

REVIEW OF APPLICATION FOR CERTIFICATION BY THE LOW IMPACT HYDROPOWER INSTITUTE OF THE DWIGHT HYDROELECTRIC FACILITY

Prepared by Patricia McIlvaine July 17, 2020,
finalized August 17, 2020 by M. Fischer, LIHI CPD

I. INTRODUCTION

This report summarizes the review findings of the application submitted by Central Rivers Power MA, LLC, (Central Rivers or Applicant) to the Low Impact Hydropower Institute (LIHI) for initial certification of the Dwight Hydroelectric Project FERC P-10675 (Dwight or Project).

As discussed in detail later, the Dwight Project was initially constructed in the mid-1800's as part of the Dwight Manufacturing Company, with initial development of the mill facilities, dam, power canal and hydromechanical units. While ownership from the late 1800's to 1932 is unavailable, the application has noted it was purchased in 1932 by Turners Falls Power and Electric Company, a predecessor of Western Massachusetts Electric Company (WMECO). The following summarizes ownership changes since then. Changes in 2008-2016 were name changes not owner changes.

Transfer Date	Transferor:	Transferee:	Note:
7/24/1999	Western Massachusetts Electric Company	Consolidated Edison Energy Massachusetts, Inc.	FERC Order dated June 30, 1999
5/8/2008	Consolidated Edison Energy Massachusetts, Inc.	North American Energy Alliance Massachusetts, LLC	FERC letter dated June 9, 2008
1/1/2012	North American Energy Alliance Massachusetts, LLC	EP Energy Massachusetts, LLC	FERC Order dated March 13, 2012
2/26/2016	EP Energy Massachusetts, LLC	Essential Power Massachusetts, LLC	FERC Order dated March 1, 2016
4/13/2017	Essential Power Massachusetts, LLC	Nautilus Hydro, LLC ¹	FERC Order dated January 5, 2017 and June 27, 2017
7/18/18	Nautilus Hydro, LLC ²	Central Rivers Power MA, LLC (a subsidiary of Hull Street Energy)	FERC Order dated July 18, 2018

¹ HSE Hydro AC, LLC acquired Nautilus Hydro, LLC on June 22, 2017.

² On or about June 20, 2018, HSE Hydro AC, LLC renamed Nautilus Hydro, LLC Central Rivers Power MA, LLC.

This certification review was conducted in compliance with LIHI's Handbook, 2nd Edition, Revision 2.03: December 20, 2018. A review of the initial application, dated November 4, 2019, resulted in an Intake Report, dated January 2, 2020. A final Application was received March 17, 2020.

This Stage II assessment included review of the application package, communication with the Applicant's representative, supplemental information, public records in FERC's eLibrary for the past ten years, and communication with several resource agencies.

II. PROJECT'S GEOGRAPHIC LOCATION

The project is located on the Chicopee River (river mile 1.2) in the City of Chicopee in Hampden County, Massachusetts. The dam crosses the Chicopee River in a roughly north-to-south direction, where the river is flowing west. The area surrounding the Project is highly developed.

The Dwight project is the most downstream dam on the Chicopee River; five other dams are located upstream. As shown on Figure 1, 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), Collins Hydro Project (P-6544) river mile 12.6 and Red Bridge Project (P-10676) river mile 15.2.

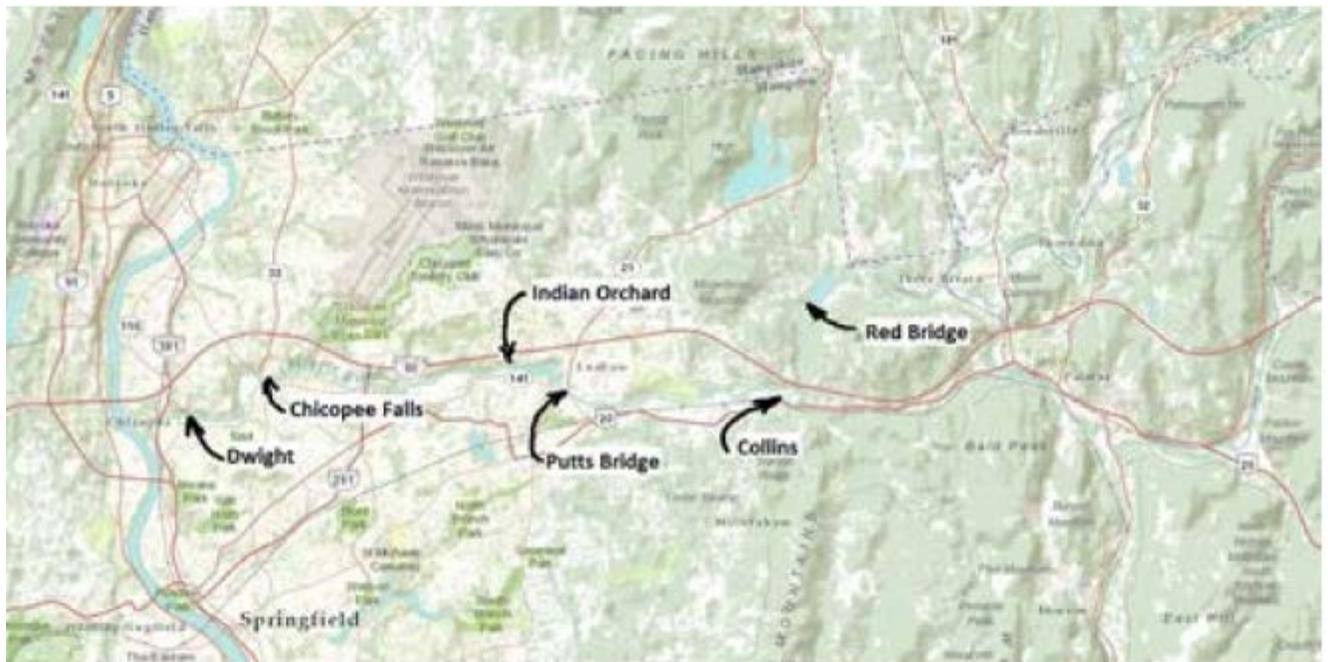


Figure 1 – Projects on the Chicopee River

Indian Orchard Project, Putts Bridge Project and the Red Bridge Project are also owned and operated by Central Rivers. Other Chicopee River Projects which are LIHI Certified are Indian Orchard (LIHI Certificate #112), Collins Project (LIHI Certificate #88), Putts Bridge (LIHI Certificate #102) and Red Bridge (LIHI Certificate #96).

III. PROJECT AND IMMEDIATE SITE CHARACTERISTICS

Many of the facilities at the Dwight Project were originally constructed in the mid-1800's as part of the Dwight Manufacturing Company, which consisted of a number of building associated with mill operations. The goal was to create an industrial city and to encourage owners and developers to start operations at the site. An original dam, at the location of the existing dam, along with several buildings, the power canal, several bridges and penstock gates were constructed in 1832 at the Dwight Company complex. At that time, this complex included hydromechanical units. There was also a dam downstream of the existing dam at the Springfield Street bridge, called the "Bobbins dam" that was constructed in 1824-1827, pre-dating the Dwight dam. A second "lower" dam located between the Bobbins and Dwight dams was constructed in 1833.³ An ice dam in 1888 destroyed the superstructure of this dam. Remnants of the lower dam remain today. The Bobbins dam was also apparently replaced in about 1875 but it no longer exists and no further record was found.⁴ Another dam upstream of the Dwight dam at Chicopee Falls was built in 1823, also pre-dating the Dwight dam.

The current Dwight dam was constructed in 1856. In 1920, the hydromechanical units were replaced with the hydroelectric units, three of which are still in operation. This information was excerpted from the documentation from the Massachusetts Historical Commission (MHC), dated October 2018, which was included in the LIHI application. As noted in the documentation, the Dwight Manufacturing Company was recommended by MHC for listing in the National Register of Historic Places. The Ames Manufacturing Company complex of former mill buildings, which is now the eastern section of the Dwight Project, was designated a National Register Historic Individual Property on June 23, 1983.

