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

November 4, 2019 (Revised)

Via E-Mail

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

Re: Application of Dwight Project for Certification by the Low Impact Hydropower Institute

Dear Ms. Ames:

Attached please find an application for certification by the Low Impact Hydropower Institute ("LIHI") of the Dwight Project (the "Project" or the "Facility") of Central Rivers Power MA, LLC ("Central Rivers").

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

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

We request that you review this application and let us know if any addition information 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

cc: Maryalice Fisher (via e-mail only)
Michael Mann (via e-mail only)
Kevin Telford (via e-mail only)

enclosures

Table B-1. Facility Description Information for Dwight Project (LIHI # N/A 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)	**Dwight Project**[1]
Location	River name (USGS proper name)	**Chicopee River**
	River basin name	**Chicopee River**
	Nearest town, county, and state	**The Project is located in the City of Chicopee in Hampden County, Massachusetts, at approximate river mile 1.2 on the Chicopee River.**
	River mile of dam above next major river	**river mile 1.2**
	Geographic latitude	**42^0 08'58.81" N**
	Geographic longitude	**72^0 35'50.51" 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-10675; 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 the Dwight Project, FERC Project No.-10675, Massachusetts Department of Environmental Protection has listed all Dwight ZoEs as Category 5, "Waters requiring a TMDL." Pollutants requiring a TMDL: Escherichia Coli.**
	Hyperlinks to key electronic records on FERC e-library website (e.g., most recent Commission Orders, WQC, ESA documents, etc.)	**Copies of key records are attached to this application or are available on the LIHI website under the Dwight application.**

[1] See Attachment 1 for aerial photographs of the Dwight Project.

Power Plant Character-istics	Date of initial operation (past or future for operational applications)	1911 for initial power operations (previously hydro-mechanical units were used)
	Total name-plate capacity (MW)	1.464 MW
	Average annual generation (MWh)	3,493 MWh (average for 2002-2018)
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	Three turbines; Unit #1-3: S. Morgan Smith; 650 hp; 254 cfs Maximum hydraulic capacity
	Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.)	Run-of-River mode of operation
	Dates and types of major equipment upgrades	None; (In 2001, the nameplate of each generator was revised upward from 480 KW to 488 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	1860
	Dam height	The existing major project works include a stone masonry dam with a crest elevation of 77.0 feet (NGVD), an impoundment, a canal headgate house, a power canal, an intake structure for three operable penstocks, a powerhouse with three operable turbine/generating units, a tailrace channel (44.5 feet NGVD) and appurtenant facilities. The dam, which was built ca. 1860, crosses the Chicopee River in a roughly north-to-south direction, where the river is flowing west. The dam consists of a 306-foot long spillway and abutments. The northern abutment is constructed of cut stone and measures approximately 12 feet by 25 feet. The stone masonry overflow spillway is 15 feet high by 306 feet long, with a permanent crest elevation of 77.0 feet. The southern abutment is also constructed of cut stone, measures approximately 9 feet by 23 feet, and also serves as the north abutment of the headgate house.
	Spillway elevation and hydraulic capacity	77.0 feet msl; 21,000 cfs
	Tailwater elevation	The three operating units discharge through three tailrace bays directly north into the Chicopee River. The normal tailrace elevation is 44.5 feet.

	Length and type of all penstocks and water conveyance structures between reservoir and powerhouse	**The canal headgate house is a 57-foot-long by 12-foot-wide brick structure on a concrete foundation, housing the six intake gates that control the flow from the impoundment to the power canal. The southern abutment of the canal headgate house is constructed of cut granite. The six head gates are all of timber construction, 5.5 feet-high by 8-feet wide. Each gate is equipped with a motor-driven rack and pinion operator.** **The approximately 80-feet wide power canal extends 1,500 feet from the headgates to the penstock intake structure. The power canal extends another 1,500 feet further downstream where historically other industrial water users on the canal diverted the water from the downstream end of the canal. The south wall of the canal is of concrete and masonry construction while the north wall is formed from masonry and rock ledge. The canal is about 6 to 8-feet deep during normal operation.** **The intake structure is constructed of concrete and measures approximately 69 feet by 22 feet. Steel trashracks span 54 feet of the north wall of the canal, across the three operable penstocks. A rail-mounted trash rake traverses the intake. Three float-activated, wooden, 8-feet-diameter gates are operated by rack-and-pinion operators.** **Three operable penstocks lead through a manufacturing complex to the existing units at the Project. The steel penstocks are 7 feet in diameter and 168 feet long.** **The powerhouse measures 42 feet by 74 feet, with a brick superstructures and concrete substructure. The powerhouse was built in 1920 to contain three turbines-generator units that replaced the existing hydromechanical units at the site. The present generating capacity is 1.464 MW. The powerhouse was shut down in 1973, pending extensive repairs and was rehabilitated in 1980. The powerhouse was again shutdown in**

		September 2013 and was not returned to full-time service until December 2016. Flow from the three operable turbines is discharged directly north into the Chicopee River. The normal tailrace elevation is 44.5 feet. The powerhouse's 480 Volt generator bus is connected via a 480-volt circuit breaker and non-segregated phase bus duct to a 2.500 MVA transformer located adjacent to the powerhouse. This transformer steps the voltage from 480 volts to 13.8 KV for connection to the WMECO 13.8 KV distribution system.
	Dates and types of major, generation-related infrastructure improvements	1920; Unit #1-3 generators replaced the existing generating units used in the Dwight mill complex.
	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 Dwight Project impoundment extends approximately 1,500 feet upstream of the dam. At normal pond condition, the maximum surface area is approximately 32 acres at El. 77.0 feet. While the maximum useable storage of the reservoir is 70 acre-feet, given the run-of-river mode operation, there is no used storage capacity. Normally, Central Rivers maintains 5 inches of spill over the crest of the dam.
	Maximum water surface elevation (ft. MSL)	Maximum water surface elevation of 77.0 feet mean sea level (msl).[2]
	Maximum and minimum volume and water surface elevations for designated power pool, if available	At normal pond elevation the Dwight Project impoundment extends approximately 1,500 feet upstream of the dam. At normal pond condition, the maximum surface area is approximately 32 acres at El. 77.0 feet. While the maximum useable storage of the reservoir is 70 acre-feet, given the run-of-river mode operation, there is no used storage capacity. Central Rivers maintains 5 inches of spill over the crest of the dam.

[2] Alternatively (when the flashboards are up), the permitted drawdown from the top of the flashboards is 3 inches. At a three-inch drawdown, the used storage capacity is just 6 acre-feet.

	Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile	Immediately upstream of the Dwight Project (P-10675) is 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 Dam Project (P-6544), river mile 12.6, and Red Bridge Project (P-10676), river mile 15.2. [3] 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). Chicopee Falls Project is owned and operated by an unrelated entity, Chicopee Municipal Light District. Collins Hydro is owned and operated by an unrelated entity, Ampersand Hydro. All of the hydroelectric projects on the upstream tributaries of the Chicopee River are owned and operated by unrelated entities.
	Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile	There are no downstream dams below the Dwight Project.
	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, 90 acres were used for the study area for the Environmental Report. From that study, 39 acres of Deciduous Forest, 3 acres of Persistent Emergent Wetlands, 1 acre of Shrub Wetlands, 10 acres of Riprap and 37 acres of Open Water were estimated to lie inside of the Project's study area.
Hydrologic Setting	Average annual flow at the dam	966 cfs at dam; 927 cfs at gage; flow at dam is a straight drainage area ratio adjustment from the gage.
	Average monthly flows	January 1,053 cfs at dam; 1,010 cfs at gage February 1,063 cfs at dam; 1,020 cfs at gage March 1,657 cfs at dam; 1,590 cfs at gage April 1,897 cfs at dam; 1,820 cfs at gage May 1,230 cfs at dam; 1,180 cfs at gage

[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.

