

CENTRAL RIVERS POWER MA, 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
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February 12, 2019

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

Re: Application of Putts Bridge 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 Putts Bridge Project (the “Project” or the “Facility”) of Central Rivers Power MA, LLC (“Central Rivers”).¹ On December 10, 2012, 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 March 4, 2013, after a thorough review, LIHI certified the Putts Bridge Project as low impact for a five-year term, effective December 20, 2012 and expiring December 20, 2017. Its certificate number is 102. On December 26, 2017, June 14, 2018 and November 12, 2018, Putts Bridge Project was granted an extension of the current certificate term with a new expiration date of June 30, 2018, November 30, 2018 and May 31, 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 Putts Bridge 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 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 2012. 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.

<u>Criteria</u>	<u>Certification</u>	<u>Re-Certification</u>	<u>Notes</u>
Ecological Flow Regimes	FERC and US FWS-approved 25 cfs minimum flow or inflow if less	Same criteria	25 cfs minimum flow at Project is appropriate.
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 Wilbraham WTP.
Upstream Fish Passage	No requirement but a requirement could be imposed by US FWS after a complete review and finding of fish passage need.	No requirement but a requirement could be imposed by US FWS after a complete review and finding of fish passage need.	
Downstream Fish Passage	No requirement but a requirement could be imposed by US FWS after a complete review and finding of fish passage need.	No requirement but a requirement could be imposed by US FWS after a complete review and finding of fish passage need.	
Watershed and Shoreline Protection	While watershed and shoreline activities are to be reported to appropriate agencies, no watershed or shoreline activities have occurred.	While watershed and shoreline activities are to be reported to appropriate agencies, no watershed or shoreline activities have occurred.	

Threatened and Endangered Species Protection	No threatened or endangered fish species found Project area in surveys of US FWS or NHESP. NHESP reported the swamp dock, a plant present in the Project Area.	Both US FWS and NHESP reports no fish T&ES present in Project area. NHESP reported the swamp dock, a plant 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.	
Recreational Resources	The latest FERC report showed full compliance.	The latest FERC reports showed full compliance.	

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 [Putts Bridge Project](#) (LIHI #102 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)	Putts Bridge Project²
Location	River name (USGS proper name)	Chicopee River
	River basin name	Chicopee River
	Nearest town, county, and state	Towns of Wilbraham and Ludlow and City of Springfield in Hampden County, Massachusetts
	River mile of dam above next major river	river mile 9.2
	Geographic latitude	42° 09'28.21" N
	Geographic longitude	72° 29'11.40" 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
Regulatory Status	FERC Project Number (e.g., P-xxxx), issuance and expiration dates	FERC No. P-10677; 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 Putts Bridge Project, FERC Project No.-10677, Massachusetts Department of Environmental Protection has listed Putts Bridge Upper Impoundment ZOE as Category 2, "Attaining some uses (Aesthetics; Fish, other Aquatic Life and Wildlife; Primary Contact Recreation; Secondary Contact Recreation); other not assessed (Shellfish Harvesting)." The other ZoEs are listed as Category 5, "Waters requiring a TMDL." Pollutants requiring a TMDL: Fecal Coliform.

² See Attachment 1 for aerial photographs of Putts Bridge Project.