There were a number of proposals to modify the Dwight Project in the past, including installation of a minimum flow unit incorporated into the initial FERC exemption and in re-development plans in 1999. None of these changes were implemented except for the permanent removal of the flashboards sometime between 2001 and 2012. The current Dwight Project includes a stone masonry dam, a 32-acre 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 three operating units discharge through three tailrace bays directly north into the Chicopee River. The normal tailrace elevation is 44.5 feet mean sea level (msl).

The dam consists of a 306-foot long spillway and abutments, with a crest elevation of 76.5 feet msl, based on information included in the FERC License Exemption Application. The northern abutment is constructed of cut stone and measures approximately 12 feet by 25 feet, with a permanent crest elevation of 76.5 feet. The southern abutment is also constructed of cut stone, measures approximately 9 feet by 23 feet.

³ <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=12772599>

⁴ History of the Connecticut Valley in Massachusetts [3 volumes, 1879, available from LIHI staff]



Figure 2 – Dwight Dam



Figure 3 - Impoundment

The canal headgate house is a 57-foot-long by 12-foot-wide brick structure housing 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. The approximately 80-foot wide, approximately 6 to 8-foot deep, power canal extends 1,500 feet from the headgates to the penstock intake structure, and extends another 1,500 feet further downstream where historically, other industrial water users on the canal diverted 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 intake structure is concrete and measures approximately 69 feet by 22 feet. Steel trashracks of 2-inch spacing span across the three operable penstocks. A rail-mounted trash rake traverses the intake. Three float-activated, wooden, 8-foot diameter gates are rack-and-pinion operated. Three operable penstocks lead through a manufacturing complex to the three operating units at the Project. The penstocks are 7 feet in diameter and 168 feet long.



Figure 4 -Power Canal



Figure 5 –Intake Area

The powerhouse measures 42 feet by 74 feet, composed of brick and concrete. The powerhouse was shut down and rehabilitated in 1980. The powerhouse was again shutdown in September 2013 and not returned to fulltime service until December 2016. The present generating capacity is 1.464 MW. There are no fish passage facilities at the Project.

While not identified in the Application, follow-up data submitted by the Applicant's representative on June 22, 2020, noted several planned Project upgrades to be conducted within the next year. The proposed upgrades include:

- New switchgear.
- State-of-the-art controls that include complete automation and monitoring of all three turbines and generators.
- Fiber optics that run the entire length of the canal and connect the gatehouse and pond to the powerhouse that is nearly a mile away.
- PLC pond and canal leveling control that interfaces with hydraulic gates at the canal and the turbines to maximize head and production while protecting from high water and floods. This software/hardware combination is designed to maximize production through a range of flows and includes full remote monitoring/interfaces capabilities to start/stop and interact remotely with the plant. This includes daily, weekly and monthly reporting and data logging of many of the plant's functions.
- New two-inch trash racks and an air bubble/blower system designed to flush debris and ice from the intake.

None of these modifications appear to increase generation capacity but will likely improve monitoring and Project operations performance effectiveness. Note the recommendation made by the Massachusetts Division of Fish and Wildlife (MDFW) regarding their recommendation for ¾-inch trash rake screens (see Section VII.D below).



Figure 6 – Powerhouse with Substation on the Roof

Based on recent data supplied by the Applicant's representative, the new normal pond elevation is 76.92 feet, allowing for useable reservoir storage of about 45-acre-feet, although the Project currently operates as run-of-river. While the current size was not provided, the reservoir surface area in the past, when flashboards were used, was approximately 32 acres. The LIHI Application states that no survey of the land area within the Dwight Project boundary was found, however the previously mentioned MHC documentation denotes the Dwight and Ames Manufacturing Company parcels as consisting of 18 and 4.9 acres, respectively.

IV. ZONES OF EFFECT AND STANDARDS SELECTED

Three Zones of Effect (ZOE) were appropriately designated by the Applicant:

- ZOE #1 – Impoundment (Figure 7)
- ZOE #2 – Bypass Reach (Figure 8)
- ZOE #3 – Tailrace and Regulated Reach (Figure 8)

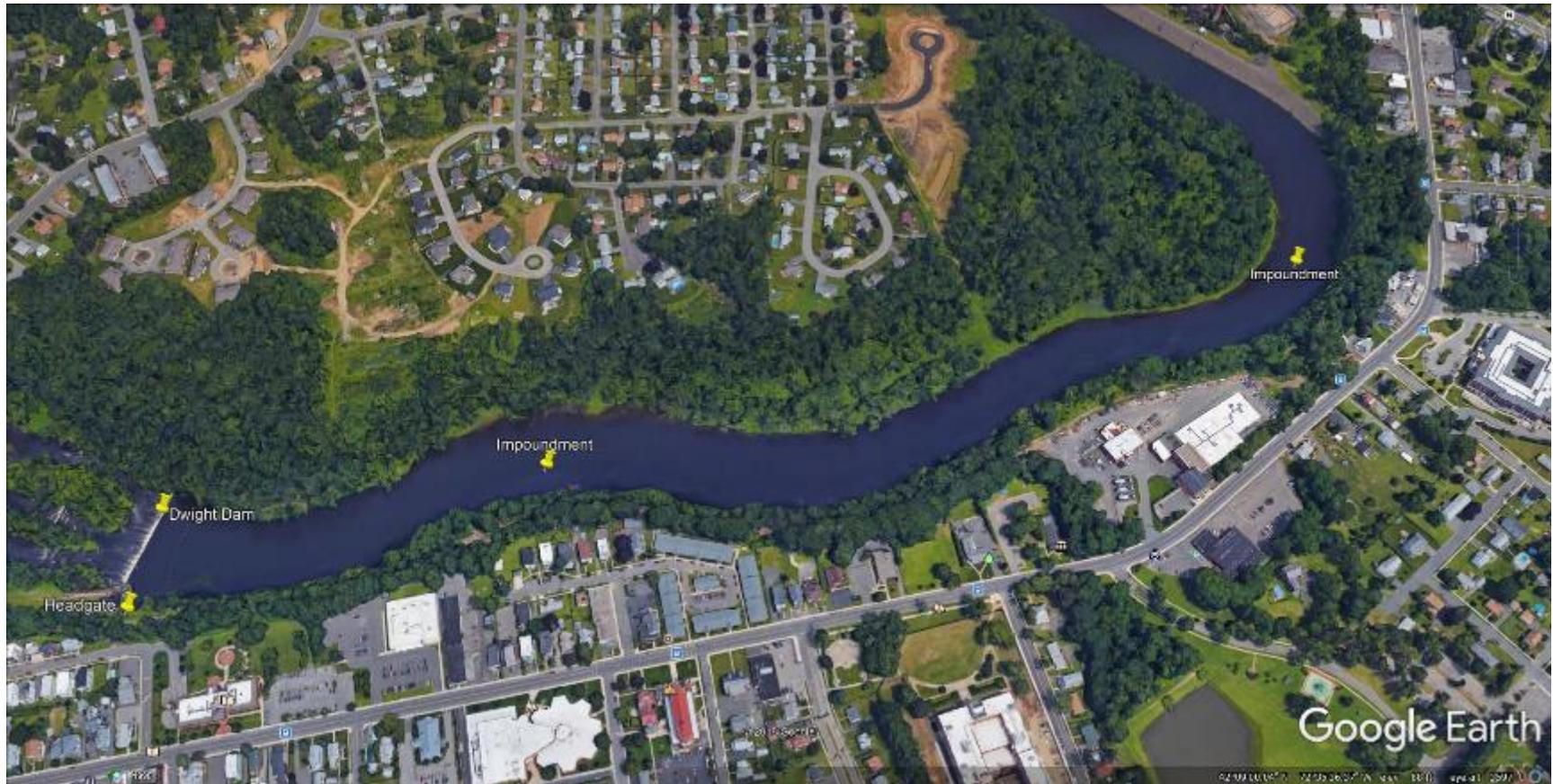


Figure 7 - Impoundment (ZOE #1)