		June 871 cfs at dam; 836 cfs at gage July 520 cfs at dam; 499 cfs at gage August 477 cfs at dam; 458 cfs at gage September 509 cfs at dam; 488 cfs at gage October 576 cfs at dam; 553 cfs at gage November 772 cfs at dam; 741 cfs at gage December 973 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 (looking downstream) 1,000 ft downstream from West Street Bridge at Indian Orchard, 1.1 mile upstream from Fuller Brook, and 7.2 mile upstream from mouth of the Chicopee River.
	Watershed area at the dam	718 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 1.2—1.5 Bypassed Reach -- river mile 0.9 –1.2 Tailrace – river mile 0.9
	Type of waterbody (river, impoundment, by-passed reach, etc.)	River – after river mile 1.5 Impoundment – above river mile 1.2 to 1.5 Bypassed Reach – between river mile 0.9 and river mile 1.2 Tailrace – river mile 0.9 River – below river mile 0.9
	Delimiting structures	1) Impoundment – from the impoundment of Dwight to dam of Dwight[4] 2) Bypassed Reach – Dwight Dam to tailrace of Dwight Project[5] 3) River -- Tailrace of Dwight Project to the confluence with the Dwight Bypassed Reach[6]
	Designated uses by state water quality agency	Massachusetts Department of Environmental Protection has listed Dwight Project for each ZoE are as Category 5, "Waters requiring a TMDL." Pollutants requiring a TMDL: Escherichia Coli.
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 Attachment 41

[4] See Attachment 2, "Aerial Photograph of Dwight Impoundment ZoE."
[5] See Attachment 3, "Aerial Photograph of Dwight Bypassed Reach ZoE."
[6] See Attachment 4, "Aerial Photograph of Dwight Tailrace ZoE."

Photographs and Maps	Photographs of key features of the facility and each of the designated zones of effect	**See Attachment 42**
	Maps, aerial photos, and/or plan view diagrams of facility area and river basin	**See Attachments 1-4 and 34-37**

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: Dwight Project Zone of Effect: Impoundment

	Criterion	*Alternative Standards*				
		1	*2*	*3*	*4*	*Plus*
A	Ecological Flow Regimes	X	X	X		
B	Water Quality	X				
C	Upstream Fish Passage	X	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	X	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: Dwight Project Zone of Effect: Bypassed Reach

	Criterion	*Alternative Standards*				
		1	*2*	*3*	*4*	*Plus*
A	Ecological Flow Regimes	X	X	X		
B	Water Quality	X				
C	Upstream Fish Passage	X	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	X	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: Dwight 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	X	X		
B	Water Quality	X				
C	Upstream Fish Passage	X	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	X	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-2. Information Required to Support Ecological Flows Standards.

Criterion	*Standard*	*Instructions*
A	1	<u>Not Applicable / De Minimis Effect:</u> • Confirm the location of the powerhouse relative to dam/diversion structures and demonstrate that there are no bypassed reaches at the facility. • For run-of-river facilities, provide details on operations and demonstrate that flows, water levels, and operation are monitored to ensure such an operational mode is maintained. If deviations from required flows have occurred, discuss them and the measures taken to minimize reoccurrence. • In a conduit facility, identify the source waters, location of discharge points, and receiving waters for the conduit system within which the hydropower facility is located. This standard cannot be used for conduits that discharge to a natural waterbody. • For impoundment zones only, explain water management (e.g., fluctuations, ramping, refill rates) and how fish and wildlife habitat within the zone is evaluated and managed. NOTE: this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion.
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

Criterion	*Standard*	*Instructions*
		(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.

The Facility is in compliance with resource agency recommendations issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations) for both the reach below the tailrace and all bypassed reaches.

Section 30(c) of the Federal Power Act and Section 408 of the Energy Security Act required the inclusion in the Dwight exemption from licensing, all terms and conditions that are prescribed by state and federal fish and wildlife agencies to prevent loss of, or damage to fish and wildlife resources.

With respect to minimum flow at the Dwight Project, the FWS specifically mandated the following conditions:

- The Exemptee agreed to release continuously a minimum flow of 258 cfs, or inflow to the project, whichever is less, at the project dam to the bypass reach.[7] [8] 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 Impoundment ZoE and the Tailrace to the Confluence with the Bypassed Reach ZoE. [9]

- The FWS reserved the right to add and/or alter these terms and conditions as appropriate in order to carry out its responsibilities with respect to fish and wildlife resources. The Exemptee agreed, within 30 days of receipt, to file with the Commission any additional or modified mandatory terms and conditions.

- The Exemptee initially agreed to operate the Project to limit drawdown of the Project impoundment to no more than one foot below the dam crest[10] [11] except during system

[7] See Attachment 6, "FWS Letter Setting Minimum Flows, Dated July 7, 1989,"
[8] See Attachment 7, " DOI Letter Setting Mandatory Terms and Conditions, Dated July 31, 1992."
[9] See Attachments 8-14, "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."
[10] See Attachment 15, "ConEdison Massachusetts Letter, Dated December 6, 1999." Numbered paragraph 2 discusses ConEdison acceptance of the 258 cfs minimum flow requirement.
[11] See Attachment 16, "ConEdison Development Letter, Dated March 21, 2000." In a letter from FWS dated January 27, 2000, the permitted drawdown of one foot from the top of the flashboards was modified when the flashboards are out to the maintenance of 5 inches of spill over the crest of the dam. When the flashboards are up, the permitted

emergencies or energy audits. Subsequently, the Exemptee agreed to operate the Project in a run-of-river mode of operation with 5 inches of flow over the crest of the spillway or inflow if less.

- The Licensee [Exemptee] agreed, within six months from the date of issuance of the exemption from licensing for the Project, present to the FWS for approval, a plan for monitoring project impoundment level and instantaneous bypass releases. Following approval of the plan, the Exemptee agree to measure and record impoundment level and flows according to the plan and provides records of these data to the FWS within 30 days from a request for the records.

- The Exemptee agreed to incorporate the aforementioned fish and wildlife conditions in any conveyance; by lease, sale or otherwise; of its interests so as to legally assure compliance with said conditions for as long as the Project operates under an exemption from licensing.

- In the event that any dam maintenance or energy drawdown is required, the Exemptee shall continue to operate the project such that the minimum flows are maintained downstream of the Project at all times. If during reservoir refilling, inflow to the Project is less than the required minimum flow, the Exemptee shall withhold not more than 10% of project inflow.

To date, the Exemptee has not been notified by the FWS, MDEP or MDFW of the need to modify, increase or decrease its drawdown from the top of its flashboards or minimum flow at Dwight Project. This statement applies to each of the ZoEs.

