39)	**Appendix C-1, MDFW E-mail, Dated October 1, 2012** starts at page **54** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
42 (40)	**Appendix C-2, FWS E-mail, Dated December 3, 2012** starts at page **55** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.

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 Tailrace ZoE.

[32] See Attachment 17, "MDFW E-Mail, Dated July 7, 2019."
[33] See Attachment 16, "US F&WS E-Mail, Dated July 7, 2019."
[34] See Attachment 20, "MDFW Letter, Dated November 7, 2018."
[35] See Attachment 19, "US F&WS E-Mail, Dated November 6, 2018."
[36] The first number applies to the numbering of the documents in the table at the end of this LIHI Re-Certification Application titled "LIST OF ATTACHMENTS FROM LIHI RE-CERTIFICATION APPLICATION FOR INDIAN ORCHARD PROJECT." The second number applies to the numbering of documents in the cover letter in the original Indian Orchard 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	1	Not Applicable / De Minimis Effect: • Explain why the facility does not impose a barrier to downstream fish passage in the designated zone, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines). • For riverine fish populations that are known to move downstream, explain why the facility does not contribute adversely to the sustainability of these populations or to their access to habitat necessary for successful completion of their life cycles. • Document available fish distribution data and the lack of migratory fish species in the vicinity. • If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.

There has been no change in the Downstream Fish Passage requirement of the Facility since it was certified by LIHI on December 11, 2013 (retroactive to July 19, 2013) for any of the ZoE. At that time, no Downstream Fish Passage requirement had been imposed. This lack of a downstream fish passage requirement applies to each of the ZoE.

At the suggestion of Caleb Slater, the Chicopee River, A Comprehensive Watershed Assessment, 2003,[37] and the Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010[38] were reviewed. No list of migratory fish that occur now or have occurred historically in vicinity of the Facility for any of the ZoE was found in these documents. However, American Shad, Atlantic Salmon, Blueback Herring, Gizzard Shad, Sea Lamprey and Stripped Bass were mentioned as being found in the Connecticut River upstream of the confluence of the Chicopee and Connecticut Rivers. Strangely, there is no mention of the American eel. None of these former fish appear now to be present in any of the ZoE except for the possibility of the American Eel. Doctor Slater provided the following list of riverine fish. These are American Eel, Banded Killifish, Black

[37] See Attachment 38, "Chicopee River, A Comprehensive Watershed Assessment, 2003, dated July 29, 2003."
[38] See Attachment 39, "Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010."

Crappie, Bluegill, Brown Bullhead, Chain Pickerel, Common Shiner, Golden Shiner, Largemouth Bass, Pumpkinseed, Redbreast Sunfish, Rock Bass, Smallmouth Bass, Spottail Shiner, Tesselated Darter, White Catfish, White Perch, White Sucker, Yellow Bullhead, Yellow Perch and were found in 2017 in the Chicopee River but no necessarily above or below the Indian Orchard Dam. These statements apply of each of the ZoE.

While the Indian Orchard Project does impose a barrier to downstream fish passage on the Chicopee River, there are dams upstream dams on the Chicopee River as well as on each of the upstream tributaries of the Chicopee River. None of these dams have any downstream fish passage. While not a certified downstream passage, the Project's minimum flow discharge pipe does permit the passage downstream of riverine fish. These statements apply of each of the ZoE.

Both MDFW[39] and FWS[40] have been asked if the Project is in compliance with its Fish Passage and Protection. Once those letters have been obtained, they will be appended to this application. Previously, both entities responded that the Project was in compliance and, despite the fact the agencies could request appropriate passage at any time, there were no pending agency request for passage. [41] [42] These statements apply of each of the ZoE.