	Hyperlinks to key electronic records on FERC e-library website (e.g., most recent Commission Orders, WQC, ESA documents, etc.)	<u>Copies of key records are attached to this application or are available on the LIHI website under the application filed for LIHI certification in December 2012.</u>
Power Plant Characteristics	Date of initial operation (past or future for operational applications)	<u>1918 for initial operations</u>
	Total name-plate capacity (MW)	<u>3.90 MW</u>
	Average annual generation (MWh)	<u>13,713 MWh (average for 2002-2018)</u>
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	<u>Two turbines;</u> <u>Unit #2: Allis-Chalmers; 2,600 hp; 725 cfs</u> <u>Maximum hydraulic capacity</u> <u>Unit #3: Allis-Chalmers; 2,600 hp; 725 cfs</u> <u>Maximum hydraulic capacity</u>
	Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.)	<u>Limited pond-and-release (operates with a year-round maximum 1.0 feet drawdown)</u>
	Dates and types of major equipment upgrades	<u>2001; re-rated Unit #2 Turbine-Generator to 1,950 KW</u> <u>2001; re-rated Unit #3 Turbine-Generator to 1,950 KW</u>
	Dates, purpose, and type of any recent operational changes	<u>None</u>
	Plans, authorization, and regulatory activities for any facility upgrades	<u>None</u>
Characteristics of Dam, Diversion, or Conduit	Date of construction	<u>1918</u>
	Dam height	<u>The dam, built in 1918, crosses the Chicopee River in a roughly north-to-south direction, and is a concrete gravity structure approximately 223-foot long by 22-foot high. The northern abutment of the dam is contiguous with the abutment for the Ludlow Avenue Bridge. Adjacent to this abutment are a skimming gate with invert at El. 199.7 feet and a deep sluice gate with invert at El. 183.9 feet. The deck elevation at the two gates is El. 212.9 feet. A 23-foot non-overflow section extends from the gate area to the 200-foot long ogee spillway which extends across the river to the south abutment, El. 212.9 feet. A concrete retaining wall extends from the south abutment at El. 212.9 feet for approximately 133 feet.</u>
	Spillway elevation and hydraulic capacity	<u>212.9 feet msl; 21,000 cfs</u>
	Tailwater elevation	<u>The flows from the two operating units discharge through two tailrace bays into the tailrace canal. The normal tailrace elevation is 160.9 feet. The tailrace canal runs 355 feet</u>

		<u>from the powerhouse in a westerly direction to where the flow re-enters the Chicopee River. Flow at tailrace equals maximum hydraulic flow of the station's turbines, which is 1,450 cfs.</u>
	Length and type of all penstocks and water conveyance structures between reservoir and powerhouse	<p><u>The concrete headgate structure is adjacent to the northeast abutment of the dam, and has a deck elevation of 212.9 feet. Six motorized headgates, each approximately 12 feet wide by 13.3 feet high direct the flow to the underground concrete conduits that lead to the powerhouse forebay. A double-barreled, underground concrete conduit extends 647 feet from the impoundment to the forebay. Each barrel of the conduit is 16.5 feet high by 12.5 feet wide.</u></p> <p><u>The forebay is a reinforced concrete structure measuring 40 feet wide by 104 feet long. The forebay is 41.5 feet high, with a top elevation of 210.3 feet. There is a 2.5-foot diameter spigot type drain gate at the base of the forebay, and an 18-foot wide skimming gate on the north forebay.</u></p> <p><u>The trashrack is situated along the western forebay wall, extending from the floor of the forebay (El. 169.4 feet to El. 208.1 feet). There is a mechanical trash rake mounted on rails along the entire width of the trashrack. Wooden headgates, measuring 14.3 feet square, isolate the forebay from the generating units.</u></p>
	Dates and types of major, generation-related infrastructure improvements	<u>2001; re-rated Unit #2 Turbine-Generator to 1,950 KW</u> <u>2001; re-rated Unit #3 Turbine-Generator to 1,950 KW</u>
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	<u>Power generation</u>
	Water source	<u>Chicopee River</u>
	Water discharge location or facility	<u>Powerhouse tailrace</u>
Characteristics of Reservoir and Watershed	Gross volume and surface area at full pool	<u>At normal pond elevation the Putts Bridge Project impoundment extends approximately 3.3 miles upstream of the dam. At normal pond condition, the maximum surface area is approximately 65 acres at El. 205.3'. While the maximum useable storage of the</u>