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 then owned and operated by WMECO. The exemption required a continuous minimum flow release of 258 cfs, or inflow (if less), at the Project dam to the bypass reach. The exemption also initially limited 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. The Project now operates in a run-of-river mode of operation with a minimum flow of 258 cfs by maintaining 5 inches of flow over the crest of the spillway or inflow if less.

The Dwight Project consists of a dam site located on the Chicopee River. The 18-mile long Chicopee River originates at the confluence of the Ware and Quaboag Rivers, 16.8 miles upstream, and discharges into the Connecticut River 1.2 miles downstream of the project area at Springfield, Massachusetts. The following flow parameters are extrapolated from 53 years of United States Geological Survey ("USGS") (1929-1982) records from hydrologic gaging station No. 01177000, located on the Chicopee River at Indian Orchard, Massachusetts, located approximately 0.6 miles downstream of the Indian Orchard dam site. The drainage area at this gage is 689 square miles and the drainage area at the hydropower project site is 718 square miles. The mean annual flow at the project is 952 cfs (914 cfs at the gage) with a minimum and maximum historical discharge of 16 cfs, recorded on various dates between 1929 and 1931, and 45,200 cfs,

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drawdown below the flashboards was reduced to 3 inches. By 2012, the flashboards had been permanently removed while the 5-inch flow over the crest of the dam remains unchanged.

recorded in September 21, 1938, respectively. Additional flow parameters for the Chicopee River related to the project area are as follows:

- high flow: approximately 1,589 cfs (approximately 1,525 cfs at the gage at Indian Orchard); flow exceeded 10 percent of the time;[12]
- low flow: approximately 234 cfs (approximately 225 cfs at the gage at Indian Orchard); flow exceeded 90 percent of the time;[13]
- 7Q10 flow: 258 cfs (the 7Q10 flow refers to the minimum 7-day average flow rate expected to occur once every 10 years and is based on 0.36 cfs per square mile of drainage area).

The dam creates an average 6.25-foot deep, 32-acre impoundment that is 1,500-foot-long, with a normal surface elevation of 77.0 feet USGS datum, normal tailwater elevation of 44.5 feet and average gross head of 34.3 feet.

During the In-take LIHI Review for Red Bridge Project, FWS discovered that CEEI had not completed the "Minimum Flow and Impoundment Fluctuation Monitoring Plan." Accordingly, on February 20, 2012, Essential Power, with the concurrence of FWS, MDEP and MDFW, filed with FERC a "Minimum Flow and Impoundment Fluctuation Monitoring Plan" for the Project and the other Essential Power dams on the Chicopee River.[14] On August 3, 2012, FERC issued an order approving a minimum flow and impoundment fluctuation plan for Dwight Project and the other Chicopee River dams of Essential Power.[15]

During the pre-LIHI In-Take review in March 2013, FWS discovered that it did not have in its files a scientific calculation of Dwight Project's minimum flow gate settings and that it lacked six months of minimum flow data for the Project as well as an one-day empirical test results both demonstrating the minimum flow of 258 cfs. Subsequently, Essential Power forwarded to FWS the calculation sheets of the minimum flow gate settings.[16] FWS agreed to accept these calculation sheets in lieu of six months of minimum flow data from the Project as well as a one-day empirical test results.

Unlike the other Central Rivers' Chicopee Rivers Projects, there has never been a formal FERC environmental inspection report performed for the Project. This report applied to each of the ZoE. There are numerous Dam Safety Reports prepared by FERC since 2010. Each were reviewed for ecological flow issues and no issues were mentioned. These reports apply to each of the ZoE.

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

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[12] See Attachment 17, Flow Duration Curve for the Chicopee River at Indian Orchard gage.
[13] Id.
[14] See Attachment 18, "Minimum Flow and Impoundment Fluctuation Monitoring Plan, Dated February 20, 2012."
[15] See Attachment 19, "FERC Order Approving Minimum Flow and Impoundment Fluctuation Plan, Issued August 3, 2012."
[16] Calculation of gate settings may be found at Attachment 20.
[17] See Attachment 21, "US F&WS E-Mail, Dated October 10, 2019."
[18] See Attachment 22, "MDFW E-Mail, Dated October 10, 2019."

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 Indian Orchard Project. [20] [21] [22] As those letters for the Dwight Project are received, they will be appended to this application. These statements apply to each of the ZoE.

Assuming that the Project were still able to operate in its previous limited pond and release mode, at a three-inch drawdown, the useable storage capacity is just 6 acre-feet. At 258 cfs of minimum flow and no inflow, it takes less than 3 minutes to empty the Facility's useable storage. These statements apply to each of the ZoE. By operating continuously in a run-of-river mode, there is no useable storage for the Project.

In summary, the Exemptee operates the Dwight Project in a run-of-river mode of operation by maintaining constant pond level of five inches above the crest of the dam for the protection of water quality, aquatic resources, and aesthetic values in the Chicopee River. This operation may be temporarily modified, if required, by operating emergencies beyond the control of the Exemptee, or for short periods while performing energy audits. These statements apply to each of the ZoE.

[19] See Attachment 23, "MDEP E-Mail, Dated October 10, 2019."
[20] See Attachment 24, "US F&WS E-Mail, Dated September 3, 2019."
[21] See Attachment 25, "MDFW Letter, Dated September 4, 2019."
[22] See Attachment 26, "MDEP Letter, Dated August 30, 2019."

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-3. Information Required to Support Water Quality Standards.

Criterion	*Standard*	*Instructions*
B	1	Not Applicable / De Minimis: • If facility is located on a Water Quality Limited river reach, provide a link to the state's most recent impaired waters list and indicate the page(s) therein that apply to facility waters. If possible, provide an agency letter stating that the facility is not a cause of such limitation. • Explain the rationale for why the facility does not alter water quality characteristics below, around, and above the facility.

The latest Massachusetts DEP report (June 2017)[23] 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 Dwight ZoEs as Category 5, "Waters requiring a TMDL." Pollutants requiring a TMDL: Escherichia Coli.

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[24] and Massachusetts Department of Environmental Protection[25] have been requested to verify that none of the ZoEs of the Dwight Project contribute or cause to the violations of state water quality standards. It is believed that each correspondence will mirror those already received for the re-certification of Indian Orchard Project. [26] [27] These statements apply to each of the ZoE.

The Facility is in compliance with the quantitative water quality standards established by the state that support designated uses pursuant to the federal Clean Water Act in the Facility area and in the downstream reach.

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[23] See Attachment 27, "Massachusetts Year 2016 List of Integrated Waters."
[24] See Attachment 21, "US F&WS E-Mail, Dated October 10, 2019."
[25] See Attachment 23, "MDEP E-Mail, Dated October 10, 2019."
[26] See Attachment 24, "US F&WS E-Mail, Dated September 3, 2019."
[27] See Attachment 26, "MDEP Letter, Dated August 30, 2019."

Under Section 401(a)(1) of the Clean Water Act ("CWA"),[28] an applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters must obtain from the state in which the discharge originates certification that any such discharge will comply with applicable water quality standards. The Commission may, therefore, not issue a license for a hydropower project unless the relevant state agency either has issued a water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year.[29] At the time of the issuance of the Exemption from License, the MDEP did not complete a water quality study for the Project and, consequently, did not issue a water quality certificate for the Project.