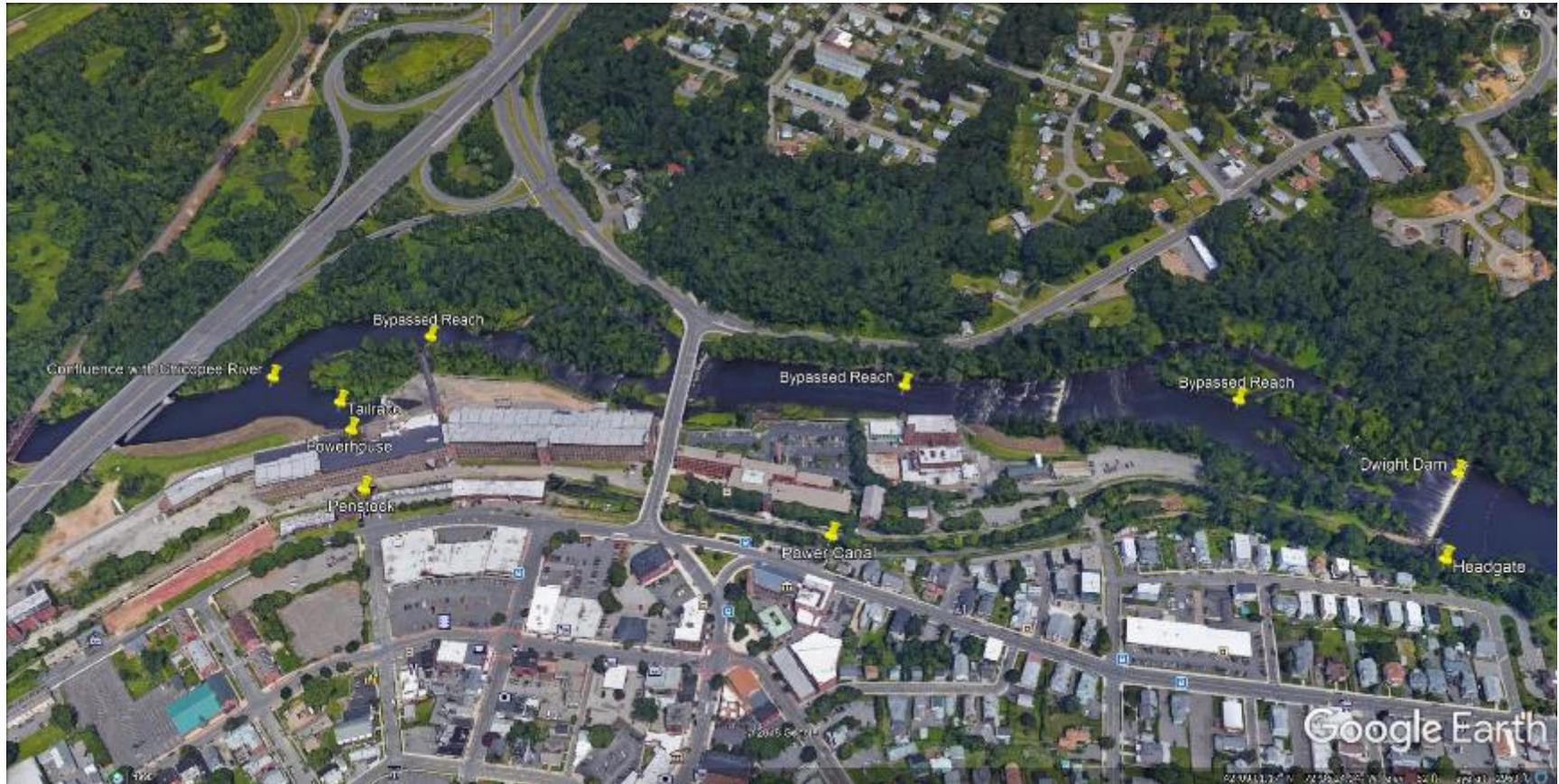


Figure 8 – Bypass Reach (ZOE #2) and Tailrace (ZOE #3)

The application showed the same standards selected for all ZOE's, and multiple standards for four criteria which is inappropriate. The tables below show the standards indicated in the application, with my recommendations described below. Note that I believe Standard D-2 is most appropriate for the impoundment for Downstream Fish Passage. That standard has been highlighted in red since it was not selected by the Applicant.

Ecological Flow Regime – Standard A-1 should be used for the Impoundment; A-2 should be used for the Bypass and Tailrace/Regulated Reach. A-3 is not appropriate for any ZOE.

Upstream Fish Passage – Standard C-1 should be used for the Impoundment; Standard C-2 should be used for the Bypass and Tailrace/Regulated Reach.

Downstream Passage – Standard D-2 should be used for the Impoundment; Standard D-1 should be used for the Bypass and Tailrace/Regulated Reach.

Recreational Resources – Standard H-2 should be used for all ZOE's. Standards H-1 and H-3 are not appropriate for any ZOE.

ZOE #1 – 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	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		

ZOE #2 Bypass and ZOE #3 Regulated Reach/Tailrace

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		

Details of compliance with the criteria are presented in Section VII.

V. REGULATORY AND COMPLIANCE STATUS

In 1988, the Federal Energy Regulatory Commission (FERC) determined that the Chicopee River was a navigable waterway under its jurisdiction and ordered Western Massachusetts Electric Company (WMECO), the Project's owner at the time, to prepare an application for Exemption from Licensing. The License Exemption was issued to WMECO on September 11, 1992⁵. That Exemption authorized the existing units and a proposed 210-kW minimum flow turbine-generator unit included in WMECO's application, bringing the Project's authorized installed generation capacity to 1,650 kW. The Exemption was subsequently amended on December 29, 1999 to reflect upgraded nameplate capacity due to unit rewinding and increased cooling at the station transformer in lieu of installation of a minimum flow unit. It was also amended on November 8, 2001, which revised the Project description to reflect the as-built capacities. The US Fish and Wildlife Service (USFWS) and MDFW were active participants in these proceedings.

A Water Quality Certification (WQC) was not issued for the Dwight Project. The Applicant stated this is because at the time of the processing for a License Exemption, the Massachusetts Department of Environmental Protection (MDEP) had not completed a water quality study for the Project waters, and hence did not issue a WQC. An inquiry was made to MDEP as part of this review in which Mr. Kubit acknowledged that no WQC was issued for the Project, but he stated that prior to 1994, WQC issuance for hydropower licensing was generally limited to actions by FERC. However, since then, the state has become active in issuing WQC. (see email dated May 4, 2020 in Appendix A).

A review of the FERC database from January 1, 2010 through May 1, 2020 found no reported environmentally related compliance issues. Almost all FERC eLibrary documents were associated with dam safety related items. However, a FERC Order approving the current Minimum Flow Plan, dated August 3, 2012, did denote that "the Plan was required by the USFWS and MDFW, and by Article 2 of the Exemption order over a decade ago", thus, it appears that earlier owners of the Project may not have been in full compliance during those years of ownerships, although the FERC eLibrary did not document such issues. As discussed under Criterion G – Cultural and Historic Resource Protection, it does not appear compliance with the FERC License Exemption requirements for obtaining review by the Massachusetts State Historic Preservation Officer (SHPO) (i.e. Massachusetts Historic Commission (MHC)) has always been met.

VI. PUBLIC COMMENT RECEIVED OR SOLICITED BY LIHI

The deadline for submission of comments on the LIHI certification application was June 12, 2020. Comments were received from MDFW and the Connecticut River Conservancy (CRC) and are discussed under the applicable criterion. A copy of these letters as well as responses received in direct response to my inquiries noted below are included in Appendix A.

The following stakeholders were contacted as part of my review to seek clarification on certain items:

- Caleb Slater, Anadromous Fish Project Leader for MDFW
- Robert Kubit of the MDEP

⁵ See Attachment 06 of the LIHI Application

- Melissa Grader, Biologist with the USFWS (did not respond)
- Mr. Benjamin Strepka, Acting Supervisor of the City of Chicopee Parks and Recreation
- Ms. Lee Pouloit, Director of the City of Chicopee Planning Department

The Applicant's representative also requested information from MDEP, MDFW and USFWS when preparing the LIHI application. Only Robert Kubit of the MDEP responded to that information request. The LIHI application did, however, include a letter from Dr. Caleb Slater, dated August 21, 2019, to Hull Street Energy regarding their recent grant application to the Massachusetts Clean Energy Center. Information from that letter was incorporated into my review.

VII. DETAILED CRITERIA REVIEW

A. ECOLOGICAL FLOW REGIMES

Goal: The flow regimes in riverine reaches that are affected by the facility support habitat and other conditions suitable for healthy fish and wildlife resources.