In response to the request for previous documentation related to the Downstream Stream 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 Indian Orchard Project for Certification by the Low Impact Hydropower Institute, dated July 14, 2013." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item[43]	Title of Document
40 (38)	**Appendix C, Fish Passage and Protection** starts at page **52** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
41 (39)	**Appendix C-1, MDFW E-mail, Dated October 1, 2012** starts at page **54** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
42 (40)	**Appendix C-2, FWS E-mail, Dated December 3, 2012** starts at page **55** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.

[39] See Attachment 17, "MDFW E-Mail, Dated July 7, 2019."
[40] See Attachment 16, "US F&WS E-Mail, Dated July 7, 2019."
[41] See Attachment 20, "MDFW Letter, Dated November 7, 2018."
[42] See Attachment 19, "US F&WS E-Mail, Dated November 6, 2018."
[43] The first number applies to the numbering of the documents in the table at the end of this LIHI Re-Certification Application titled "LIST OF ATTACHMENTS FROM LIHI RE-CERTIFICATION APPLICATION FOR INDIAN ORCHARD PROJECT." The second number applies to the numbering of documents in the cover letter in the original Indian Orchard LIHI application.

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 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	1	Not Applicable / De Minimis Effect: • If there are no lands with significant ecological value associated with the facility, document and justify this (e.g., describe the land use and land cover within the project boundary). • Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.

There has been no change in the Shoreline and Watershed Protection requirement of the Facility since it was certified by LIHI on December 11, 2013 (retroactive to July 19, 2013) for any of the ZoE. There is no *per se* Shoreline Management Plan for the Project or any shoreline or watershed protection items since 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 applicable agencies. These statements apply to each of the ZoE.

Since the filing of the LIHI application for certification for the Project in July 2013, there has not been a formal FERC environmental inspection report performed for the Project since the one performed on September 30, 2010. This report applies to each of the ZoE. There are numerous Dam Safety Reports prepared by FERC since that time. Each were reviewed for shoreline and watershed protection issues and no issues were mentioned. These reports apply to each of the ZoE.

The Applicant does possess an Environmental Report for the Project that was filed with FERC when the then owner requested its Exemption From License for the Project. From that report the Applicant believes that there may be 47 acres with significant ecological value associated with the Facility's forested Project area for the Northern Long-eared Bat and the Bald Eagle. This report applies to each of the ZoE.

From the Project's Environmental Report, the cover for the study area (but not just the impoundment of the Facility) may be summarized as follows. Using those percentages and an estimate of the open water acreage, the Project area was estimated to be 140 acres.[44]

[44] While there is no information on acreage of the open water for the Project, Exhibit A does list the acreage of the impoundment at 74 acres. Assuming an additional five acres of open water for the Bypassed Reach and the Tailrace and Regulated Reach, the open water acreage is estimated at 79 acres. With that number, all of the estimated acreage of the Project area were estimated.

Developed Lands	9.5%	13 acres
Deciduous Forest	30.9%	43 acres
Mixed Forest	2.9%	4 acres
Open Water	56.6%	79 acres

A copy of the Project's Environmental Report has been included as Attachment 43.

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 Indian Orchard Project for Certification by the Low Impact Hydropower Institute, dated July 14, 2013." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item[45]	Title of Document
44 (41)	**Appendix D, Watershed Protection** starts at page **56** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
45 (42)	**Appendix D-1, MDFW E-mail, Dated October 1, 2012** starts at page **58** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
46 (43)	**Appendix D-2, FWS E-mail, Dated December 3, 2012** starts at page **59** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.

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

[45] The first number applies to the numbering of the documents in the table at the end of this LIHI Re-Certification Application titled "LIST OF ATTACHMENTS FROM LIHI RE-CERTIFICATION APPLICATION FOR INDIAN ORCHARD PROJECT." The second number applies to the numbering of documents in the cover letter in the original Indian Orchard LIHI application.

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 **fish or plant** species located in the Project's area.[46] 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.[47] US FWS reports the Northern Long-eared Bat, a bird and a threatened species, may be present in the Project area. Currently, the Applicant has no plans to cause any ground disturbances in the Project area without notifying first the appropriate agencies. This report applies to each of the ZoE.