The existing water quality at the Dwight Project is classified by the MDEP as a Class B, warmwater fishery. In Massachusetts, general standards govern levels of oil and grease, radioactive substances, color, odor, form, turbidity, floating or suspended solids, nutrients, and aesthetics (314 CMR 4.03 (1988)) for all waters. In addition, the Class B warmwater fishery classification requires the water to have a minimum of 5.0 mg/l of dissolved oxygen ("DO"); temperature must be less than 83°F; pH must be between 6.5 and 8.0 standard units, and fecal coliform bacteria counts must not be more than 200 per 100 ml sample.

At the commencement of the license process for the Dwight Project, WMECO filed results of a water quality study, [30] including a dissolved oxygen ("DO") study[31] for the Project. It is certain that this study of the Dwight Project was submitted to DOI, FWS and MDFW on or about late November 1989 for their review and analysis and that none of these agencies raised any objection to its data or conclusions.[32] Furthermore, there is no record than any agency conducted its own analysis prior to the issuance of the Exemption from License or subsequently found fault with the WMECO analysis or conclusions. Finally, the DOI letter of July 31, 1992 did not state any reason to deny the Exemption from License due to water quality.

Regarding the Chicopee River from the Chicopee Falls, Chicopee to the confluence with the Connecticut River, Chicopee, the Massachusetts Division of Water Management ("MDWM") found that the flow is influenced by the Dwight Dam hydropower project.[33]

The MDWM noted that in 2003 that the USGS maintains upstream a gage in Springfield, Massachusetts, on the Chicopee River (Gage 01177000) 1,000 foot downstream from West Street Bridge at Indian Orchard and 1.1 miles upstream from Fuller Brook. The drainage area of this gage is 689 square miles, which at the Project the drainage area is 718 square miles and the period of record is August 1928 to present (pre-November 1938 published as "at Bircham Bend")

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[28] 33 U.S.C. 1341(a)(1).
[29] Id.
[30] See Attachment 30, WMECO Exhibit E -- Environmental Report, Appendix D – Water Quality Report, dated November 1989.
[31] See Attachment 28, The graph of DO may be found on page E-12 of WMECO Exhibit E -- Environmental Report, Appendix D – Water Quality Report, dated November 1989.
[32] For example, see Attachment 5, the bottom of page two of the DOI letter (dated July 31, 1992) sets forth DOI's mandatory terms and conditions to WMECO for its Exemption from License.
[33] See Attachment 31, pages 106-109 and Appendices B and D of Chicopee River Watershed 2003 Water Quality Assessment Report. The entire report can be obtained at www.mass.gov/dep/water/resources/36wqar03.pdf.

(Socolow 2005). The average discharge is 909 cfs (1928-2005) and the maximum discharge occurred on September 21, 1938 (45,200 cfs) while the minimal discharge of 16 cfs occurred several times in 1929-31 (USGS 2007 and Soclolow et al. 2005).

The USGS remarks that flow diversion has occurred since 1941 from 186 square miles in Swift River basin and at times since 1931 from 97 square miles in Ware River Basin for Boston Metropolitan District (now MA DCR) (Socolow et al 2005). Diversions have also occurred since 1950 for Chicopee, since 1952 for South Hadley, at times since 1966 for Worcester, and at times since 1955 from 6.5 square miles in Ware River Basin for Fitchburg. Diversion from Ludlow Reservoir for Springfield and, prior to 1952, for Chicopee has also occurred. Flow is regulated by power plants upstream, by Quabbin Reservoir 21 miles upstream on the Swift River since 1939, by Barre Falls Reservoir on the Ware River since 1958, by Conant Brook Reservoir since 1966, and by smaller reservoirs (Socolow 2005). Discharge records are considered to be good except for estimated daily discharges, which are poor. (Socolow et al 2005).

There are two dams on this segment of the Chicopee River: Chicopee Falls Dam and Dwight Station Dam. This segment begins at the Chicopee Falls Dam at Route 33 in Chicopee Falls. This dam is a 10' high masonry stone dam that was constructed in the late 1800s. It is currently owned by the City of Chicopee and used as a hydroelectric facility. A second dam, the Dwight Station Dam, was constructed in 1920 and is a 15' high masonry dam that is now owned and operated by Central Rivers as a hydroelectric power plant. The dam generates and releases a minimum flow depending on the flows released at the upstream Red Bridge Impoundment Dam (Kleinschmidt Associates and CEEI 1999). This segment of the Chicopee River ends with the confluence with the Connecticut River.

MDWM conducted water quality monitoring at one station (CTO3 – Route 116 Bridge, Chicopee) in this Chicopee River segment between April and October 2003 (Appendix B). MDWM crews made notes of conditions at this site throughout the sampling season. Although aquatic plant density was characterized as unobservable on the majority of sampling days, on August 20th aquatic plant density was noted to be moderate and composed of submerged plants, principally moss on rocks and milfoil (*Myriophyllum sp.*). Sparse periphyton coverage was noted on two occasions (April 16th and July 30th) while moderate coverage was noted on May 15th and August 20th. On the remaining sampling days periphyton coverage was unobservable or not recorded. On June 18th phytoplankton presence was described as sparse while the majority of occasions when observable or recorded no phytoplankton were noted

The Eastern Etching & Manufacturing Company staff collected water from the Chicopee River approximately 100 feet upstream from the Eastern Etching east parking lot, off of Riverview Terrace, for use as dilution water in the facility's whole effluent toxicity tests. Between May 2000 and May 2002 survival of *C. dubia* exposed (48 hours) to the Chicopee River water ranged from 90 to 100% (n=5). Between May 2000 and May 2002 survival of *P. promelas* exposed (48 hours) to the Chicopee River water was all 100% (n=5). Hardness ranged from 19.0 mg/L to 29.0 mg/L (n=5).

Acute whole effluent toxicity tests have been conducted on the Eastern Etching & Manufacturing Company treated effluent. Between May 2000 and May 2002 five valid tests were

conducted using *C. dubia* and *P. promelas*. The LC50 using *C. dubia* ranged from 56.10% to >100% effluent (n=5). The LC50 tests using *P. promelas* were all >100% (n=5). All of the tests met the limit of >50%.

Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between May 2000 and May 2002 ranged from 0.17 mg/L to 3.40 mg/L (n=5). Total residual chlorine (TRC) concentrations reported in the whole effluent toxicity reports between May 2000 and May 2002 ranged from <0.020 to 0.150 mg/L (n=5). Between May 2000 and May 2002 the total aluminum limit was exceeded once on May 10, 2000 when the effluent had an aluminum concentration of 5.3 mg/L (n=5).

MDWM conducted water quality monitoring at one station (CTO3 – Route 116 Bridge, Chicopee) in this Chicopee River segment between April and October 2003 (Appendix B). *In-situ* parameters were measured on seven occasions, including two pre-dawn occasions. Grab samples were also collected and analyzed for TSS, turbidity, ammonia-nitrogen, and total phosphorus (Appendix B).