Assessment of Criterion Passage

Standard A-1, Not Applicable/De Minimis Effect should be used for ZOE #1, the impoundment (as allowed by the LIHI Handbook) and **Standard A-2, Agency Recommendation** for the Bypass Reach (ZOE #2) and Regulated Reach/Tailrace (ZOE #3).

Section 30(c) of the Federal Power Act and Section 408 of the Energy Security Act required the inclusion of 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 in the Dwight License Exemption. Therefore, the USFWS requirements issued during licensing via a letter dated July 31, 1992⁶ became mandates under the License Exemption.

With respect to the impoundment (ZOE #1), the 1992 License Exemption required Project operation to limit drawdown of the impoundment to no more than one foot below the dam crest except during system emergencies or energy audits.⁷ Subsequently, in 2000, the Project operation was authorized for run-of-river operation with five inches of flow over the crest of the spillway or inflow if less.⁸ By 2012, the flashboards had been permanently removed. The five-inch flow over the crest of the dam remains unchanged at this time.

The License Exemption also includes a requirement for a continuous minimum flow of 258 cfs, or inflow to the Project, whichever is less, into the bypass reach (ZOE #2). The flow requirements were developed during the late 1980s and early 1990s during the FERC licensing process. The Owner at that time conducted hydrological studies using flow data from the upstream USGS Indian

⁶ See Attachment 8 of the LIHI application.

⁷ See Attachment 15 of the LIHI application

⁸ See Attachment 16 of the LIHI application. In a letter from USFWS dated January 27, 2000, the permitted drawdown of one foot from the top of the flashboards was modified when the flashboards are out, to maintaining 5 inches of spill over the crest of the dam. When the flashboards are up, the permitted drawdown below the flashboards was reduced to 3 inches.

Orchard stream gage from 1929 to 1982. As noted in the application for the License exemption, this study was conducted consistent with methods established with the USFWS Aquatic Base Flow (ABF) policies. The summertime ABF for the river at the Project was determined to be 258 cubic feet per second (CFS) and was apparently found acceptable by the USFWS in their letter dated July 31, 1992.

The LIHI application also denoted that the mean annual flow at the Project is 952 cfs (914 cfs at the gage) with a minimum historical discharge of 16 cfs, recorded on various dates between 1929 and 1931, and a maximum historical flow of 45,200 cfs, recorded in September 21, 1938.

A plan to monitor and record compliance with the headpond elevation and minimum flow release requirements was also required by the License Exemption, to be submitted within six months of Exemption issuance on December 29, 1999. That Plan requires the Owner to provide records to USFWS within 30 days of a USFWS request. A draft Plan was submitted in October 2001 to MDFW and USFWS and comments were received, but the Plan was never finalized. During a LIHI review in 2012 of another Central Rivers Project on the Chicopee River, it was discovered that no plans for any of the Central Rivers sites had ever been finalized. In response, a new draft plan was developed, filed with the agencies for comments, and submitted to FERC. FERC's Order approving the Dwight Project Plan was dated August 3, 2012.⁹

Review of FERC's eLibrary did not indicate any reported deviations from the flow requirements. In their letters to the Applicant or to LIHI, neither the MDEP nor MDFW had any records suggesting minimum flow deviations. Based on my review, I believe the Project satisfies this criterion.

This Project Passes Criterion A – Ecological Flow Regimes

B. WATER QUALITY

Goal: Water Quality is protected in waterbodies directly affected by the facility, including downstream reaches, bypassed reaches, and impoundments above dams and diversions.

Assessment of Criterion Passage

The Applicant selected **Standard B-1, Not Applicable/De Minimis Effect**, for all ZOE's.

A Water Quality Certification was not issued and there was no specific agency recommendation related to water quality in the FERC license exemption. Consultation with Mr. Robert Kubit of MDEP confirmed no WQC was issued.

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

⁹ See Attachment 20 of the LIHI application

than 83 degree 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.

The last time water quality data was specifically sampled at the Dwight Project was in 1989 during licensing proceedings. At that time, the Project was operated as a daily peaking facility with drawdowns of up to one foot allowed. Currently the Project operates as run-of-river. The 1989 data, included as an attachment to the LIHI application, indicated that all water quality standards were met, including both temperature and dissolved oxygen. Based on information attached to the LIHI application, data collected in 2003 from nearby sampling locations by Massachusetts Division of Water Management (MDWM) for temperature, pH and dissolved oxygen at the sampled stations all met criteria on the sampled dates.

The Project ZOE's are all included in state water quality river segment 36-25. Based on review of the draft Massachusetts 2016 Integrated List of Waters, the Chicopee River Watershed Water Quality Assessment Report dated October 2008, and a letter dated November 22, 2019, from Mr. Robert Kubit of MDEP, it appears that the impoundment is considered impaired for *Escherichia coli* and requires a TMDL, but wet weather combined with sewer overflows upstream of the Project are the likely cause of this impairment, not the Project. Mr. Kubit also stated that for state data collected for this river segment, but not specifically at the Dwight Project, "The Department does not expect the Project to cause or contribute to state Water Quality Standards due to water chemistry."

Although the 2019 MDEP letter did not specifically confirm that parameters such as pH, dissolved oxygen and temperature have been met, I believe that the water quality information provided, the run-of river operation and continuous release of minimum flows, nonetheless suggests that the Project likely meets state standards and therefore, complies with this criterion.

This Project Passes Criterion B – Water Quality

C. UPSTREAM FISH PASSAGE

Goal: The facility allows for the safe, timely, and effective upstream passage of migratory fish. This criterion is intended to ensure that migratory species can successfully complete their life cycles and maintain healthy populations in areas affected by the facility.

Assessment of Criterion Passage

Standard C-1, Not Applicable/De Minimis Effect is appropriate for the impoundment and **Standard C-2, Agency Recommendation** is appropriate for the bypass and regulated reach/tailrace. There is currently no upstream passage at the Project.

The 1992 License Exemption, Article 2, contains a requirement that the Exemptee construct, operate, maintain and monitor upstream and downstream fish passage facilities when prescribed by the USFWS or MDFW. These requirements are noted as mandatory terms and conditions under Section 30(c) of the Federal Power Act and Section 408 of the Energy Security Act. The Exemption included these specific requirements via reference to a 1992 comment letter under

Mandatory Terms and Conditions, issued by the USFWS¹⁰. A referenced letter from MDFW was not provided nor is it located in FERC eLibrary. In summary, the USFWS requirements state that:

- the Exemptee shall construct, operate, maintain and monitor upstream and downstream fish passage facilities when prescribed by the USFWS and/or the MDFW.
- designs of the fish passage facilities shall be developed in consultation with, and be approved by, the USFWS, MDFW and Connecticut River Atlantic Salmon Commission (CRASC).
- upstream and/or downstream passage facilities shall be constructed and operational within 2 years after being notified of their need, and
- within two years following identification of the passage needs, plans for monitoring, maintaining and operating the upstream and downstream fish passage facilities shall be developed with consultation with and approval by the USFWS, MDFW, and CRASC.

Both the Applicant and LIHI reviewer requested input from both Ms. Melissa Grader of the USFWS and Dr. Caleb Slater of MDFW regarding the current need for fish passage facilities at the Dwight Project. Dr. Slater emailed a letter (see Appendix A) on May 6, 2020 in response to my inquiry. He reported this letter was submitted to LIHI in December. But it was apparently not received by LIHI. USFWS did not respond during the public comment period nor in response to my inquiry.

Currently, there are no active migratory fish management efforts within the Chicopee River watershed. In his May 6, 2020 comment letter, Dr. Slater recommended that upstream eel passage be installed at the Project. He noted that eel habitat exists throughout the Chicopee River system, and that adult American eel have been found each year as far upstream as Quabbin Reservoir. Regarding passage for anadromous species, he stated that while upstream passage is desirable, annual movement of American shad and river herring are blocked by the Dwight dam from entering the Chicopee River (see Section III above for more discussion on the history of dams near the Project). However, absent passage at the next barrier, Chicopee River dam, just 1.5 miles upstream, the ecological benefit of such a costly measure is currently limited, and therefore not part of his current recommendation. CRC supported the recommendation for the installation of upstream eel passage.