An e-mail and subsequent letter regarding the threaten and endangered species in the Project area was sent to MDFW. [48] A reply to MESA Information Request Form for the Project area is attached. [49] This reply applies to all of the ZoEs. The MESA report for the Project Area states that the Indian Orchard Bypassed Reach ZoE and Indian Orchard Tailrace ZoE are no longer mapped as Priority or Estimated Habitat. However, the Indian Orchard Impoundment Zoe is located within Priority and Estimated Habitat may contain one Threatened species, the Bald Eagle. The Bald Eagle is a bird. Currently, the Applicant has no plans to cause any ground disturbance in the Project area.

The Applicant commits to secure and implement agency-approved measures to avoid or minimize the impact of the Facility on the Northern Long-eared Bat or Bald Eagle if Project operations change

[46] The US FWS does report the Northern Long-eared Bat, a threatened species, is present in Hampden County but not necessarily in the Project Area.
[47] See Attachment 44, "US FWS Federally Listed Endangered and Threatened Species in Massachusetts," updated February 5, 2016.
[48] See Attachment 45, "MDFW E-mail regarding Indian Orchard Project," dated June 10, 2019.
[49] See Attachment 46, "Reply to Indian Orchard MESA Information Request," dated June 24, 2019.

or these forest areas along the Chicopee River are disturbed. These statements apply to each of the ZoE

In response to the request for previous documentation related to the Threatened and Endangered Species 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 Indian Orchard Project for Certification by the Low Impact Hydropower Institute, dated July 14, 2013." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item[50]	Title of Document
50 (44)	**Appendix E Threatened and Endangered Species Protection** starts at **page 60** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
51 (45)	**Appendix E-1, MDFW Letter, dated November 1, 2012** starts at **page 62** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
52 (46)	**Appendix E-2, FWS Letter, dated January 17, 2012** starts at **page 63** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.

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

[50] The first number applies to the numbering of the documents in the table at the end of this LIHI Re-Certification Application titled "LIST OF ATTACHMENTS FROM LIHI RE-CERTIFICATION APPLICATION FOR INDIAN ORCHARD PROJECT." The second number applies to the numbering of documents in the cover letter in the original Indian Orchard LIHI application.

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 no change in the Cultural Resources Management Plan of the Facility since it was certified by LIHI on December 11, 2013 (retroactive to July 19, 2013) for any of the ZoE. This statement applies to each of the ZoE.

The Facility remains in compliance with all requirements regarding cultural resource protection, mitigation or enhancement included in its FERC exemption from license. In view of the results of discovery efforts during the licensing process and the State Historical Preservation Officer's determination at that time, the FERC found that the Facility would have no effect on any structure, site, building, district, or object listed in or eligible for listing in the National Register of Historic Places. These statements apply to each of the ZoE.

When the new bottom discharge minimum flow gate was planned, the Massachusetts Historical Commission (as was also US FWS, MDFW and MDEP) was consulted for their comments before construction commenced.[51] This statement applies of each of the ZoE.

In response to the request for previous documentation related to the Cultural and Historic Resources Standards 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 Indian Orchard Project for Certification by the Low Impact Hydropower Institute, dated July 14, 2013." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

[51] See Attachment 2, "Essential Power Letter, Undated but Probably Issued August 7, 2013."

Item[52]	Title of Document
53 (47)	**Appendix F, Cultural Resource Protection** starts at **page 64** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
54 (48)	**Appendix F-1, MHC Inquiry Letter, Dated September 29, 2012** starts at **page 66** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.

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

[52] The first number applies to the numbering of the documents in the table at the end of this LIHI Re-Certification Application titled "LIST OF ATTACHMENTS FROM LIHI RE-CERTIFICATION APPLICATION FOR INDIAN ORCHARD PROJECT." The second number applies to the numbering of documents in the cover letter in the original Indian Orchard 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.

