

**Low-Impact Hydropower Institute Certification Application
LIHI Certificate #125**



**Hunts Pond Dam Project
(FERC No. 8012)**

Prepared for:
**Winchendon Hydroelectric LLC
Holyoke, MA**

Prepared By:
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Holyoke, MA**

Final January 11, 2021

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1.0 Introduction

This document has been prepared for the LIHI Recertification process for the Hunts Pond Dam Project with Certification Number 125 located in Winchendon, MA. For the purposes of this Recertification Application the project may be referred to as Winchendon Hydroelectric LLC, Hunts Pond Dam, Winchendon Hydro and/or Project. At the time of the original (previous) LIHI Certification the Applicant identified improvements to the Project that were funded in part by a grant that required LIHI Certification. By this Recertification Application the Applicant confirms that all the work identified in the original (previous) LIHI Application is complete and the description contained herein represents the completed work.

The Project has been operated by O’Connell since 1996.

The Project is in compliance with all conditions of its FERC Exemption and previous LIHI Certification.

LIHI Certification History

December 24, 2015 – LIHI Executive Director Michael J. Sale, using authority delegated from the LIHI Governing Board and a full review of the Application Reviewer’s report and all public comments and additional materials provided by the Applicant, has certified that the Hunts Pond Dam Hydroelectric Project (FERC No. P-8012) satisfies the LIHI Certification Criteria. A Preliminary Decision was announced on November 25, 2015, and a 30-day appeal period was open through December 24, 2015. No requests for appeal were received. This Certification Decision includes one facility-specific condition, as follows:

- Condition satisfied 2016: Within 30 days of LIHI Certification approval, the facility owner shall provide a letter to LIHI that commits to upstream and downstream passage protections for American Eel if and when such fish passage mitigation is determined to be necessary by the MDFW and/or USFWS.

The effective certification date for the Hunts Pond Dam Project is September 8, 2015 for a five (5) year term, which will expire on September 5, 2020. The certificate is viewable in the Files list below.

September 8, 2015 – On September 8, 2015, the Low Impact Hydropower Institute (LIHI) received a complete application from Winchendon Hydroelectric LLC for the Low Impact Certification of the Hunts Pond Dam Project, FERC P-8012, located on the Millers River in Winchendon, Massachusetts

Facility Description, Compliance Status, Overview Maps, ZoE Descriptions

Development and Ownership Description

Winchendon Hydroelectric LLC holds a FERC Exemption (FERC No. P-8012-MA) for the Hunts Pond Dam Project with 0.100 MW installed capacity, is operated in run of river mode and is located at approximately river mile 35.6 on the Millers River in the Town of Winchendon in Worcester County, Massachusetts with latitude /longitude coordinates of 42.6791/-72.0478. The river mile location was determined from the New England Army Corps of Engineers Map identified as Millers River Watershed Profiles dated June 1972 Plate F-23. The project street address is 28 Front Street, Winchendon where the powerhouse and dam is located on the north side of the river.

The Hunts Pond Dam is situated upstream of six (6) dams and downstream of 3 other dams on the main stem of the Millers River. One (1) of the other six downstream dams is a hydroelectric facility owned and operated by an O'Connell affiliated company located at the New Home Dam (Mini-Watt Hydroelectric LLC). The other downstream dams that are owned and controlled by unrelated entities include Starrett, Cresticon Lower, Cresticon Upper, Birch Hill and Tannery Pond dams. All of the upstream dams, including the Millers River tributaries are non-generating and owned and controlled by unrelated entities.

Hunts Pond Dam is the middle of three dams in series (Whitney Dam (non-generating dam) is upstream and Tannery Dam (P-8895) is downstream of the Project in Winchendon. The Hunts Pond Head Pond, Impoundment approaches the base of the Whitney Dam. The Hunts Pond tailrace is approximately 700 feet upstream of the Tannery Pond Head Pond, Impoundment.