I believe that the letter submitted by the MDFW generally satisfies the definition of an “agency recommendation” in the LIHI Handbook for purposes of LIHI Certification, and that the Project would conditionally meet the requirements of this criterion if upstream eel passage is installed in accordance with the condition details noted in Section VIII of this report.

This Project Conditionally Passes Criterion C – Upstream Fish Passage

D. DOWNSTREAM FISH PASSAGE AND PROTECTION

Goal: The facility allows for the safe, timely, and effective downstream passage of migratory fish. For riverine (resident) fish, the facility minimizes loss of fish from reservoirs and upstream river

¹⁰ See Attachment 8 of the LIHI application.

reaches affected by Facility operations. All migratory species are able to successfully complete their life cycles and to maintain healthy populations in the areas affected by the Facility.

Assessment of Criterion Passage

Standard D-1, Not Applicable/De Minimis Effect is appropriate for the bypass and regulated reach/tailrace and **Standard D-2, Agency Recommendation** is appropriate for the impoundment. Currently there is no downstream passage protection at the Project.

As noted above, the 1992 License Exemption, Article 2, based on USFWS requirements, details that the Exemptee construct, operate, maintain and monitor upstream and downstream fish passage facilities when prescribed by the USFWS or MDFW (see discussion above). While the USFWS did not respond to inquiries during this review, the MDFW did submit a letter dated May 6, 2020, recommending that:

“downstream eel passage be installed consisting of full depth ¾-inch clear-space trash racks at the unit intake and adequate downstream passage around the dam. Interim measures would include unit shutdowns on rainy nights, and for the next two days from dusk to dawn during the downstream migration season (8/15-11/15) until long-term measures can be installed.”

This letter references the “two-year” deadline incorporated in Article 2 of the FERC Exemption for the trash rack installation, although a separate August 21, 2019 letter from MDFW to Hull Street Energy, included in the LIHI application and Appendix A, noted that:

“However, due to the fact that eels spend a prolonged period in river before downstream migration, a delay of 5 to 10 years between the start of upstream eel passage and the installation of the ¾ inch racks for downstream passage is would be acceptable.”

CRC supported the MDFW recommendations for downstream passage protection. No specific measures for anadromous species are recommended at this time.

As a result, based on my review, I believe the Project would conditionally meet the requirements of this criterion if the protection measures recommended by the MDFW are complied with in accordance with the condition details noted in Section VIII of this report. It should be noted that recent information provided by the Applicant’s representative stated that the Owner has plans to install new 2-inch trash rake screens within the next year, for which state grant money is being sought. My recommendation is that these screens be ¾-inch to comply with the MDFW recommendation.

The Project Conditionally Passes Criterion D – Downstream Fish Passage and Protection

E. SHORELINE AND WATERSHED PROTECTION

Goal: The Facility has demonstrated that sufficient action has been taken to protect, mitigate and enhance the condition of soils, vegetation and ecosystem functions on shoreline and watershed lands associated with the facility.

Assessment of Criterion Passage

The Applicant has appropriately selected **Standard E-1, Not Applicable/De Minimis Effect** to pass the Shoreline and Watershed Protection criterion for all Project ZOE's.

The FERC Exemption does not include any requirements for a conservation buffer zone, watershed enhancement fund nor a shoreland management plan. As shown on Figures 7 and 8, the area within and immediately surrounding the Project boundary is an urban and industrial developed area with a narrow, forested buffer around the impoundment. The powerhouse is part of the series of buildings which formed the former Dwight Manufacturing Company complex, with the former Ames Manufacturing Company complex forming the eastern section of the land within the Project boundary. The application stated that no survey was available to confirm the acreage of land within the Project boundary. The MHC materials prepared for the Dwight and Ames Manufacturing Companies stated they were 18 and 4.9 acres, respectively. The LIHI application states that Exhibit E filed during licensing notes a “study area” of 50 acres, however this area was not limited to lands within the Project boundary.

Reviews done for the possible presence of state or federally protected species did not identify any habitat for listed species. Based on this lack of important habitat, and highly developed nature, it does not appear that Project lands include any areas of significant ecological value. Based on this review, I believe the Project passes this criterion.

The Project Passes Criterion E – Shoreline and Watershed Protection

F. THREATENED AND ENDANGERED SPECIES PROTECTION

Goal: The Facility does not negatively impact listed species.

Assessment of Criterion Passage

I believe **Standard F-2, Finding of No Negative Effects** is appropriate for all ZOE's.

The application indicated that the only federally-protected species potentially in the Project area is the Northern long-eared bat, which is federally threatened, because its habitat may exist statewide. A letter from the Natural Heritage and Endangered Species Program of the MDFW dated September 13, 2019, contained in the LIHI application, stated that there were no Priority or Estimated Habitats for state-protected species in the Dwight Project vicinity.

The Application states “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.”

Therefore, based on the assumption that the Applicant will adhere to their above noted commitment for any Project activities, including the improvements planned for the upcoming year, that may impact their habitat, such as removal of large trees, I believe the Project will not likely have any impact to protected species and therefore satisfies this criterion.

The Project Passes Criterion F – Threatened and Endangered Species Protection

G. CULTURAL AND HISTORIC RESOURCE PROTECTION

Goal: The Facility does not inappropriately impact cultural or historic resources that are associated with the Facility’s lands and waters, including resources important to local indigenous populations, such as Native Americans.

Assessment of Criterion Passage

The Applicant appropriately selected **Standard G-2, Agency Recommendation** to pass the Cultural and Historic Protection criterion for the Project for all ZOEs.

As previously identified, many of the facilities at the Dwight Project were originally constructed in the mid-1800’s as part of the Dwight Manufacturing Company, including an original dam constructed in 1932, but replaced with the current dam in 1956. The power canal, several bridges and penstock gates were part of the complex. MHC documentation, dated October 2018, identified the Dwight Project (current western section) as Eligible for listing in the National Register of Historic Places. The Ames Manufacturing Company complex of former mill buildings, which is now the eastern section of the Dwight Project, was designated a National Register Historic Individual Property on June 23, 1983.

During the Exemption process, FERC determined that no properties of historic significance, including those eligible for, or listed on the National Register, would be adversely affected by continued use of the Project for hydropower as proposed by WMECO, nor with the then plans to install a minimum flow unit. However, Articles 12 and 13 were included to protect historical and archaeological resources, during future new construction, structure changes or ground-disturbing activities. Facility construction work would be required to meet Secretary of the Interior’s “Standards for Rehabilitation” and facility changes would need to be approved by the SHPO before submission to FERC for approval. Article 13 requires that constructing or modifying Project works and any land-disturbing activities other than those specifically authorized by the Exemption, requires FERC approval. Discovery of previously unidentified historical or archaeological resources requires the work to be stopped, a Cultural Resource Management Plan be developed and approved by the SHPO, with work not allowed to proceed until SHPO requirements are fulfilled and FERC has deemed requirements of the Article have been fulfilled.

It appears that Project work was conducted in 2014, 2016 and 2018 as summarized below. The 2014 and 2016 work was conducted before the Project was acquired by the current Owner. The

2018 work was conducted in approximately October 2018, under the current ownership.

- 2014 - A grout injection program consisting of Phase I - grouting of the voids between the entrance to each of the three penstocks and where the penstocks meet the courtyard between the Cabotville Mill building and the powerhouse, and Phase II - grouting along the portions of the three penstocks buried below the courtyard.
- 2016 – rehabilitation of penstocks #2, 3 and 4 after rupture of penstock #2 in October 2013 and rehabilitation of the gate operator for penstock #2. All work was performed in the power canal near the penstocks, the penstocks themselves or inside the powerhouse.
- 2016, 2017 or 2018 – repair to the power canal apparently caused by building demolition conducted by the City of Chicopee during 2014.

Follow-up information was provided by the Applicant’s representative that indicated repair of the canal wall was completed somewhere between 2016 and 2018. Records provided for the work appear to be somewhat contradictory of when it was done. The Applicant stated that no records of consultation with the SHPO were found in Project files for work conducted during prior ownership, nor for work conducted possibly in 2018 by Central Rivers. As all work involved site features designated as eligible for, or listed on the National Register, such work likely triggered Article 13. I believe SHPO and FERC consultation and approval were required. While the 2018 work was minor in nature, I believe Central Rivers should have consulted with the SHPO, even if to simply confirm that more detailed review was not necessary.