Since it was certified by LIHI on December 11, 2013 (retroactive to July 19, 2013), there has not been a formal FERC environmental inspection report performed for the Project since the one performed on September 30, 2010. This report applied to each of the ZoE. There are numerous Dam Safety Reports prepared by FERC since that time. Each were reviewed for recreation issues and only minor issues, such as signage, were mentioned. These reports apply to each of the ZoE.

The Facility remains in compliance with the recreational access, accommodation (including recreational flow releases) and facilities conditions in its FERC license. For example, since its last LIHI certification, all signage has been inspected and, where necessary, updated and/or replaced. In addition, the Facility allows access to the reservoirs and downstream reaches without fees or charges. This statement applies to each of the ZoE.

The recreational facilities can be found in the Project area. The approximate location of each these facilities can be found in Appendix G-1 of the original LIHI certification application. This statement applies to each of the 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 Indian Orchard Project for Certification by the Low Impact Hydropower Institute, dated July 14, 2013." If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item[53]	Title of Document
55 (49)	**Appendix G, Recreation** starts at **page 67** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
56 (50)	**Appendix G-1, Existing Recreational Facilities** starts at **page 68** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
57 (51)	**Appendix G-2, FERC Environmental Inspection Report, dated November 8, 2010** starts at **page 69** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
58 (52)	**Appendix G-3, FERC Letter, dated October 19, 2010** starts at **page 70** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
59 (53)	**Appendix G-4, NAEA Letter, dated March 7, 2011** starts at **page 71** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.
60 (54)	**Appendix G-5, FERC Letter, dated October 12, 2011** starts at **page 72** of 73 of the 2013 Application of Indian Orchard Project for Certification by the Low Impact Hydropower Institute. This document applies to each of the ZoE.

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

[53] The first number applies to the numbering of the documents in the table at the end of this LIHI Re-Certification Application titled "LIST OF ATTACHMENTS FROM LIHI RE-CERTIFICATION APPLICATION FOR INDIAN ORCHARD PROJECT." The second number applies to the numbering of documents in the cover letter in the original Indian Orchard LIHI application.

Sworn Statement and Waiver Form

SWORN STATEMENT

As an Authorized Representative of Central Rivers Power MA, 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 LIHI Certification of the applying facility is granted, the LIHI Certification Mark License Agreement must be executed prior to marketing the electricity product as LIHI Certified®.

The Undersigned 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.

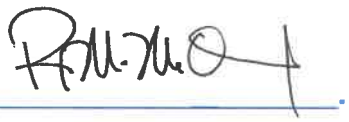
The Undersigned acknowledges that LIHI may suspend or revoke the LIHI Certification should the impacts of the facility, once operational, fail to comply with the LIHI program requirements.

Company Name: Central Rivers Power MA, LLC

Authorized Representative:

Name: Ryan McQueeney

Title: Chief Financial Officer, Portfolio Companies

Authorized Signature:  .

Date: August 27, 2019

LIST OF ATTACHMENTS FROM LIHI RE-CERTIFICATION APPLICATION FOR INDIAN ORCHARD PROJECT

1. Aerial Photographs of Indian Orchard Project.
2. Essential Power Letter, Undated but Probably Issued August 7, 2013.
3. Aerial Photograph of Indian Orchard Impoundment ZoE.
4. Aerial Photograph of Indian Orchard Bypassed Reach ZoE.
5. Aerial Photograph of Indian Orchard Tailrace ZoE.
6. Photographs of New Bottom Discharge Minimum Flow Gate.
7. Photographs of Repair to Power Canal Wall.
8. Photographs of Repair to Penstock #4.
9. 2012 Demonstration of Minimum Flow, Dated March 7, 2013.
10. 2013 Demonstration of Minimum Flow, Dated October 25, 2018.
11. 2014 Demonstration of Minimum Flow, Dated October 25, 2018.
12. 2015 Demonstration of Minimum Flow, Dated October 25, 2018.
13. 2016 Demonstration of Minimum Flow, Dated January 11, 2017.
14. 2017 Demonstration of Minimum Flow, Dated March 28, 2018.
15. 2018 Demonstration of Minimum Flow, Dated March 13, 2019.
16. US F&WS E-Mail, Dated July 7, 2019.
17. MDFW E-Mail, Dated July 7, 2019.
18. MDEP Letter, Dated July 7, 2019.
19. US F&WS E-mail Dated November 6, 2018.
20. MDFW Letter, Dated November 7, 2018.
21. MDEP Letter, Dated November 7, 2018.