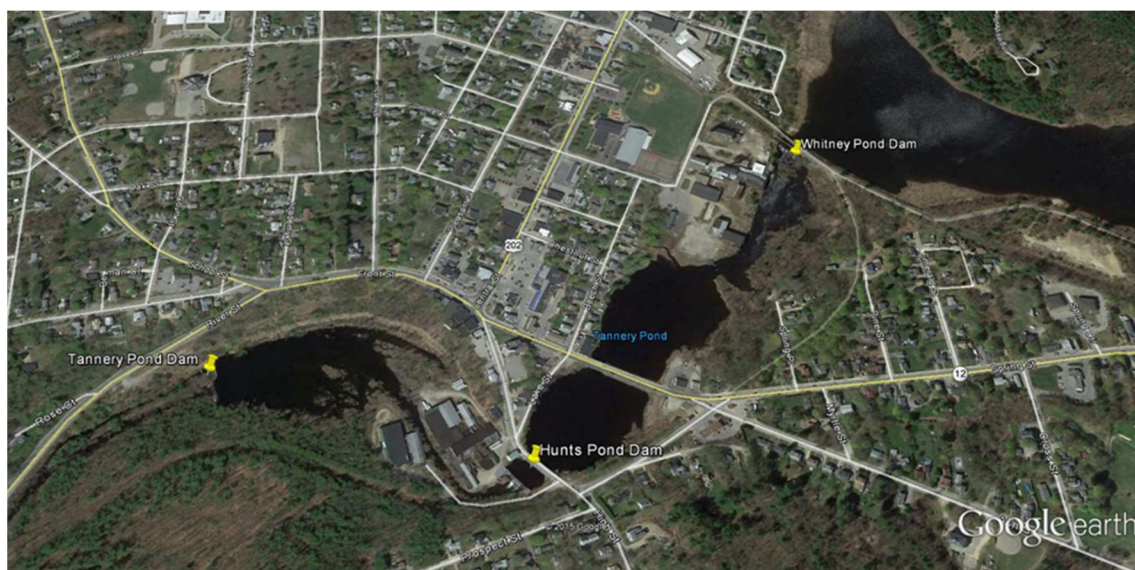


Figure 1 Google Earth Map of the Hunts Pond Dam and relationship to downstream Tannery Pond Dam and Upstream Whitney Pond Dam. (Please note Google Earth Maps mislabels the ponds in this area. Tannery Pond is downstream of Hunts Pond.)

The FERC Exemption was issued February 19, 1985 for the Project. The FERC exemption for this project was issued with USFWS comments that require the following:

- The facility is operated in a run-of-river mode.
- The tailrace discharge is located at the base of the dam, thus there is no bypassed reach channel. The exemption requires an instantaneous¹ minimum release of 25 cfs (historical median August Flow) or inflow to the project; whichever is less.
- The owner is required to provide fish passage facilities when prescribed by the USFWS and/or the MDFWELE.

The FERC Exemption was amended on June 27, 1991 by Mason & Parker (a manufacturer with principle place of business located at the site) that increased capacity from 120 kW to 320 kW. Sometime between 6/27/91 and 5/13/92 the facility was transferred to Behrens Energy Systems. FERC records indicate the Project went off line in February 1993. Behrens Energy Systems fell into bankruptcy shortly thereafter. The increased capacity for the Project was never installed.

The Project was purchased from bankruptcy by O'Connell Development Inc. in 1996. O'Connell repaired the existing units, updated the control system and returned the plant to operating condition. The Project is now owned by Winchendon Hydroelectric, LLC ("WH"), a wholly owned subsidiary of O'Connell.

In 2010 the Project equipment had a failure of one of the 2 original turbines.

In 2012 the Project applied for and received a MassCEC Grant for repairs to the facility.

The Project amended its FERC Exemption following the receipt of the MassCEC Grant. The FERC Exemption Amendment was issued on August 22, 2013 reducing the permitted installed capacity of 320 kW (actual previous installed capacity was the 120 kW in accordance with the original 1985 FERC Exemption and not the 1991 FERC Exemption Amendment) to 100 kW. During this Amendment period the second original turbine failed.

A condition of the MassCEC Grant was a requirement for LIHI Certification. Following the FERC Exemption Amendment, the Project filed its application for LIHI Certification. On September 8, 2015 LIHI received the completed Application for the Project. The effective LIHI Certification date was granted on September 8, 2015.

The Project was renovated in accordance with the terms of the FERC Exemption Amendment, MassCEC Grant and the previous LIHI Application. All improvements were complete and the project was returned to operation in 2015.