	<u>reservoir is 323 acre-feet (550 acre-feet of gross storage), the used storage capacity is just 65 acre-feet. While the permitted daily drawdown is 1 foot during the spring and 2 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 1 foot.</u>
Maximum water surface elevation (ft. MSL)	<u>Maximum water surface elevation of 205.3' mean sea level (msl).</u>
Maximum and minimum volume and water surface elevations for designated power pool, if available	<u>At normal pond elevation the Putts Bridge Project impoundment extends approximately 3.3 miles upstream of the dam. At normal pond condition, the maximum surface area is approximately 65 acres at El. 205.3'. While the maximum useable storage of the reservoir is 323 acre-feet (550 acre-feet of gross storage), the used storage capacity is just 65 acre-feet. While the permitted daily drawdown is 1 foot during the spring and 2 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 1 foot.</u>
Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile	<u>Immediately upstream of the Putts Bridge Project is 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).</u> <u>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.</u>
Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile	<u>The Putts Bridge project is situated upstream of three other hydroelectric facilities located on the Chicopee River.³ The order of these</u>

³ 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.

		<p>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, Two of the three downstream hydroelectric facilities are owned and operated by Central Rivers – Dwight Station Project (P-10675) and Indian Orchard Project (P-10678).</p> <p>Chicopee Falls Hydro is owned and operated by an unrelated entity, Chicopee Municipal Light District.</p>
	Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation	None
	Area inside FERC project boundary, where appropriate	69 acres of which approximately 65 acres are impoundment and the balance of 4 acres are land.
Hydrologic Setting	Average annual flow at the dam	923 cfs at dam; 927 cfs at gage; flow at dam is a straight drainage area ratio adjustment from the gage.
	Average monthly flows	<p>January 1,006 cfs at dam; 1,010 cfs at gage</p> <p>February 1,016 cfs at dam; 1,020 cfs at gage</p> <p>March 1,583 cfs at dam; 1,590 cfs at gage</p> <p>April 1,812 cfs at dam; 1,820 cfs at gage</p> <p>May 1,175 cfs at dam; 1,180 cfs at gage</p> <p>June 832 cfs at dam; 836 cfs at gage</p> <p>July 497 cfs at dam; 499 cfs at gage</p> <p>August 456 cfs at dam; 458 cfs at gage</p> <p>September 486 cfs at dam; 488 cfs at gage</p> <p>October 551 cfs at dam; 553 cfs at gage</p> <p>November 738 cfs at dam; 741 cfs at gage</p> <p>December 930 cfs at dam; 934 cfs at gage</p>
	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	686 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	Dam -- river mile 9.2 Tailrace – river mile 9.0

	Type of waterbody (river, impoundment, bypassed reach, etc.)	<u>Impoundment – above river mile 9.2</u> <u>Bypassed Reach – between river mile 9.2 and river mile 9.0</u> <u>River – below river mile 9.0</u>
	Delimiting structures	<u>1) Impoundment – from the impoundment of Putts Bridge to dam of Putts Bridge⁴</u> <u>2) Bypassed Reach – Putts Bridge Dam to tailrace of Putts Bridge⁵</u> <u>3) River -- Tailrace of Putts Bridge to the confluence with the Bypassed Reach⁶</u>
	Designated uses by state water quality agency	<u>Massachusetts Department of Environmental Protection has listed Putts Bridge Upper Impoundment ZOE as Category 2, “Attaining some uses (Aesthetics; Fish, other Aquatic Life and Wildlife; Primary Contact Recreation; Secondary Contact Recreation); other not assessed (Shellfish Harvesting).” The Lower Impoundment ZOE and other ZoEs are listed as Category 5, “Waters requiring a TMDL.” Pollutants requiring a TMDL: Fecal Coliform.</u>
Additional Contact Information	Names, addresses, phone numbers, and e-mail for local state and federal resource agencies	<u>See Section 2. of the Facility Contacts Form for this information on relevant governmental officials.</u>
	Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders	<u>See original LIH certification application for the names of the local non-governmental stakeholders involved with the Chicopee River.</u>
Photographs and Maps	Photographs of key features of the facility and each of the designated zones of effect	<u>No new photographs have been provided since the application for certification contained nearly 40 and none of those have changed since they were taken.</u>
	Maps, aerial photos, and/or plan view diagrams of facility area and river basin	<u>See attachments</u>

⁴ See Attachment 2, “Aerial Photograph of Putts Bridge Impoundment ZoE.”