22. **Appendix 1-4, FWS letter setting minimum flows, Dated July 14, 1989.**

23. **Appendix 1-5, DOI letter setting mandatory terms and conditions, Dated July 31, 1992.**

24. **Appendix 3-2, Mode of Operation.**

25. **Appendix 3-4, Site Plan of the Facility.**

26. **Appendix A, Flows.**

27. C. Slater Letter to Mark Noyes, Dated February 15, 2000.

28. **Appendix A-12, FWS E-mail, Dated December 3, 2012.**

29. **Appendix A-14, MDEP Letter, Dated November 21, 2012.**

30. **Appendix A-15, MDFW Letter, Dated October 1, 2012.**

31. Massachusetts Year 2016 List of Integrated Waters (June 2017).

32. **Appendix B, Water Quality.**

33. **Appendix B-1, Dissolved Oxygen at Gatehouse.**

34. **Appendix B-2, WMECO Exhibit E -- Environmental Report, dated November 1989.**

35. **Appendix B-3, WMECO Exhibit E -- Environmental Report, Appendix D -- Water Quality Report, Dated November 1989.**

36. **Appendix B-4, Chicopee River Watershed 2003 Water Quality Assessment Report.**

37. **Appendix B-5, MDEP Letter, Dated October 31, 2012**

38. Chicopee River, A Comprehensive Watershed Assessment, 2003, Dated July 29, 2003.

39. Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010.

40. **Appendix C, Fish Passage and Protection.**

41. **Appendix C-1, MDFW E-mail, Dated October 1, 2012.**

42. **Appendix C-2, FWS E-mail, Dated December 3, 2012**

43. Environmental Report for Indian Orchard Project (Exhibit E)

44. **Appendix D, Watershed Protection.**

45. **Appendix D-1, MDFW E-mail, Dated October 1, 2012.**

46. **Appendix D-2, FWS E-mail, Dated December 3, 2012.**

47. US FWS Federally Listed Endangered and Threatened Species in Massachusetts, Updated February 5, 2016.

48. MDFW E-mail regarding Indian Orchard Project, Dated June 10, 2019.

49. Reply to Indian Orchard MESA Information Request, Dated June 24, 2019.

50. **Appendix E, Threatened and Endangered Species Protection.**

51. **Appendix E-1, MDFW Letter, Dated November 1, 2012.**

52. **Appendix E-2, FWS Letter, Dated January 17, 2012**

53. **Appendix F, Cultural Resource Protection.**

54. **Appendix F-1, MHC Inquiry Letter, Dated September 29, 2012.**

55. **Appendix G, Recreation.**

56. **Appendix G-1, Existing Recreational Facilities.**

57. **Appendix G-2, FERC Environmental Inspection Report, Dated November 8, 2010.**