¹ "instantaneous" was added during the FERC Amendment process in 2013

Facility Description

The facility's principle features are shown on the following aerial photo:

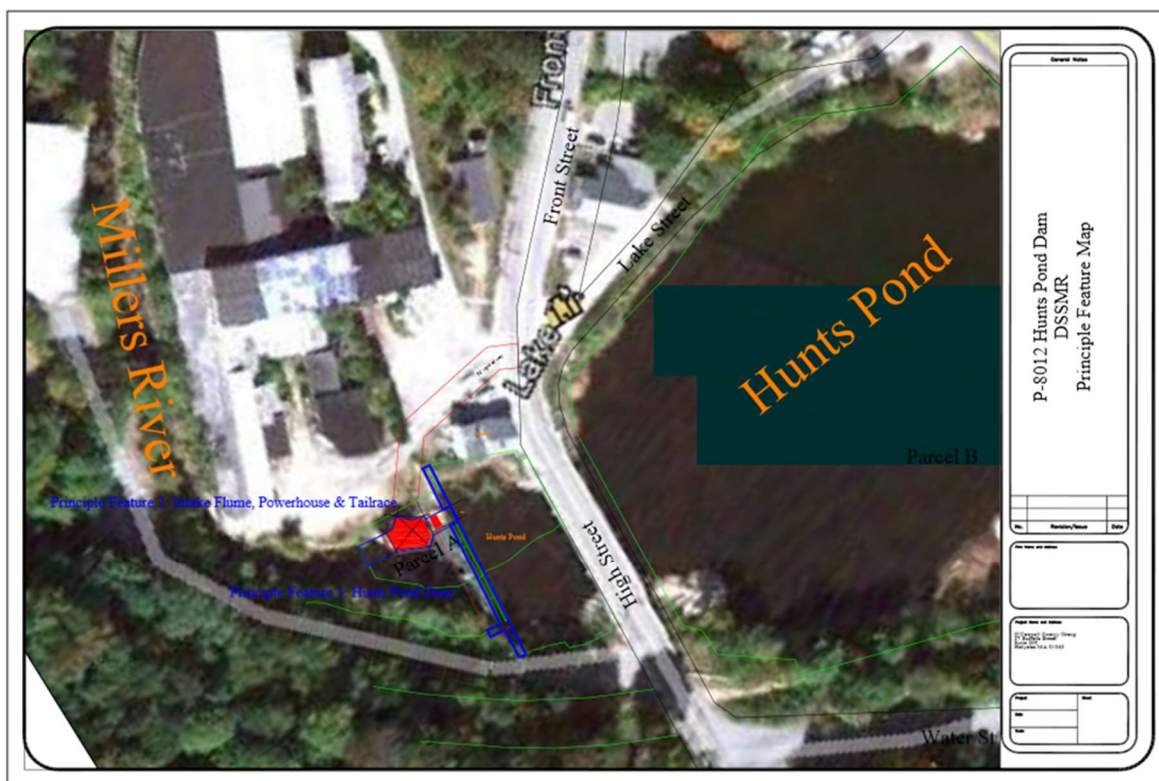


Figure 2 Aerial Photo – Google Earth 5/6/2015 View of the Hunts Pond Dam Project Principle Feature Map identifying: Headpond Impoundment, Dam, Intake, Powerhouse, Tailrace.



Figure 3 Aerial Photo – Google Earth 5/6/2015 View of the Hunts Pond Dam Project (note Google Earth has mislabeled the head pond as “Tannery Pond”). The dam is delineated by the dashed line. The arrow indicates direction of flow.

Headpond/Impoundment

The Hunts Pond Dam creates an average 7.5-foot deep, 120-acre impoundment that is 2,081 feet long, with a normal surface elevation of 954.4 feet USGS datum. The impoundment extends approximately 2,081 feet upstream of the dam, in an easterly direction; with the maximum surface area is approximately 13 acres and storage capacity of 120 acre-feet. The drainage area at the facility is 54 square miles.

Dam

The concrete dam primary components, in order from south to north, consist of concrete south abutment, concrete Ogee dam with center abutment, concrete intake structure and concrete north abutment. Total length of dam including abutments is 184 feet. According to FERC records the most recent dam was constructed in 1936. Prior to 1936 there was a dam and open channel canal to a powerhouse that discharged directly into the head pond for the Tannery Pond Dam Hydroelectric project. The dam crosses the Millers River in a roughly north to south direction. The toe of the dam is irregular but in general approximately 939.4 msl. The total existing head at Hunts Pond Dam is 13.6 feet. The total hydraulic capacity through the turbine is 110 cfs.