It appears that the requirements for cultural resource protection are not well understood or perhaps should be clarified between the Project Owner and the SHPO. Therefore, I recommend that a commitment to the noted condition is required to pass this criterion to ensure that these requirements are fulfilled for any future activities at the site.

The Project Conditionally Passes Criterion G - Cultural and Historic Resource Protection

H. RECREATIONAL RESOURCES

Goal: The facility accommodates recreation activities on lands and waters controlled by the facility and provides recreational access to its associated lands and waters without fee or charge.

Assessment of Criterion Passage

I believe **Standard H-2, Agency Recommendation** is appropriate to pass the Recreational Resources criterion for the Project for all ZOE's.

The Application states that Central Rivers does not occupy lands or waters to which public access can be granted, unless those individuals cross other private property, which Central Rivers does not promote. In their comment letter dated July 31, 1992 on the Exemption application, under the section entitled Mandatory Terms and Conditions, the USFWS stated that:

“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. “

The FERC Exemption stated that “Article 2 requires compliance with the terms and conditions prepared by federal or state fish and wildlife agencies to protect fish and wildlife resources. These mandatory terms and conditions are contained in the attached letters commenting on the exemption application.” The Exemption copy provided by the Applicant did not include the attachments nor does the copy on FERC eLibrary as it is a Text copy. However, the Exemption does reference comment letters received from USFWS and MDFW, both of which were attached to the LIHI application, so it is appropriate to assume these letters are the ones referenced in the Exemption.

Regarding recreational resources of the Project, the LIHI application states:

- Because WMECO, owner at the time, did not own property around the impoundment, they instead 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.
- 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.
- The current nature trail is active with posted signs, however informal footpaths have no signage as access is over private property.
- There is currently no boating access to the impoundment, primarily because the impoundment is too small and shallow to encourage such activity but that public use of the waters is allowed without fees if accessed across private property.

This review found that on page E-30 of the Environmental Report, Exhibit E of the Exemption application, WMECO also offered assistance for trail development for a path along the north shore of the impoundment, not just downstream of the dam This offer from WMECO aligned with the Chicopee River Enhancement Plan issued by the Chicopee Office of Community Development.

Also, contact was made by me with Mr. Benjamin Strepka, Acting Supervisor of the City of Chicopee Parks and Recreation and Ms. Lee Pouloit, Planning Department Director. Mr. Strepka stated that the only existing trail at the Dwight Project location is a 0.2-mile section of the Chicopee River Canal Rail Trail extending from Front Street & Davitt Memorial Bridge to Canal Street & Grape Street, which is an asphalt path nestled within the old mill building complex. Signage provided by the City describing the history of the mills are posted. Ms. Pouloit is heading up a project to extend this trail by repurposing a rail line to a walking and biking trail extending from Grape Street to the perimeter of the former Uniroyal factory site near Deady Bridge. As shown in Figure 9, this trail will run along about 2-1/3 miles on the south side of the Chicopee River including the Dwight Project impoundment (in contrast to the possible path along the north side of the river). This Figure denotes desired City-identified enhancements along this trail. This City-sponsored Project is being supported by state funding. Ms. Pouloit stated there is no coordination with Central Rivers on this new Riverwalk Project. Because she was not with the City in 1992, she could not comment on any past coordination with the former owners of the Dwight Project.

Subsequent to my discussions with the City representatives, CRC’s comment letter was received

which recommended clarification on existing trail locations below the dam and inquired about plans for access upstream of the dam. I believe that the information on the City's website delineates the existing downstream trail (also discussed above) and that the noted recommendations from my review would address the CRC's questions about future trails.

Based on my review, I believe the Project would conditionally satisfy this criterion if Central Rivers implemented measures to support the currently planned expansion of the nature trail / Riverwalk. I believe such measures could include assistance, as appropriate, with: 1) fencing along areas where safety of the public may be complicated due to nearness of the trail to Dwight Project features, 2) signage providing a historical context of the hydro project, and 3) development of the planned trail spur to, and overlook of the impoundment with associated signage. These are all City-recommended trail enhancements, although the City has not coordinated with Central Rivers on these measures. I believe such coordination / support would also comply with the conditions originally recommended by the USFWS and incorporated in the FERC exemption.

The Project Conditionally Passes Criterion H – Recreational Resources



Figure 9 – Planned Trail Along the Dwight Project Boundary

VIII. GENERAL CONCLUSIONS AND REVIEWER RECOMMENDATION

Based on my review, I believe that this Project conditionally meets the requirements of a Low Impact facility and recommend it be certified for a five-year period with the conditions noted below. This will ensure satisfaction of the criteria addressing Upstream and Downstream Fish Passage, Cultural Resource Protection, and Recreational Resources.

- **Condition 1** – The Owner shall consult with resource agencies on the need for interim and/or permanent upstream passage and, if warranted, downstream passage for American eel. The initial consultation request shall be made within 60 days of LIHI certification with completion of consultation activities within six months or as soon as possible after LIHI Certification, pending agency staff availability. If determined to be necessary, any agreed upon passage designs, implementation schedules, and plans for post-installation monitoring, maintenance and operations must be approved by USFWS and MDFW, as mandated in the Project’s Exemption, with SHPO consultation, if needed. The Owner shall report on the status of these activities at six-month intervals from the date of certification until either: a) it is agreed that either upstream and/or downstream eel passage is not required during the LIHI Certificate term; or b) there is an agreed upon design and schedule in place. The Owner shall continue to report on the status of implementation activities in annual compliance submittals to LIHI until facilities are constructed and approved by agencies, or until such facilities are determined not to be needed.
- **Condition 2** – The Owner shall consult with the SHPO before undertaking any ground disturbance, construction, repair, or modification to any site features listed in the documents describing the site features considered eligible for or listed on the National Registry of Historic Places. Should any such activities be conducted during the term of this LIHI Certification, such as the currently planned Project upgrades, a copy of the required notification/consultation with the SHPO and with FERC if required, shall be submitted to LIHI when such agency filings are made. The status of any work conducted following such review shall be filed as part of the annual compliance reports to LIHI.
- **Condition 3** – The Owner shall consult with the City of Chicopee to see if there are opportunities to support the City’s currently planned expansion of the nature trail / Riverwalk along the Project area. Within six months of LIHI Certification, the Owner shall provide LIHI with evidence of consultation and any related agreements with the City. Any agreements should include a description of any proposed measures the Owner will implement, and a timeline for completion. The status of activities implemented under such agreements shall be included in annual compliance reports to LIHI until completed.

Appendix A
Stakeholder Comments and Responses

From: "Kubit, Robert (DEP)" <robert.kubit@state.ma.us>
To: "PBMwork@maine.rr.com" <PBMwork@maine.rr.com>
Cc:
Bcc:
Priority: Normal
Date: Monday May 4 2020 11:16:57AM
Re: LIHI review of the Dwight Project on the Chicopee River

Hi Pat,

I began preparing Water Quality Certificates for FERC hydropower projects around 1997. To answer your question: yes. FERC hydropower licenses from what I know, were left up to FERC to administer in the years before 1994. The PUD No.1 v State of Washington decision showed state decisions would not be preempted by federal decisions. Since that time the state has been actively involved in issuing water quality certifications. Very spotty before then.

Bob

Robert Kubit, P.E.
MassDEP
Division of Watershed Management
8 New Bond Street
Worcester MA 01606
Telephone: (508) 767-2854
Email: robert.kubit@state.ma.us
Fax: (508) 791-4131

From: PBMwork@maine.rr.com <PBMwork@maine.rr.com>
Sent: Monday, May 4, 2020 10:31 AM
To: Kubit, Robert (DEP)
Subject: LIHI review of the Dwight Project on the Chicopee River

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Mr. Kubit

I am the reviewer of the Dwight Project that is seeking certification from the Low Impact Hydropower Institute. I have received a copy of your 11/22/19 letter to Mr. Bill Short who is representing Central Rivers on this Project.

I have only one question for you. The 9/11/1992 FERC exemption for the Project is totally silent on water quality issues and does not mention the issuance of a Water Quality Certification. In the application to LIHI, Mr. Short stated that "the MDEP did not complete a water quality study for the Project and, consequently, did not issue a water quality certificate for the Project." Is this an accurate statement as to why no WQC was issued?