⁵ See Attachment 3, “Aerial Photograph of Putts Bridge Bypassed Reach ZoE.”

⁶ See Attachment 4, “Aerial Photograph of Putts Bridge Tailrace ZoE.”

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: [Putts Bridge 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: **Putts Bridge 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: [Putts Bridge 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.

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
A	2	<p style="text-align: center;"><u>Agency Recommendation (see Appendix A for definitions):</u></p> <ul style="list-style-type: none"> • 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	<p style="text-align: center;"><u>Limited Storage:</u></p> <ul style="list-style-type: none"> • 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 March 3, 2013 (retroactive to December 20, 2012) for any of the ZoE. Demonstrations of compliance of the Project’s minimum flow requirement are 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 Tailrace to the Confluence with the Bypassed Reach ZoE.⁷

⁷ See Attachments 5-10, “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 and 2017 Demonstration of Minimum Flow, Dated March 28, 2018.”

Since the filing of the LIHI application for certification for the Project in December 2012, 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 all 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 all ZoE.

The initial 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. Initially, 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 foot below the top of the flashboards from April to June and two feet for the remainder of the year. This former requirement was subsequently revised. These statements apply to all ZoE.

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 all 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. 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.⁸ 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 all 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 all ZoE.

⁸ 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°C in warm water fisheries.

Update letters will be requested from the US Fish & Wildlife Service (FWS), Massachusetts Division of Fisheries and Wildlife (MDFW) and the Massachusetts Department of Environmental Protection (MDEP) 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.^{9 10 11} As those letters for Putts Bridge Project are received, they will be appended to this application. These statements apply to all ZoEs.

As the Project is currently operated, the Facility has limited storage, 65 acre-feet of usable storage (approximately 65 acres of reservoir surface times 1 feet of drawdown). At 25 cfs of minimum flow and no inflow, it takes just over 22 hours and 28 minutes 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 Putts Bridge Project for Certification by the Low Impact Hydropower Institute, dated December 10, 2012.” 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
14 (5)	Appendix 1-4, FWS letter setting minimum flows, dated July 14, 1989 starts at page 7 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
15 (6)	Appendix 1-5, DOI letter setting mandatory terms and conditions, dated July 31, 1992 starts at page 8 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
16 (10)	Appendix 3-2, Mode of Operation starts at page 17 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
17 (12)	Appendix 3-4, Site Plan of the Facility starts at page 20 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
18 (16)	Appendix A, Flows starts at page 24 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
19 (NA)	C. Slater Letter to Mark Noyes, dated February 15, 2000 is attached as Attachment 19 to this Application for Re-Certification. This document applies to all ZoEs.

⁹ See Attachment 11, “US F&WS E-Mail, Dated November 6, 2018.”

¹⁰ See Attachment 12, “MDFW Letter, Dated November 7, 2018.”

¹¹ See Attachment 13, “MDEP Letter, Dated November 7, 2018.”

¹² 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 PUTTS BRIDGE PROJECT.” The second number applies to the numbering of documents in the cover letter in the original Putts Bridge LIHI application.

20 (28)	Appendix A-12, FWS E-mail, dated August 27, 2012 starts at page 38 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
21 (29)	Appendix A-13, MDEP Letter, dated July 30, 2012 starts at page 39 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
22 (30)	Appendix A-14, MDFW Letter, dated July 22, 2012 starts at page 40 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.

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.

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
B	2	<p style="text-align: center;"><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> • 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 March 3, 2013 (retroactive to December 20, 2012) for any of the ZoE. The latest Massachusetts DEP report (June 2017)¹³ 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 Putts Bridge Upper Impoundment ZOE as Category 2, “Attaining some uses (Aesthetics; Fish, other Aquatic Life and Wildlife; Primary Contact Recreation; Secondary Contact Recreation); other not assessed (Shellfish Harvesting).” The Putts Bridge Lower Impoundment ZoE and the other ZoEs are listed as Category 5, “Waters requiring a TMDL.” Pollutants requiring a TMDL: 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 ZoE.