The concrete south abutment is approximately 32 feet long from the embedment into the embankment to the Ogee section of the dam and is backed by earthen fill for the entire length on the downstream side of the abutment. The top elevation of the abutments are 956.6 msl.

The Ogee section of the dam is approximately 97 feet long including the center abutment. The top elevation of the Ogee dam is 947.8 msl. Total height of Ogee Dam section is 8.4 feet. The Top Elevation of the center abutment is 956.6 msl. Total height of the center abutment is 17.2 feet. The Ogee Dam upstream to downstream width is approximately 20.5 feet. Along the top of the concrete Ogee dam section is a 6.6' high Marden Style needle and stop log flashboard

installation. The permitted top elevation of the stop logs is equal to the pond surface elevation of 954.42 feet msl. Four (4) sections of stop logs have been notched to create a sharp crested weir with 60" length each. The invert of the notch is at elevation 954.38 providing a water depth of .04 feet or approximately ½" over the notch invert. All in accordance with the Stream Flow Compliance Plan as approved by the USF&W, MDFW and FERC. The dam was resurfaced and Marden needle beams and stop logs were replaced in 2015.

Intake

The open channel intake structure is located at the dam on the north side of the river. There is one steel head gate with dimensions 10.5 feet wide by 13.0 feet high at the entrance to the open channel intake structure. The head gate is manually operated and is used for maintenance purposes only. The open channel intake structure is approximately 25 feet long by 14 feet wide by 14.33 feet high. Normal water depth in the intake structure is 12.42 feet deep. There is a trash rack installed at the end of the intake structure just before the power house. The trash racks are constructed with 1" spacing and design water flow of 145 cfs with velocity of 1.26 fps. The floor and walls of the intake are constructed in concrete.

The concrete north abutment is approximately 41 feet long extending from the intake structure into the north embankment and is backed by earthen fill for the entire length on the downstream side of the abutment. The top elevation of the north abutment is 956.6 msl.

Powerhouse

The facility has one (1) powerhouse. The powerhouse is wood frame construction and was built in 1985. The Powerhouse receives the head water/impoundment water from the intake structure. Water is discharged directly back to the river (no tailrace channel) adjacent to the base of the dam with backwater from the turbine discharge providing a wetted area to the base of the dam. The design operating head is 13.6'. The average design flow is based on the 20% value of the flow duration curve or about 150 cfs. The maximum turbine capacity of the project is approximately 110 cfs. One (1) double regulated Kaplan turbine with 100 kW nameplate generator was installed in the powerhouse in 2015. The generator produces energy at 480 volts which is transformed up to 4160 volts and interconnects to NGRID distribution system. Onsite energy use is for station service. The station has a 10 year historic average production of 287,099 kWh and an engineer's estimated annual production of 480,000 kWh.

Tailrace

The turbine draft tube discharges directly to the river approximately fifty (50) feet downstream from the toe of the dam with normal tail water elevation is 940.8 feet (no tailrace channel - water is discharged directly back to the river with no tailrace channel adjacent to the base of the dam with backwater from the turbine discharge providing a wetted area to the base of the dam). There is no defined tailrace structure.

The flow is well established to the toe of the dam without any obstructions due to the combined flows of leakage and minimum flow notches at the dam with the turbine discharge into the river.

Mode of Operation

The Project is operated in a “run of river” mode. The station is operated automatically by a Programmable Logic Controller (PLC). The operating mode does not change during dry, mean or high water years. The double regulated Kaplan turbine modulates blade and gate positions to follow river flows, increasing and decreasing the amount of electrical generation.

River flow through the Project is by leakage through the wooden stop log structure, flow through four (4) minimum flow notches in the stop logs at the dam, flow through the hydroelectric turbines and flow through operable gates and stop logs during high river flow events. The complete Stream Flow Compliance Plan (SFCP) was documented in 2016 in consultation with and approved by the USF&W and MDF&W and final SFCP was filed with FERC under Critical Energy and Infrastructure Information (CEII). A copy of this Plan is filed with LIHI as “Confidential” as part of the Recertification Application.

ZoE Descriptions

In keeping with the LIHI Certification Handbook the Project has identified the following Zones of Effects (ZOE) within the general arrangement and principal features describe above:

ZoE #1 Hunts Pond Dam Impoundment

ZoE #2 Hunts pond Dam Tailrace

The ZoE's are shown in **Figure 1** below Plan of the Hunts Pond Dam Principle Features, Zones of Effect.