I did notice that water quality sampling was done by the then owner in the summer of 1989 and a report issued during the FERC licensing proceedings that resulted in the current FERC Exemption. I have attached a copy of that report in the event you do not have it.

I would appreciate hearing back from you on this question. You can either email me or call me at 207-688-4236.

Thank you for your time.

Pat McIlvaine

From: "Slater, Caleb (FWE)" <caleb.slater@state.ma.us>
To: "pbmwork@maine.rr.com" <pbmwork@maine.rr.com>
Cc:
Bcc:
Priority: Normal
Date: Wednesday May 6 2020 10:28:48AM
LIHI review of Dwight FERC #10675

Pat,

Please find the attached comment letter for the LIHI Certification of Dwight Project FERC #10675.

Caleb

Caleb Slater, PhD

Massachusetts Division of Fisheries and Wildlife

1 Rabbit Hill Road, Westborough, MA 01581

p: (508) 389-6331 | e: caleb.slater@mass.gov

mass.gov/masswildlife | [facebook.com/masswildlife](https://www.facebook.com/masswildlife)



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DIVISION OF FISHERIES & WILDLIFE

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May 6, 2020

Pat McIlvaine
LIHI Reviewer
pbmwork@maine.rr.com

RE: LIHI Certification of Dwight Project FERC #10675

Dear Pat,

The Department of Fish and Game (“DFG”) hereby submits the following comments on the Low Impact Hydropower Institute’s (“LIHI”) pending application for the proposed LIHI certification of the Dwight Project (FERC No. 10675) located on the Chicopee River in the Town of Chicopee, Hampden County, Massachusetts, at approximate river mile 1.0 on the Chicopee River:

DFG is submitting these comments to LIHI in order to fulfill the requirements of the Massachusetts Department of Energy Resources (“DOER”) Renewable Energy Portfolio Standard Regulations (225 CMR 14.00; “RPS I” and 225 CMR 15.00; “RPS II”). The RPS I and RPS II regulations were promulgated by DOER on January 1, 2009 and require that any hydroelectric project wishing to qualify as either a RPS I or RPS II generator first obtain LIHI certification. These regulations also require all relevant regulatory agencies to comment on the pending LIHI application.

Comments on LIHI re-certification:

1. Minimum Flows in Bypassed Reach to the confluence with the tailrace and Chicopee River

The minimum flow for this reach is 258 cfs or inflow if less. The Massachusetts Division of Fisheries and Wildlife (MassWildlife) has no record that the Project has operated in non-compliance of the Project’s minimum flow, however the project has a 3,000 foot long bypass reach which receives this minimum flow. This flow is the calculated median August flow. The Division, in principle, does not believe that projects with long bypass reaches are “low impact”, however the project owner has proposed to eliminate daily peaking generation releases from all of their projects on the Chicopee River (Red Bridge, Putts Bridge, Indian Orchard, and Dwight) in exchange for reduction of the required minimum flow in the project bypass reaches- new minimum flows are to be determined for each project through a site specific fish habitat study. MassWildlife is working with the project owner and the US Fish and Wildlife Service on this agreement and would prefer that be in place to prior to LIHI certification.

2. Minimum Flows of Dwight Impoundment or Tailrace to the confluence with the bypassed reach and the Chicopee River

MassWildlife is unaware of any minimum flow requirement for Dwight impoundment or the tailrace to the confluence with the bypassed reach and the Chicopee River. Therefore,

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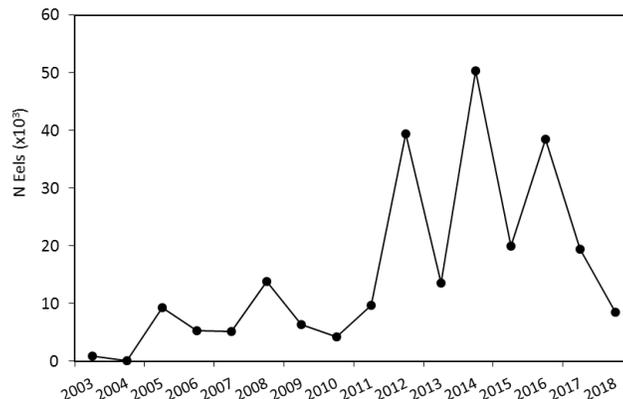
MassWildlife expresses no position on these minimum flows and any associated LIHI requirements for these flows.

3. Upstream Fish Passage of the Bypassed Reach to the confluence with the tailrace and Chicopee River, Dwight Impoundment or Tailrace to the confluence with the bypassed reach and the Chicopee River.

There is no current requirement for upstream fish passage at the project and none is installed. However, the FERC exemption requires that once upstream fish passage is determined to be necessary (by MassWildlife and/or other relevant Federal or Massachusetts agencies) the Project Owner shall install acceptable upstream fish passage within two years.

The Dwight Dam is the first barrier on the Chicopee River, and as the Chicopee River enters the Connecticut River downstream of the Holyoke Dam, the first barrier from the ocean for diadromous fish. Each spring thousands of American Shad and River Herring attempt to ascend the Chicopee River and are stopped by the Dwight project. I would love to see a modern fish passage facility at this Project, however the cost of such a facility would be prohibitive while the ecological benefit small, given that the next barrier on the Chicopee River is just 1.5 miles upstream.

However, upstream passage for juvenile American Eel is relatively inexpensive and has proven to be very effective at many hydro projects in MA. In fact the Holyoke Project has passed hundreds of thousands of juvenile eels since passage was installed in 2003 (see figure below).



The entire Chicopee River system is American Eel habitat, and adult eels are occasionally observed at various sites throughout the system. Several are entrained on the racks at the entrance to the MWRA aqueduct at the Quabbin Reservoir each year.

MassWildlife asks LIHI to make installation and testing of upstream passage for American Eel a condition of certification.

4. Downstream Fish Passage of the Bypassed Reach to the confluence with the tailrace and Chicopee River, Dwight Impoundment or Tailrace to the confluence with the bypassed reach and the Chicopee River.

There is no current requirement for downstream fish passage at the project and none is installed. However, the FERC exemption requires that once downstream fish passage is determined to be necessary (by MassWildlife and/or other relevant Federal or Massachusetts

agencies) the Project Owner shall install acceptable downstream fish passage within two years. Downstream fish passage protection is very important for American Eels as the downstream migrant adults are large (long) and suffer very high mortality if entrained. Downstream passage protection would consist of full depth ¾ inch clear space racks at the unit intake and adequate downstream passage around the units. Interim measures would include unit shutdowns on rainy nights, and for next two days from dusk to dawn, for the downstream migration season (8/15-11/15) until long-term measures can be installed.

MassWildlife asks LIHI to make installation and testing of downstream passage for American Eel a condition of certification.

Please let me know if you need anything further.

A handwritten signature in black ink, appearing to read "Caleb Slater". The signature is fluid and cursive, with a long horizontal stroke at the end.

Caleb Slater, PhD
Massachusetts Division of Fisheries and Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6331 | e: Caleb.Slater@state.ma.us



June 12, 2020

Shannon Ames, Executive Director
Low Impact Hydropower Institute
329 Massachusetts Avenue, Suite 6
Lexington, MA 02420

Re: LIHI Certification of Dwight Dam on the Chicopee River, FERC Exempt P-10675

Dear Ms. Ames,

The Connecticut River Conservancy (CRC) submits the following comments on the evaluation of the Dwight Hydroelectric Project's (Dwight or Project) adherence to LIHI's certification criteria. CRC is the principal nonprofit environmental advocate for protection, restoration, and sustainable use of the Connecticut River watershed. The Chicopee River is a major tributary of the Connecticut River. The facility is currently owned by Central Rivers Power MA LLC, which is now owned by the private equity company Hull Street Energy LLC.

The Dwight Project (FERC No. 10675, exempt) is located in the City of Chicopee in Hampden County, Massachusetts, at approximate river mile 1.2 on the Chicopee River.