Temperature, pH and dissolved oxygen measurements at the MDWM station all met criteria on MDWM sampling dates (Appendix B). It should be noted, though, that this station is below the Dwight Dam and this may affect dissolved oxygen concentrations. Ammonia-nitrogen concentrations measured in MDWM samples were low while total phosphorus concentrations ranged from 0.024 mg/L to 0.057 mg/L with the highest concentrations found on 18 June 2003, a wet weather sampling date (Appendix B).

Given the good survival of test organism and the generally good water quality conditions, the *Aquatic Life Use* is assessed as support. The *Aquatic Life Use* is identified with an "Alert Status" due to potential impacts of hydropower operations and CSOs.

MDWM conducted fecal coliform and *E. coli* bacteria monitoring at one station (CTO3 – Route 116 Bridge, Chicopee) between April and October 2003 (Appendix B*).* This station is approximately 900 feet below Chicopee CSO #025, which was active during the time of DWM sampling. This station was also below eleven other Chicopee CSOs (during time of sampling). *E. coli* counts were generally low with the exception of one sample collected on 15 October 2003, which had an *E. coli* count of 2980 cfu/ 100 mL. This high bacteria sample was collected on a wet weather sampling date.

Parameter	**DWM 2003 (n=6)**
Fecal coliform	8 – 7700
Fecal coliform (cfu/100mL)	151.1
E. coli (cfu/100mL)	4 - 2980
Geometric mean	91.6

Metcalf and Eddy (2006), as part of CSO work for the Connecticut River Bacteria Monitoring Project, collected bacteria samples at the Route 116 bridge in Chicopee which was downstream from 12 Chicopee CSOs at the time of sampling. Metcalf and Eddy staff sampled

three points (equidistant from one another) along a transect going from both banks of the river. They conducted dry weather sampling on 8 August 2001 and wet weather sampling on three occasions: 25 September 2001; 15 September 2002 and 16 October 2002. This project had a MassDEP-approved Quality Assurance Project Plan. Eighteen samples were collected in 2001 by Metcalf and Eddy (1 dry weather event, 1 wet weather event- two days total) and the *E. coli* geometric mean was 400 cfu/100 mL. Eight of the nine *E. coli* bacteria counts were greater than 235 cfu/100 mL on 8 August 2001 while none were greater than 1260 cfu/100 mL. Six of the nine *E. coli* counts collected on 25 September 2001 were greater than 235 cfu/100 mL while three of the nine *E. coli* counts were greater than 1260 cfu/100 mL. Eighteen samples were collected in 2002 by Metcalf and Eddy (2 wet weather events-2 days total) and the *E. coli* geometric mean was 412.8 cfu/100 mL. Seven of the *E. coli* bacteria counts collected on 15 September 2002 were greater than 235 cfu/100 ml and one sample was greater than 1260 cfu/100 mL. Eight of the nine *E. coli* counts collected on 16 October 2002 were greater than 235 cfu/100 mL and two *E. coli* counts were greater than 1260 cfu/100 mL.

No objectionable deposits, scums or water odor were recorded by MDWM field crews. The water clarity was described as clear or slightly turbid when noted. Minimal erosion was observed on two occasions. Although aquatic plant density was characterized as unobservable on the majority of sampling days, on August 20th aquatic plant density was noted to be moderate and composed of submerged plants, principally moss on rocks and milfoil (*Myriophyllum sp*.). Sparse periphyton coverage was noted on two occasions (April 16th and July 30th) while moderate coverage was noted on May 15th and August 20th. On the remaining sampling days periphyton coverage was unobservable or not recorded. On June 18th phytoplankton presence was described as sparse while the majority of occasions when observable or recorded no phytoplankton were noted. On April 16th the water level was noted to be extremely high and the storm drains under the bridge were observed to be flowing. On June 18th a storm drain near the bridge on the right bank was flowing.

The City of Chicopee, under NPDES Permit MA0101508, is authorized to discharge via 12 CSOs (10 currently active) into this segment of the Chicopee River. Cumulatively the active CSOs discharge an estimated 76.0 MG/year. Two CSOs have been plugged. CSO #023 was plugged in early 2002, while CSO #025 was plugged on June 29, 2005. The following CSOs are considered active and the best current estimates of their discharge are also listed below. Updated estimates and an abatement schedule for the remaining CSOs were intended to be completed in the Final Long-Term Control Plan due to be completed in 2008 (Boisjolie 2007b).[34]

Address	CSO ID Number	Estimated CSO Discharge Million Gallons/year (MG/yr)
Bell & Front St	26.	0.1 MGD
Topors & Front St	27.	18.0 MG/yr
Chicopee Elec. Light -	29	0.1 MG/yr
Chicopee Elec. Light -	31.1	1.1 MG/yr
Easement N of Front St.	31.3	30.7 MG/yr

[34] No record of this work being completed has been found.

Under Deady Bridge	32	Cumulative = 6.1 MG/yr from CSO Regulators #32.2, 32.3, 32.4, and 32.5
Grove & Oak St.	32.1	2.5 MG/yr
Grattan & Hearthstone	34.1	7.7 MG/yr
Hearthstone Terrace	34.2	0.2 MG/yr
Old Fuller	34.3	19.5 MG/yr[35]
All CSOs		76.0 MG/yr

The *Primary* and *Secondary Contact Recreation Uses* are assessed as impaired because of elevated *E. coli* counts. The highest bacteria counts were collected during wet weather events. Given the lack of objectionable conditions the *Aesthetics Use* is assessed as support.

Chicopee River (Segment MA36-25) Use Summary Table

Designated Uses	Status
Aquatic Life	SUPPORT
Fish Consumption	NOT ASSESSED
Primary & Secondary Contact	IMPAIRED Cause: Elevated *E. coli* Sources: Combined sewer overflows Suspected Sources: Illicit connections/hook-ups to storm sewers, unspecified urban stormwater
Aesthetics	SUPPORT

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The facility area and the downstream reach are currently identified by the US EPA as not meeting the water quality standards pursuant to Section 303(d) of the CWA.[36] While the US EPA, like the MDEP, noted that pathogens are both present in the Chicopee River downstream and upstream of the Project as well as in its upstream tributaries to the Project,[37] their appearance in the Chicopee River just immediately above or below the Dwight Project is neither caused by nor contributed to by Dwight Project.[38] Thus, the Project does not contribute to any degradation of the water quality of the Chicopee River. These statements apply to each of the ZoEs.

[35] This discharge is estimated from the 2002 Notice of Project Change, which reduced the estimated annual discharge from previously estimated 60.7 MG/yr in the 2001 Draft Long Term Control Plan (DLTCP). All other estimates are from the 2001 DLTCP.

[36] At http://iaspub.epa.gov/tmdl_waters10/attains_impaired_waters.impaired_waters_list?p_state=MA&p_cycle=2006, information on this US EPA determination may be found.

[37] Ware, Quaboag and Swift Rivers.

[38] See Attachment 23, "MDEP E-Mail, Dated October 10, 2019."

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-4. 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.
C	2	Agency Recommendation: • Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective). • Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. • Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.