Figure 1 Plan of the Hunts Pond Dam Principle Features, Zones of Effect

LIHI Zone of Effect (ZoE) #1: Dam Impoundment (Head Pond) including Powerhouse Intake Channels

The Hunts Pond Dam is a concrete gravity dam. The Ogee section of the dam is approximately 97 feet long including the center abutment. The top elevation of the Ogee dam is 947.8 msl. Total height of Ogee Dam section is 8.4 feet. The Top Elevation of the center abutment is 956.6 msl. Total height of the center abutment is 17.2 feet. The Ogee Dam upstream to downstream width is approximately 20.5 feet. Along the top of the concrete Ogee dam section is a 6.6' high Marden Style needle and stop log flashboard installation. The permitted top elevation of the stop logs is equal to the pond surface elevation of 954.42 feet msl. Four (4) sections of stop logs have been notched to create a sharp crested weir with 60" length each. The invert of the notch is at elevation 954.38 providing a water depth of .04 feet or approximately ½" over the notch invert. All in accordance with the Stream Flow Compliance Plan as approved by the USF&W, MDFW and FERC. The dam was resurfaced and Marden needle beams and stop logs were replaced in 2015.

The open channel intake structure is located at the dam on the north side of the river. There is one steel head gate with dimensions 10.5 feet wide by 13.0 feet high at the entrance to the open channel intake structure. The head gate is manually operated and is used for maintenance purposes only. The open channel intake structure is approximately 25 feet long by 14 feet wide by 14.33 feet high. Normal water depth in the intake structure is 12.42 feet deep. There is a trash rack installed at the end of the intake structure just before the power house. The trash racks are constructed with 1" spacing and design water flow of 145 cfs with velocity of 1.26 fps. The floor and walls of the intake are constructed in concrete.

LIHI Zone of Effect (ZoE) #2: Hunts Pond Dam Tailrace

The river water passes from the dam through the intake gate, intake channel and turbine being returned approximately fifty (50) feet from the toe of the dam directly to the river. There is no defined tailrace structure.

As stated in previous comments by USFW and MDFW there is a short fifty (50) foot bypassed reach associated with the facility. As stated by the USFW in 2015 "The project has a short 50-foot-long bypass reach. Due to the short length of the reach and backwatering from the tailrace, no dedicated flow is required to be spilled over the dam." As stated by the MDFW in 2015 "As the project operates as Run of River and has no significant bypass reach it is compliance with flow recommendations."

The effects on this short bypass reach have been mitigated. The turbine discharge into the river creates an entrained flow within the back watered area to the toe of the dam. Together with leakage and instantaneous minimum flow notches at the dam the water within this area is well circulated. The flow is well established to the toe of the dam without any obstructions due to the combined flows of leakage and minimum flow notches at the dam with the turbine discharge into the river.