While there is no Water Quality Certificate, letters from the Massachusetts Department of Environmental Protection and United States Fish & Wildlife Service has been requested to verify that none of the ZoEs of the Putts Bridge Project contribute or cause to the violations of state water

¹³ See Attachment 23, “Massachusetts Year 2016 List of Integrated Waters.”

quality standards. It is believed that each correspondence will mirror those already received for the re-certification of Red Bridge Project.^{14 15} These statements will apply to all 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 Putts Bridge Project for Certification by the Low Impact Hydropower Institute, dated March 20, 2012.” If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item 16	Title of Document
24 (31)	Appendix B, Water Quality starts at page 41 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
25 (32)	Appendix B-1, Dissolved Oxygen at Gatehouse starts at page 45 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to the Impoundment ZoEs.
26 (33)	Appendix B-2, WMECO Exhibit E -- Environmental Report, dated November 1989 starts at page 46 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
27 (34)	Appendix B-3, WMECO Exhibit E -- Environmental Report, Appendix D -- Water Quality Report, dated November 1989 starts at page 47 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
28 (35)	Appendix B-4, Chicopee River Watershed 2003 Water Quality Assessment Report starts at page 48 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.

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

¹⁴ See Attachment 11, “US F&WS E-Mail, Dated November 6, 2018.”

¹⁵ See Attachment 13, “MDFW Letter, Dated November 7, 2018.”

¹⁶ 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 PUTTS BRIDGE PROJECT.” The second number applies to the numbering of documents in the cover letter in the original Putts Bridge 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.

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
C	1	<p style="text-align: center;"><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> • 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. <p>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.</p>

There has been no change in the Upstream Fish Passage requirement of the Facility since it was certified by LIHI on March 3, 2013 (retroactive to December 20, 2012) 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 all ZoE.

At the suggestion of Caleb Slater, the Chicopee River, A Comprehensive Watershed Assessment, 2003,¹⁷ and the Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010¹⁸ 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. 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. There is no mention of the American eel. None of these fish appear now to be present in any of the ZoE. Doctor Slater provided the following list of riverine fish. These are Bluegill, Black Crappie, Chain Pickerel, Golden Shiner, Largemouth Bass, Pumpkinseed, Rock Bass, Redbreast Sunfish, Tesselated Darter, White Perch, White Sucker and Yellow Perch and were found in 2017 above or below the Putts Bridge Dam.

While the Putts Bridge Project does impose a barrier to upstream fish passage on the Chicopee River, it is the fourth dam on the river with three other dams downstream within 9 miles. The oldest of these dams dates to the late 1800s and was constructed well before there were any hydro-

¹⁷ See Attachment 29, “Chicopee River, A Comprehensive Watershed Assessment, 2003, dated July 29, 2003.”

¹⁸ See Attachment 30, “Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010.”

electric generating facilities constructed on the river. Thus, Putts Bridge Project was constructed well after migratory fish were extirpate from the project area.

Both MDFW and FWS have been asked if the Project was 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.^{19 20}

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 Putts Bridge Project for Certification by the Low Impact Hydropower Institute, dated December 10, 2012.” If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item 21	Title of Document
31 (37)	Appendix C, Fish Passage and Protection starts at page 50 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
32 (38)	Appendix C-1, MDFW E-mail, Dated June 22, 2012 starts at page 52 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
33 (39)	Appendix C-2, FWS E-mail, Dated August 27, 2012 starts at page 53 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.

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.

¹⁹ See Attachment 12, “MDFW Letter, Dated November 7, 2018.”

²⁰ See Attachment 11, “US F&WS E-Mail, Dated November 6, 2018.”

²¹ 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 PUTTS BRIDGE PROJECT.” The second number applies to the numbering of documents in the cover letter in the original Putts Bridge 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.

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
D	1	<p style="text-align: center;"><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> • 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 March 3, 2013 (retroactive to December 20, 2012) 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 all ZoE.