There has been no change in the Upstream Fish Passage requirement of the Facility since it was granted its Exception from License 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,[39] and the Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010[40] were reviewed. These reports showed that no migratory fish occur now or have occurred historically in the impoundment ZoE. However, American Shad, Atlantic Salmon, Blueback Herring, Gizzard Shad, Sea Lamprey and Stripped Bass were mentioned as being found in the

[39] See Attachment 32, "Chicopee River, A Comprehensive Watershed Assessment, 2003, dated July 29, 2003."
[40] See Attachment 33, "Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010."

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 the impoundment ZoE except for the possibility of the American Eel. Doctor Slater provided the following list of riverine fish present upstream and downstream of the Collins Hydro Project. 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, which were found in 2017 in the Chicopee River but no necessarily above or below in the Dwight Dam. These statements apply to each of the ZoEs.

While the Dwight Project does currently impose a barrier to upstream fish passage on the Chicopee River,[41] [42] [43] [44] it was constructed after migratory fish were extirpated from the bypassed reach, tailrace and impoundment ZoEs. It is currently the first dam on the river with five other dams upstream within 14 miles, of which none of these other dams have installed upstream passage as a result of mandated actions of federal or state agencies. Several of these dams, including the Project, date to the mid-1800s and were constructed well before there were any hydro-electric generating facilities constructed on the Chicopee river. It also appears that the Chicopee River was dammed before the mid-1830s by early American settlers in the vicinity of Dwight Project, both above and below the current dam. Accordingly, it appears that Dwight Project was constructed after migratory fish were extirpated from the bypassed reach, tailrace and impoundment ZoEs. This report applies to each of the ZoE.

Both MDFW[45] and FWS[46] have been asked if the Project is currently in compliance with its Fish Passage and Protection. Once those e-mails or letters have been obtained, they will be appended to this application. Despite the fact these agencies could request appropriate passage at any time, there were no pending agency request for passage. [47] [48] These statements apply to each of the ZoE.

Section 30(c) of the Federal Power Act and Section 408 of the Energy Security Act require the inclusion in the Dwight exemption from licensing, all terms and conditions that are prescribed by state and federal fish and wildlife agencies to prevent loss of, or damage to fish and wildlife resources.

With respect fish passage and protection, the FWS specifically mandated the following conditions:

- The Exemptee agreed to construct, maintain and monitor upstream and downstream fish passage when prescribed by the FWS and/or MDFW. The Exemptee agreed to be

[41] See Attachment 34, "Chicopee River Watershed Map."
[42] See Attachment 35, "Chicopee River Profile."
[43] See Attachment 36, "Site Plan of the Facility."
[44] See Attachment 37, "Locations of Major Items of the Facility."
[45] See Attachment 22, "MDFW E-Mail, Dated October 10, 2019."
[46] See Attachment 21, "US F&WS E-Mail, Dated October 10, 2019."
[47] See Attachment 25, "MDFW Letter, Dated September 4, 2019."
[48] See Attachment 24, "US F&WS E-Mail, Dated September 3, 2019."

responsible for the designs of the fish passage facilities which shall be developed in consultation with, and be approved by, the FWS, MDFW and the Connecticut River Atlantic Salmon Commission (CRASC). Furthermore, the Exemptee agreed to construct and have operational upstream and/or downstream passage facilities within two years after being notified of their need by the FWS and/or the MDFW.

- The Exemptee agreed to develop plans for monitoring, maintaining and operating the upstream and downstream fish passage facilities in consultation with FWS, MDFW and CRASC. Within two years after being notified of the need for passage facilities, these plans shall be finalized and approved.

- The FWS reserved the right to add and/or alter these terms and conditions as appropriate in order to carry out its responsibilities with respect to fish and wildlife resources. The Exemptee agreed, within 30 days of receipt, to file with the Commission any additional or modified mandatory terms and conditions.

- The Exemptee agreed to incorporate the aforementioned fish and wildlife conditions in any conveyance; by lease, sale or otherwise; of its interests so as to legally assure compliance with said conditions for as long as the Project operates under an exemption from licensing.

To summarize, the Facility is in compliance with mandatory fish passage prescriptions for upstream passage of anadromous and catadromous fish issued by resource agencies after July 31, 1992.

Table B-5

B.2.4 Downstream Fish Passage and Protection Standards

The instructions in Table B-5 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-5. 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 its Exception for License 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,[49] and the Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010[50] were reviewed. These reports showed that no migratory fish that occur now or have occurred historically in impoundment ZoE. 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 impoundment 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,

[49] See Attachment 32, "Chicopee River, A Comprehensive Watershed Assessment, 2003, dated July 29, 2003."
[50] See Attachment 33, "Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010."

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 in the impoundment ZoE of the Dwight Dam.

While the Dwight Project does impose a barrier to downstream fish passage on the Chicopee River,[51] [52] [53] [54] there are five dams upstream on the Chicopee River as well as on each of the upstream tributaries of the Chicopee River. None of these dams have any mandated downstream fish passage. These statements apply of each of the ZoE.

Both MDFW[55] and FWS[56] have been asked if the Project is currently in compliance with its Fish Passage and Protection. Once those letters have been obtained, they will be appended to this application. Despite the fact the agencies could request appropriate passage at any time, there were no pending agency request for passage. [57] [58] These statements apply of each of the ZoE.

Section 30(c) of the Federal Power Act and Section 408 of the Energy Security Act require the inclusion in the Dwight exemption from licensing, all terms and conditions that are prescribed by state and federal fish and wildlife agencies to prevent loss of, or damage to fish and wildlife resources.

With respect fish passage and protection, the FWS specifically mandated the following conditions:

- The Exemptee agreed to construct, maintain and monitor upstream and downstream fish passage when prescribed by the FWS and/or MDFW. The Exemptee agreed to be responsible for the designs of the fish passage facilities which shall be developed in consultation with, and be approved by, the FWS, MDFW and the Connecticut River Atlantic Salmon Commission (CRASC). Furthermore, the Exemptee agreed to construct and have operational upstream and/or downstream passage facilities within two years after being notified of their need by the FWS and/or the MDFW.

- The Exemptee agreed to develop plans for monitoring, maintaining and operating the upstream and downstream fish passage facilities in consultation with FWS, MDFW and CRASC. Within two years after being notified of the need for passage facilities, these plans shall be finalized and approved.

[51] See Attachment 34, "Chicopee River Watershed Map."
[52] See Attachment 35, "Chicopee River Profile."
[53] See Attachment 36, "Site Plan of the Facility."
[54] See Attachment 37, "Locations of Major Items of the Facility."
[55] See Attachment 22, "MDFW E-Mail, Dated October 10, 2019.
[56] See Attachment 21, "US F&WS E-Mail, Dated October 10, 2019."
[57] See Attachment 25, "MDFW Letter, Dated September 4, 2019."
[58] See Attachment 24, "US F&WS E-Mail, Dated September 3, 2019."

- The FWS reserved the right to add and/or alter these terms and conditions as appropriate in order to carry out its responsibilities with respect to fish and wildlife resources. The Exemptee agreed, within 30 days of receipt, to file with the Commission any additional or modified mandatory terms and conditions.

- The Exemptee agreed to incorporate the aforementioned fish and wildlife conditions in any conveyance; by lease, sale or otherwise; of its interests so as to legally assure compliance with said conditions for as long as the Project operates under an exemption from licensing.