Criterion C - Upstream Fish Passage

The Dwight Dam is the first of several dams on the Chicopee River, none of which currently have upstream fish passage facilities. This dam would be the natural starting point for improving fish access to the Chicopee River. For example, this year, over 5,000 American shad have traveled beyond the first dam on the Westfield River, a tributary that, like the Chicopee, is downstream of the Holyoke Dam and there are no barriers between this tributary and Long Island Sound. CRC notes that in Attachment 33 to the LIHI application, which is the Chicopee River Watershed 5-year action plan (2005-2010), on page 33 it says, "Evaluate the need for and increase upstream and downstream fish passage for diadromous fish species. Initially, emphasis should be placed on the Dwight Dam (i.e., the lowermost dam on the Chicopee River). After installing passage structures, fish passage triggers should be established at the Dwight Dam to determine when fish passage is required at subsequent upstream."

Unfortunately, agency funding and staffing limits have made it so that there has been no progress since the 5-year action plan was written, to evaluate the Chicopee River for shad or lamprey habitat. CRC concurs with the letter from the Massachusetts Division of Fisheries and Wildlife to have the project owner install upstream and downstream fish passage facilities for American eel.

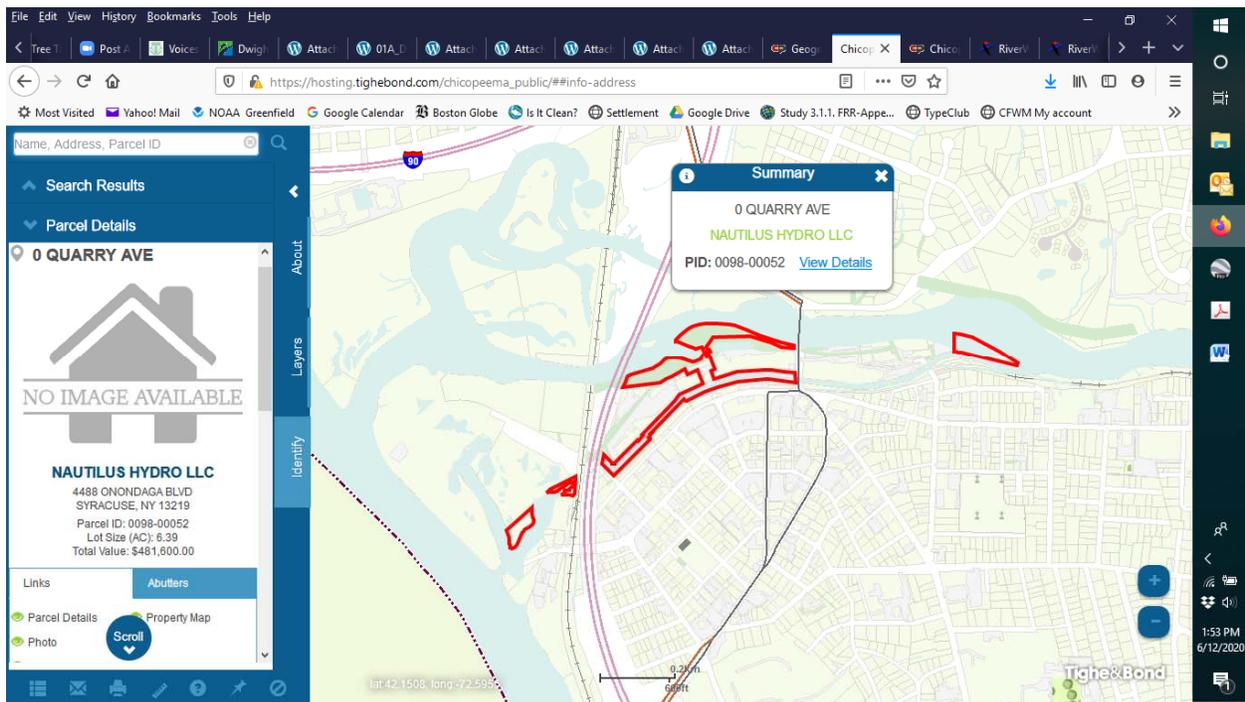
CRC's recommendations:

- Central Rivers Power should install upstream and downstream American eel passage.
- If requested by state and/or federal agencies, Central Rivers Power should work collaboratively to assess fish habitat in the Chicopee River, along with other dam owners.

Criterion H - Recreational Resources

As the applicant states on page 41, the US Fish and Wildlife Service mandated as part of the FERC Exemption that the applicant will cooperate with the City of Chicopee in procuring a conservation easement along a proposed riverside nature trail above and below the project. The application indicates that this happened below the project. There is no mention of any access that has happened above the project. The applicant stated that there is limited land it owns surrounding the project. We could find no maps of the trails described in the application packet.

The Chicopee Assessor's maps available online indicate project ownership shown below in the red line. CRC could not find this type of map in the application packet.



The City of Chicopee is in the process of building a river walk and bike path near the project along the old rail line. Additionally, the mill building associated with the hydropower facility is being prepped for redevelopment. The City Planning Department representative I spoke with on the phone indicated that the applicant has been open to collaborating on these projects.

CRC recommendation

- CRC recommends a clarification on the location of the trails below the dam, and what happened to plans for access above the dam.

CRC appreciates the opportunity to provide comments. I can be reached at adonlon@ctriver.org. For the time being while I am working from home, the best number to reach me is my cell phone: (413) 325-4426. Ordinarily, my office number is (413) 772-2020 x.205.

Sincerely,

A handwritten signature in black ink that reads "Andrea F. Donlon". The signature is written in a cursive, flowing style.

Andrea F. Donlon
River Steward

Cc: Keith Davies, Chicopee4Rivers Watershed
Bob Kubit, MassDEP
Caleb Slater, MA DFW
Melissa Grader, USFWS



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August 21, 2019

Michael Mann, Associate
Hull Street Energy
4920 Elm Street, Suite 205
Bethesda, MD 20814
mmann@hullstreetenergy.com

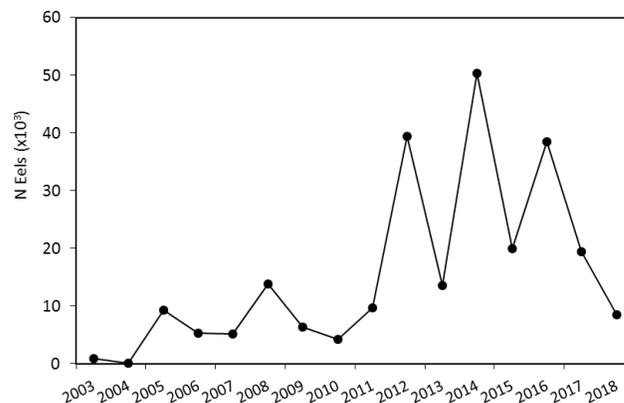
RE: CEC grant application

Michael,

I understand that you are applying for a grant from the Massachusetts Clean Energy Center (CEC) for upgrades to your Dwight hydroelectric project on the Chicopee River in Chicopee, MA. As part of the application process the CEC requires that the project be certified by the Low Impact Hydropower Institute (LIHI), or a letter from the Division of Fisheries and Wildlife that identifies any concerns that may affect LIHI certification and potential solutions to those concerns.

The Dwight Dam is the first barrier on the Chicopee River, and as the Chicopee River enters the Connecticut River downstream of the Holyoke Dam, the first barrier from the ocean for diadromous fish. Each spring thousands of American Shad and River Herring attempt to ascend the Chicopee River and are stopped by the Dwight project. I would love to see a modern fish passage facility at this project, however the cost of such a facility would be prohibitive while the ecological benefit small, given that the next barrier on the Chicopee River is just 1.5 miles upstream.

If asked by LIHI to certify the Dwight Project I would ask for upstream passage for juvenile American Eel. Upstream eel passage is relatively inexpensive and has proven to be very effective at many hydro projects in MA. In fact the Holyoke Project has passed hundreds of thousands of juvenile eels since passage was installed in 2003 (see figure below).



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In addition, ¾ inch clear space trash racks for the full depth of the turbine intakes will be necessary to prevent entrainment of downstream migrant adult eels. However, due to the fact that eels spend a prolonged period in river before downstream migration, a delay of 5 to 10 years between the start of upstream eel passage and the installation of the ¾ inch racks for downstream passage is would be acceptable. If ¾ inch racks are not feasible, night-time turbine shutdowns in the fall have been shown to reduce entrainment.

Thank you for this opportunity to comment and please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Caleb Kelly". The signature is fluid and cursive, with a long horizontal stroke at the end.

Anadromous Fish Project Leader