At the suggestion of Caleb Slater, the Chicopee River, A Comprehensive Watershed Assessment, 2003,²² and the Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010²³ 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. 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. There is no mention of the American eel. None of these fish appear now to be present in any of the ZoE. Doctor Slater provided the following list of riverine fish. These are Bluegill, Black Crappie, Chain Pickerel, Golden Shiner, Largemouth Bass, Pumpkinseed, Rock Bass, Redbreast Sunfish,

²² See Attachment 29, “Chicopee River, A Comprehensive Watershed Assessment, 2003, dated July 29, 2003.”

²³ See Attachment 30, “Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010.”

Tessellated Darter, White Perch, White Sucker and Yellow Perch and were found in 2017 above or below the Putts Bridge Dam.

While the Putts Bridge 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 gate does permit the passage downstream of riverine fish.

Both MDFW and FWS have been asked if the Project was 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.^{24 25}

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 Putts Bridge Project for Certification by the Low Impact Hydropower Institute, dated December 10, 2012.” If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item ²⁶	Title of Document
31 (37)	Appendix C, Fish Passage and Protection starts at page 50 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
32 (38)	Appendix C-1, MDFW E-mail, Dated June 22, 2012 starts at page 52 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
33 (39)	Appendix C-2, FWS E-mail, Dated August 27, 2012 starts at page 53 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.

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.

²⁴ See Attachment 12, “MDFW Letter, Dated November 7, 2018.”

²⁵ See Attachment 11, “US F&WS E-Mail, Dated November 6, 2018.”

²⁶ 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 PUTTS BRIDGE PROJECT.” The second number applies to the numbering of documents in the cover letter in the original Putts Bridge LIHI application.

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.

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
E	1	<p style="text-align: center;"><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> • 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 March 3, 2013 (retroactive to December 20, 2012) 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.).

Since the filing of the LIHI application for certification for the Project in December 2012, 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 all 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 all ZoE.

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 Putts Bridge Project for Certification by the Low Impact Hydropower Institute, dated December 10, 2012.” If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item ²⁷	Title of Document
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²⁷ 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 PUTTS BRIDGE PROJECT.” The second number applies to the numbering of documents in the cover letter in the original Putts Bridge LIHI application.

34 (40)	Appendix D, Watershed Protection starts at page 54 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
35 (41)	Appendix D-1, MDFW E-mail, Dated June 22, 2012 starts at page 56 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
36 (42)	Appendix D-2, FWS E-mail, Dated August 27, 2012 starts at page 57 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.

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.

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
F	2	<p style="text-align: center;">Finding of No Negative Effects:</p> <ul style="list-style-type: none"> • 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 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.²⁸ This report applies to all of the ZoE.

An e-mail and subsequent letter regarding the threaten and endangered species in the Project area has been sent to MDFW.²⁹ A reply to MESA Information Request Form for the Project area is attached.³⁰ This reply applies to all of the ZoE. The MESA report for the Project Area states that the Putts Bridge Impoundment ZoE is no longer mapped as Priority Habitat for rare species. However, the Bypassed Reach ZoE and the Tailrace Zoe does contain one Threatened species, the Swamp Dock. The Swamp Dock is a plant. Currently, the Applicant has no plans to cause any ground disturbance in the Project area.

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 Putts Bridge Project for Certification by the Low Impact Hydropower Institute, dated December 10, 2012.” If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

²⁸ See Attachment 37, “US FWS Federally Listed Endangered and Threatened Species in Massachusetts,” updated February 5, 2016.

²⁹ See Attachment 38, “MDFW E-mail regarding Putts Bridge Project,” dated December 5, 2018.

³⁰ See Attachment 39, “Reply to Putts Bridge MESA Information Request,” dated December 14, 2018.

Item ³¹	Title of Document
40 (43)	Appendix E, Threatened and Endangered Species Protection starts at page 58 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
41 (44)	Appendix E-1, MDFW Letter, dated May 30, 2012 starts at page 60 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
42 (45)	Appendix E-2, FWS Letter, dated January 17, 2012 starts at page 61 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.

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

³¹ 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 PUTTS BRIDGE PROJECT.” The second number applies to the numbering of documents in the cover letter in the original Putts Bridge 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.