To summarize, the Facility is in compliance with mandatory fish passage prescriptions for downstream passage of anadromous and catadromous fish issued by resource agencies after July 31, 1992.

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-6. 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 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.

In 1992, Commission staff determined that excavation for the construction of the minimum flow powerhouse could increase the potential for erosion and sedimentation and result in short-term turbidity for the duration of the construction. For these reasons, Article 14[59] was specifically

[59] Article 14 states that "At least 90 days before the start of any land-disturbing, land-clearing, or spoil-producing activities, the Exemptee shall file with the Commission for approval, and with the New York Regional Office, a plan to control erosion, to control slope instability, and to minimize the quantity of sediment resulting from project construction and operation.

"The plan shall be based on actual site geological, soil, slope, drainage, and groundwater conditions and on project design, and shall include, at a minimum, the following four items: (1) a description of the actual site conditions; (2) measures to control erosion, to prevent slope instability, and to minimize the quantity of sediment resulting from project construction and operation; (3) detailed descriptions, functional design drawings, and topographic map locations of all control measures; and (4) a specific implementation schedule and details of monitoring and maintenance programs for the project construction period and for project operation.

"The Exemptee shall prepare the plan after consultation with the Soil Conservation Service and the Massachusetts Division of Fisheries and Wildlife. The Exemptee shall include with the plan documentation of consultation with the agencies and copies of agency comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the plan accommodates all of the agency comments and recommendations. The Exemptee shall allow a minimum of 30 days for the agencies to comment and make recommendations prior to filing the plan with the Commission. If the Exemptee does not adopt a recommendation, the filing shall include the Exemptee's reasons, based on geological, soil, and groundwater conditions at the site.

included to ensure that the Exemptee, before engaging in any ground disturbance, would take protective measures to minimize erosion and sedimentation associated with the construction of the minimum flow unit powerhouse.

In 1999, the Exemptee dropped plans to install a minimum flow generation unit at the spillway. Instead, CEEI made various other improvements to the Project, none of which involved in any land-disturbing, land-clearing or spoil-producing activities. Thus, it was not required to obtain any pre-construction approvals from the Soil Conservation Service, the Massachusetts Division of Fisheries and Wildlife or other federal and state agencies. Nonetheless, the Exemptee remains bound by these conditions.

In the future, if historical or archeological items are found in the Project area and Central Rivers proposes to engage in any land-disturbing, land-clearing, or spoil-producing activities, Central Rivers will prepare a plan after consultation with the Soil Conservation Service and the Massachusetts Division of Fisheries and Wildlife. The Exemptee shall include with the plan documentation of consultation with the agencies and copies of agency comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the plan accommodates all of the agency comments and recommendations. The Exemptee shall allow a minimum of 30 days for the agencies to comment and make recommendations prior to filing the plan with the Commission. If the Exemptee does not adopt a recommendation, the filing shall include the Exemptee's reasons, based on geological, soil, and groundwater conditions at the site.

Unlike the other Central Rivers' Chicopee Rivers Projects, there has never been a formal FERC environmental inspection report performed for the Project. This report applied to each of the ZoE. There are numerous Dam Safety Reports prepared by FERC since 2010. Unless CEII-protected, all were reviewed for shoreline and watershed protection issues and no such issues were mentioned. These reports apply to each of the ZoE.

The Applicant does possess an Environmental Report[60] 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 appears to be no acreage with significant ecological value associated with the Facility's Project area for the Northern Long-eared Bat. This report applies to each of the ZoE.

Given the lack of the state and federal resource agencies recommendations for a shoreland management plan, the facility, thus, is, by default, in compliance with both state and federal resource agencies recommendations for a license-approved shoreland management plan regarding

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

[60] See Attachment 29, "WMECO Exhibit E, Dated November 1989."

protection, mitigation or enhancement of shorelands surrounding the project. These statements apply to 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-7. 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.[61] 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.[62] 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. [63] A reply to MESA Information Request Form for the Project area is attached. [64] This reply applies to all of the ZoEs. The MESA report for the Project Area states that the that none of the ZoEs are presently mapped as Priority or Estimated Habitat. Again, the Applicant has no plans to cause any ground disturbance in the Project area. This report applies to each of the ZoE.

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 if Project operations change or these forest areas along the Chicopee River are disturbed. This statement applies to each of the

[61] 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.
[62] See Attachment 38, "US FWS Federally Listed Endangered and Threatened Species in Massachusetts," updated February 5, 2016.
[63] See Attachment 39, "MDFW E-mail regarding Dwight Project," dated August 26, 2019.
[64] See Attachment 40, "Reply to Dwight MESA Information Request," dated September 13, 2019.

ZoE

Table B-8

B.2.7 Cultural and Historic Resources Standards

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

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

Table B-8. 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.

The Facility is in compliance with resource agency recommendations issued after December 31, 1986 regarding Cultural and Historic Resources Standards 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.

During the licensing process, Commission staff specifically determined that exempting the proposed project would have no effect on National Register or eligible properties based on the Exemptee proposal to use the existing project works for its historic purpose. Article 11 was included to require the Exemptee to notify the Commission of any property transfers.[65] Commission staff found that no properties of historic significance would be adversely affected by continued use of the project for hydropower as proposed. In addition, the possibility exists that properties could be adversely affected by unforeseen ground-disturbing activities or by project operation not already considered in the Environmental Assessment. For these reasons, Articles

[65] Article 11 states that "In addition to the notification of the Commission required by standard article 9, and within 30 days of transferring any property interests, the exemption holder must inform the Commission's New York Regional Director of the identity and address of the transferee."

12[66] and 13[67] were included to ensure that the Exemptee, before engaging in any ground disturbance not already considered in the Environmental Assessment, takes protective measures.

Articles 12 and 13 of the exemption preclude adverse impacts to historic resources. Article 12 required CEEI (now Central Rivers) to: (1) consult with the State Historic Preservation Officer ("SHPO") before undertaking any construction activity that would result in any modification of the project's existing historic facilities; and (2) file, for Commission approval, its final design drawings, including SHPO's comments on these drawings. Article 13 required that CEEI (now Central Rivers) consult with the SHPO and, if necessary, develop and implement a cultural resource management plan before undertaking any project-related construction activity that is not specifically authorized by the 1992 exemption order. These statements apply to each of the ZoE.

Presently, Central Rivers has no plans to engage in any land-disturbing, land-clearing or spoil-producing activities at the Dwight Project. If these conditions change and historical or archelogical items are found in the Project Area, it will prepare a Cultural Resources Management Plan that will require pre-construction approvals from the Soil Conservation Service, the Massachusetts

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[66] Article 12 states that "The Exemptee shall, before undertaking any construction activities at the project that would result in any modification of the existing historic facilities: (1) consult with the State Historic Preservation Officer (SHPO) concerning preliminary design of the new facilities to be constructed at the project to establish specific design criteria consistent with the Secretary of the Interior's "Standards for Rehabilitation; (2) afford the SHPO the opportunity to review preliminary and final design drawings of the new facilities; and (3) file the final design drawings, along with the SHPO's comments on the final design drawings, for Commission approval. The Exemptee shall undertake no construction activities at the project that would result in any modification of the existing historic facilities until informed by the Commission that the final design drawings have been approved."