58. **Appendix G-3, FERC Letter, Dated October 19, 2010.**

59. **Appendix G-4, NAEA Letter, Dated March 7, 2011.**

60. **Appendix G-5, FERC Letter, Dated October 12, 2011.**

LIST OF APPENDICES FROM INITIAL LIHI CERTIFICATION FOR INDIAN ORCHARD PROJECT

1. Appendix 1-1, FERC order granting exemption from licensing, Issued September 11, 1992
2. Appendix 1-2, FERC order amending exemptions, Issued December 29, 1999
3. Appendix 1-3, FERC order amending exemptions, Issued November 8, 2001
4. Appendix 1-4, FWS Letter Setting Minimum Flows, Dated July 14, 1989
5. Appendix 1-5, DOI Letter Setting Mandatory Terms and Conditions, Dated July 31, 1992
6. Appendix 1-6, FERC Order Approving Minimum Flow and Impoundment Fluctuation Plan, Issued August 3, 2012
7. Appendix 2, Agency Contacts
8. Appendix 3-1, Description of the Facility
9. Appendix 3-2, Mode of Operation
10. Appendix 3-3, Locations of Major Items of the Facility
11. Appendix 3-4, Site Plan of the Facility
12. Appendix 3-5, Aerial Photograph of the Facility
13. Appendix 3-6, Chicopee River Profile
14. Appendix 3-7, Chicopee River Watershed Map
15. Appendix A, Flows
16. Appendix A-1, Demonstration of Minimum Flows
17. Appendix A-2, Flow Duration Curve
18. Appendix A-3, FERC Letter, Dated October 27, 1999
19. Appendix A-4, ConEdison Massachusetts Letter, Dated December 6, 1999
20. Appendix A-5, ConEdison Development Letter, Dated March 21, 2000

21. Appendix A-6, Bypass Reach Water Quality Study Plan, Dated June 2000

22. Appendix A-7, Bypass Reach Water Quality Monitoring Study Report, Dated November 2000

23. Appendix A-8, Proposed Minimum Flow and Impoundment Fluctuation Monitoring Plan, Dated October 2001

24. Appendix A-9, FWS Letter, Dated November 6, 2001

25. Appendix A-10, MDFW Letter, Dated November 15, 2001

26. Appendix A-11, Accepted Minimum Flow and Impoundment Fluctuation Monitoring Plan, Dated February 20, 2012

27. Appendix A-12, FWS E-mail, Dated December 3, 2012

28. Appendix A-13, Essential Power Letter, Dated January 22, 2013

29. Appendix A-14, MDEP Letter, Dated November 21, 2012

30. Appendix A-15, MDFW E-mail, Dated October 1, 2012

31. Appendix B, Water Quality

32. Appendix B-1, Dissolved Oxygen at Gatehouse

33. Appendix B-2, WMECO Exhibit E -- Environmental Report, Dated November 1989

34. Appendix B-3, WMECO Exhibit E -- Environmental Report, Appendix D -- Water Quality Report, Dated November 1989

35. Appendix B-4, Chicopee River Watershed 2003 Water Quality Assessment Report

36. Appendix B-5, MDEP Letter, Dated October 31, 2012

37. Appendix C, Fish Passage and Protection

38. Appendix C-1, MDFW E-mail, Dated October 1, 2012

39. Appendix C-2, FWS E-mail, Dated December 3, 2012

40. Appendix D, Watershed Protection

41. Appendix D-1, MDFW E-mail, Dated October 1, 2012

42. Appendix D-2, FWS E-mail, Dated December 3, 2012

43. Appendix E, Threatened and Endangered Species Protection

44. Appendix E-1, MDFW Letter, Dated November 1, 2012

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46. Appendix F, Cultural Resource Protection

47. Appendix F-1, MHC Inquiry Letter, Dated September 29, 2012

48. Appendix G, Recreation

49. Appendix G-1, Existing Recreational Facilities

50. Appendix G-2, FERC Environmental Inspection Report, Dated November 8, 2010[54]

51. Appendix G-3, FERC Letter, Dated October 19, 2010

52. Appendix G-4, NAEA Letter, Dated March 7, 2011

53. Appendix G-5, FERC Letter, Dated October 12, 2011

54. Appendix H, Facilities Recommended for Removal

[54] While the FERC Environmental Inspection Report is dated November 8, 2010, the actual date of the inspection is September 30, 2010.