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
G	2	<p style="text-align: center;"><u>Approved Plan:</u></p> <ul style="list-style-type: none"> • 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 March 3, 2013 (retroactive to December 20, 2012) for any of the ZoE. These statements apply to all 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 Putts Bridge Project for Certification by the Low Impact Hydropower Institute, dated December 10, 2012.” If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item ³²	Title of Document
43 (46)	Appendix F, Cultural Resource Protection starts at page 62 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
44 (47)	Appendix F-1, MHC Inquiry Letter, Dated May 11, 2012 starts at page 64 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.

³² 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 PUTTS BRIDGE PROJECT.” The second number applies to the numbering of documents in the cover letter in the original Putts Bridge LIHI application.

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

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.

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
H	2	<p style="text-align: center;"><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> • 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 March 3, 2013 (retroactive to December 20, 2012), 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 all ZoE. There are numerous Dam Safety Reports prepared by FERC since that time. Each were reviewed for recreation issues and no issues were mentioned. These reports apply to all 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 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 Putts Bridge Project for Certification by the Low Impact Hydropower Institute, dated December 10, 2012.” If there is no website link to the LIHI website, then the document has been attached to the Application for LIHI Re-Certification.

Item ³³	Title of Document
45 (48)	Appendix G, Recreation starts at page 65 of 70 of the 2012 Application of Red Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.

³³ 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 PUTTS BRIDGE PROJECT.” The second number applies to the numbering of documents in the cover letter in the original Putts Bridge LIHI application.

46 (49)	Appendix G-1, Existing Recreational Facilities starts at page 66 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
47 (50)	Appendix G-2, FERC Environmental Inspection Report, dated November 4, 2010 starts at page 67 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
48 (51)	Appendix G-3, NAEA Letter, dated March 7, 2011 starts at page 68 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.
49 (52)	Appendix G-4, FERC Letter, dated October 12, 2011 starts at page 69 of 70 of the 2012 Application of Putts Bridge Project for Certification by the Low Impact Hydropower Institute. This document applies to all ZoEs.

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

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: [Randall Osteen](#)

Title: [General Counsel, Portfolio Companies](#)

Authorized Signature:  _____

Date: 2/12/19

LIST OF ATTACHMENTS FROM LIHI RE-CERTIFICATION APPLICATION FOR PUTTS BRIDGE PROJECT

1. Aerial Photographs of Red Bridge Project.
2. Aerial Photograph of Red Bridge Impoundment ZoE.
3. Aerial Photograph of Red Bridge Bypassed Reach ZoE.
4. Aerial Photograph of Red Bridge Tailrace ZoE.
5. 2012 Demonstration of Minimum Flow, Dated March 7, 2013.
6. 2013 Demonstration of Minimum Flow, Dated October 25, 2018.
7. 2014 Demonstration of Minimum Flow, Dated October 25, 2018.
8. 2015 Demonstration of Minimum Flow, Dated October 25, 2018.
9. 2016 Demonstration of Minimum Flow, Dated January 11, 2017.
10. 2017 Demonstration of Minimum Flow, Dated March 28, 2018.
11. US F&WS E-mail Dated November 6, 2018.
12. MDFW Letter, Dated November 7, 2018
13. MDEP Letter, Dated November 7, 2018.
14. **Appendix 1-4, FWS letter setting minimum flows, Dated July 14, 1989.**
15. **Appendix 1-5, DOI letter setting mandatory terms and conditions, Dated July 31, 1992.**
16. **Appendix 3-2, Mode of Operation.**
17. **Appendix 3-4, Site Plan of the Facility.**
18. **Appendix A, Flows.**
19. C. Slater Letter to Mark Noyes, Dated February 15, 2000.
20. **Appendix A-12, FWS E-mail, Dated August 27, 2012.**
21. **Appendix A-13, MDEP Letter, Dated July 30, 2012.**
22. **Appendix A-14, MDFW Letter, Dated July 22, 2012.**
23. Massachusetts Year 2016 List of Integrated Waters (June 2017).
24. **Appendix B, Water Quality.**
25. **Appendix B-1, Dissolved Oxygen at Gatehouse.**
26. **Appendix B-2, WMECO Exhibit E -- Environmental Report, dated November 1989.**
27. **Appendix B-3, WMECO Exhibit E -- Environmental Report, Appendix D -- Water Quality Report, Dated November 1989.**