[67] Article 13 states that "The Exemptee, before starting any land-clearing or land-disturbing activities within the project boundaries, including recreation developments at the project and any construction activities or alterations at or within the historic Dwight Generating Station -- other than those land-clearing and land-disturbing activities, and construction activities and alterations at and within the historic Dwight Generating Station that are specifically authorized in this license – shall consult with the State Historic Preservation Officer (SHPO).

"If the Exemptee discovers previously unidentified archeological or historic properties during the course of constructing or developing project works or other facilities at the project, the Exemptee shall stop all land-clearing and land-disturbing activities in the vicinity of the properties and consult with the SHPO.

"In either instance, the Exemptee shall file for Commission approval a cultural resource management plan (plan) prepared by a qualified cultural resource specialist after having consulted with the SHPO. The plan shall include the following items: (1) a description of each discovered property indicating whether it is listed on or eligible to be listed on the National Register of Historic Places; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating effects; (4) documentation of the nature, extent, and results of consultation; and (5) a schedule for mitigating effects and conducting additional studies. The Commission may require changes to the plan.

"The Exemptee shall not begin land-clearing or land-disturbing activities within the project boundaries, including recreation developments at the project and any construction activities or alterations at or within the historic Dwight Generating Station complex -- other than those land-clearing and land-disturbing activities, and construction activities and alterations at and within the historic Dwight Generating Station complex that are specifically authorized in this license -- or resume such activities in the vicinity of a property, discovered during construction, until informed by the Commission that the requirements of this article have been fulfilled."

Division of Fisheries and Wildlife and other appropriate federal or state agencies. These statements apply to 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-9. Information Required to Support Recreational Resources Standards.

Criterion	*Standard*	*Instructions*
H	1	Not Applicable / De Minimis Effect: • Document that the facility does not occupy lands or waters to which public access can be granted and that the facility does not otherwise impact recreational opportunities in the facility area.
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.
H	3	Assured Accessibility • In lieu of existing recommendations and plans for recreational uses, document the facility's current and future commitment to accommodate reasonable requests from recreation interests for adequate public access for recreational use of lands and waters of the facility, including appropriate recreational water flows and levels, without fees or charges.

The Dwight Project is located in an urban and industrial area of western Massachusetts. Recreational activities in the Project area are limited to fishing and walking. Land ownership by Central Rivers is limited to the area immediately adjacent to the project facilities. Water contact recreation is limited by water quality at the Project. Fecal coliform counts are occasionally excessive because of combined sewage overflows and surface runoff upstream of the Project. These statements apply to each of the ZoE.

With respect to recreation facilities at the Dwight Project, the FWS specifically mandated the following condition:

- The Exemptee shall cooperate with the City of Chicopee in obtaining conservation easements for a riverside nature trail, as described in the draft [WMECO] application, and allow public access to the Project area for the utilization of fish and wildlife resources, subject to reasonable safety and liability limitation. Such access should be prominently posted so that its availability is made known to the public.

WMECO (later CEMMI, then Essential Power and now Central Rivers) owns no land bordering the Project impoundment; thus, WMECO's ability to propose measures for recreational enhancement at the Project were limited. Instead, WMECO agreed to use their experience and resources to assist the City of Chicopee toward the development of the riverside nature trail along the river below Dwight Dam. To that end, WMECO provided expertise in the details of constructing the trail and worked with the City of Chicopee in procuring a conservation easement along the proposed riverside nature trail.

Today, numerous informal footpaths over the property of others lead to fishing locations below the dam and in the impoundment. Additionally, the old railroad bed, which parallels the south shore of the impoundment, is used by walkers as a nature trail. There is currently no boating access to the impoundment, primarily because the impoundment is too small and shallow to encourage such activity. While the nature trail is marked, the numerous informal footpaths are not since Central Rivers has no right to post signs or to encourage others to cross over private property belonging to others.

Unlike the other Central Rivers' Chicopee Rivers Projects, there has never been a formal FERC environmental inspection report performed for the Project. This report applied to each of the ZoE. There are numerous Dam Safety Reports prepared by FERC since 2010. Unless CEII-protected, all were reviewed for recreation issues and no such issues were mentioned. These reports apply to each of the ZoE.

There are no recreational facilities found in the Project area. This statement applies to each of the ZoE.

To summarize, the Facility is in compliance with the recreational access, accommodation (including recreational flow releases) and facilities (i.e., the nature trail) in its exemption from license. In addition, Central Rivers allows access to the impoundment, tailrace and bypassed reach ZoEs without fees or charges once a person has crossed the private property of others. These statements apply to each of the ZoE.

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: March 17, 2020

LIST OF ATTACHMENTS FROM CERTIFICATION APPLICATION FOR DWIGHT PROJECT

1. Aerial Photographs of Dwight Project.
2. Aerial Photograph of Dwight Impoundment ZoE.
3. Aerial Photograph of Dwight Bypassed Reach ZoE.
4. Aerial Photograph of Dwight Tailrace ZoE.
5. FERC Order Granting Exemption From Licensing, Issued September 11, 1992
6. FWS Letter Setting Minimum Flows, Dated July 14, 1989
7. DOI Letter Setting Mandatory Terms and Conditions, dated July 31, 1992
8. 2012 Demonstration of Minimum Flow, Dated March 7, 2013.
9. 2013 Demonstration of Minimum Flow, Dated October 25, 2018.
10. 2014 Demonstration of Minimum Flow, Dated October 25, 2018.
11. 2015 Demonstration of Minimum Flow, Dated October 25, 2018.
12. 2016 Demonstration of Minimum Flow, Dated January 11, 2017.
13. 2017 Demonstration of Minimum Flow, Dated March 28, 2018.
14. 2018 Demonstration of Minimum Flow, Dated March 13, 2019.
15. ConEdison Massachusetts Letter, Dated December 6, 1999
16. ConEdison Development Letter, Dated March 21, 2000
17. Flow Duration Curve, Dated August 1989
18. Minimum Flow and Impoundment Fluctuation Monitoring Plan, Dated February 20, 2012
19. FERC Order Approving Minimum Flow and Impoundment Fluctuation Plan, Issued August 3, 2012

20. Kleinschmidt Memorandum On Dwight Minimum Flow, dated December 9, 2011

21. US F&WS E-Mail, Dated October 10, 2019.

22. MDFW E-Mail, Dated October 10, 2019.

23. MDEP Letter, October 10, 2019.

24. US F&WS E-mail Dated September 3, 2019.

25. MDFW Letter, Dated September 4, 2019.

26. MDEP Letter, Dated August 30, 2019.

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

28. Dissolved Oxygen at Gatehouse.

29. WMECO Exhibit E -- Environmental Report, dated November 1989.

30. WMECO Exhibit E -- Environmental Report, Appendix D -- Water Quality Report, Dated November 1989.

31. Chicopee River Watershed 2003 Water Quality Assessment Report.

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

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

34. Chicopee River Watershed Map

35. Chicopee River Profile

36. Site Plan of the Facility

37. Locations of Major Items of the Facility

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

39. MDFW E-mail regarding Dwight Project, Dated August 26, 2019.

40. Reply to Dwight MESA Information Request, Dated September 13, 2019.

41. Agency Contacts

42. Facility Photographs