28. [**Appendix B-4, Chicopee River Watershed 2003 Water Quality Assessment Report.**](#)
29. Chicopee River, A Comprehensive Watershed Assessment, 2003, Dated July 29, 2003.
30. Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010
31. [**Appendix C, Fish Passage and Protection.**](#)
32. [**Appendix C-1, MDFW E-mail, Dated June 22, 2012.**](#)
33. [**Appendix C-2, FWS E-mail, Dated August 27, 2012**](#)
34. [**Appendix D, Watershed Protection.**](#)
35. [**Appendix D-1, MDFW E-mail, Dated June 22, 2012.**](#)
36. [**Appendix D-2, FWS E-mail, Dated August 27, 2012.**](#)
37. US FWS Federally Listed Endangered and Threatened Species in Massachusetts, Updated February 5, 2016.
38. MDFW E-mail regarding Putts Bridge Project, Dated December 5, 2018.
39. Reply to Putts Bridge MESA Information Request, Dated December 14, 2018.
40. [**Appendix E, Threatened and Endangered Species Protection.**](#)
41. [**Appendix E-1, MDFW Letter, Dated October 26, 2011.**](#)
42. [**Appendix E-2, FWS Letter, Dated January 17, 2012**](#)
43. [**Appendix F, Cultural Resource Protection.**](#)
44. [**Appendix F-1, MHC Inquiry Letter, Dated May 11, 2012.**](#)
45. [**Appendix G, Recreation.**](#)
46. [**Appendix G-1, Existing Recreational Facilities.**](#)
47. [**Appendix G-2, FERC Environmental Inspection Report, Dated November 4, 2010.**](#)
48. [**Appendix G-3, NAEA Letter, Dated March 7, 2011.**](#)
49. [**Appendix G-4, FERC Letter, Dated October 12, 2011.**](#)

LIST OF APPENDICES FROM INITIAL LIHI CERTIFICATION FOR PUTTS BRIDGE 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 August 27, 2012
28. Appendix A-13, MDEP Letter, Dated July 30, 2012
29. Appendix A-14, MDFW E-mail, Dated June 22, 2011
30. Appendix B, Water Quality
31. Appendix B-1, Dissolved Oxygen at Gatehouse
32. Appendix B-2, WMECO Exhibit E -- Environmental Report, Dated November 1989
33. Appendix B-3, WMECO Exhibit E -- Environmental Report, Appendix D -- Water Quality Report, Dated November 1989
34. Appendix B-4, Chicopee River Watershed 2003 Water Quality Assessment Report
35. Appendix B-5, MDEP Letter, Dated June 8, 2012
36. Appendix C, Fish Passage and Protection
37. Appendix C-1, MDFW E-mail, Dated June 22, 2012
38. Appendix C-2, FWS E-mail, Dated August 27, 2012
39. Appendix D, Watershed Protection
40. Appendix D-1, MDFW E-mail, Dated June 22, 2012
41. Appendix D-2, FWS E-mail, Dated August 27, 2012

42. Appendix E, Threatened and Endangered Species Protection
43. Appendix E-1, MDFW Letter, Dated May 30, 2012
44. Appendix E-2, FWS Letter, Dated January 17, 2012
45. Appendix F, Cultural Resource Protection
46. Appendix F-1, MHC Inquiry Letter, Dated May 11, 2012
47. Appendix G, Recreation
48. Appendix G-1, Existing Recreational Facilities
49. Appendix G-2, FERC Environmental Inspection Report, Dated October 21, 2010
50. Appendix G-3, NAEA Letter, Dated March 7, 2011
51. Appendix G-4, FERC Letter, Dated October 12, 2011
52. Appendix H, Facilities Recommended for Removal