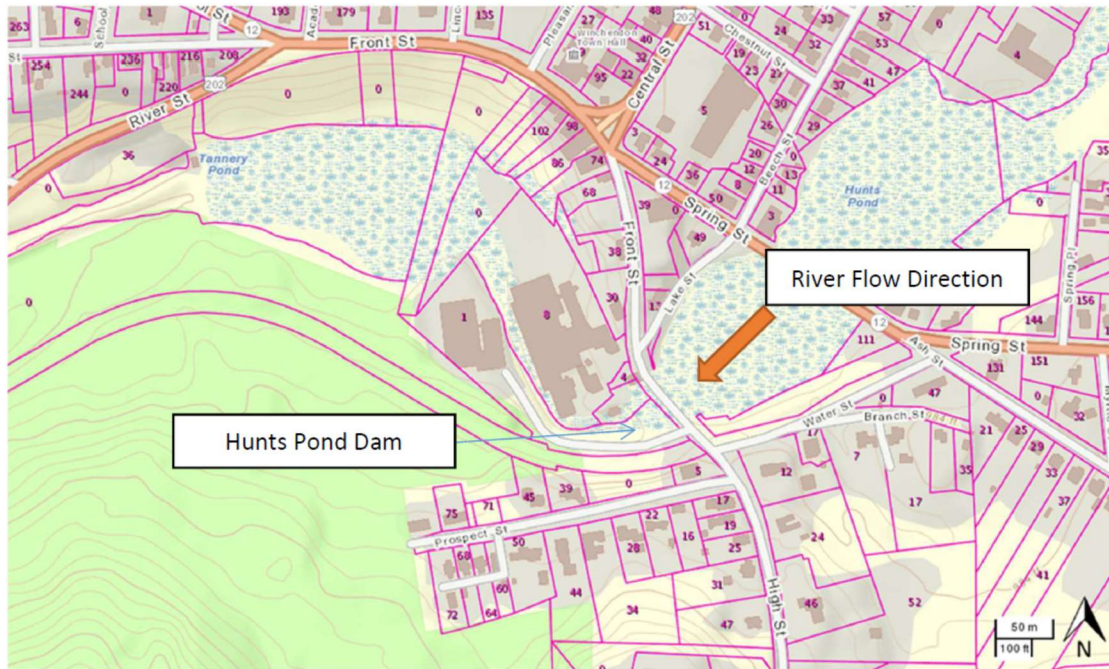


Figure 3 Topographic Map – MA GIS Mapping showing Properties and elevation contours. View of the project site and surrounding topography. Arrow indicates direction of flow.

2.0 Table B-1.1 Facility Description Information for Hunts Pond Dam Project (LIHI #125)

Item	Information Requested	Response (include references to further details)
Name of the Facility	Facility name (use FERC project name or other legal name)	Hunts Pond Dam (FERC P-8012) referred to as the Project or Hunts Pond Dam Project throughout this Application.
Reason for applying for LIHI Certification	<ol style="list-style-type: none"> 1. To participate in state RPS program 2. and specify the state and the total MW/MWh associated with that participation (value and % of facility total Mw/MWh). 3. To participate in voluntary REC market (e.g., Green-e) 4. To satisfy a direct energy buyer's purchasing requirement 5. To satisfy the facility's own corporate sustainability goals 6. For the facility's corporate marketing purposes 7. Other (describe) 	<ol style="list-style-type: none"> 1. To participate in state RPS Programs 2. Massachusetts; MA RPS Value = 0.100MW/480MWh; MA RPS 100%
	If applicable, amount of annual generation (MWh and % of total generation) for which RECs are currently received or are expected to be received upon LIHI Certification	480MWh at 100% Currently received.
Location	River name (USGS proper name)	Millers River
	Watershed name - Select region, click on the area of interest until the 8-digit HUC number appears. Then identify watershed name and HUC-8 number from the map at: https://water.usgs.gov/wsc/map_index.html	Millers River Basin (HUC: 01080202)
	Nearest town(s), county(ies), and state(s) to dam	Orange, Franklin County, Massachusetts
	River mile of dam above mouth	Millers River mile 35.6 from confluence with Connecticut River
	Geographic latitude of dam	42.6791
	Geographic longitude of dam	-72.0478

<i>Item</i>	<i>Information Requested</i>	<i>Response (include references to further details)</i>
Facility Owner	Application contact names (Complete the Contact Form in Section B-4 also):	Applicant: Winchendon Hydroelectric LLC 800 Kelly Way Holyoke, MA 01040 Attn.: Stephen Fisk, Project Manager sfisk@oconnells.com
	Facility owner company and authorized owner representative name. For recertifications: If ownership has changed since last certification, provide the effective date of the change.	No Change in Ownership Owner: Winchendon Hydroelectric LLC O’Connell Development Group Inc., Its Manager 800 Kelly Way Holyoke, MA 01040 Attn.: Joanne Beauregard, Treasurer jbeauregard@oconnells.com
	FERC licensee company name (if different from owner)	Winchendon Hydroelectric LLC is the exemptee for the Hunts Pond Dam Hydroelectric Project
Regulatory Status	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates, or date of exemption	P-8012-MA issued 2/19/1985 and with Amendment issued 8/22/2013. a. FERC exemption link: https://lowimpacthydro.org/wp-content/uploads/2020/12/1985-Hunts-Pond-FERC-Exemption.pdf (not electronically available on the FERC elibrary) b. Exemption amendment link https://lowimpacthydro.org/wp-content/uploads/2020/12/2013-Hunts-Pond-FERC-Amendment.pdf
	FERC license type (major, minor, exemption) or special classification (e.g., "qualified conduit", "non-jurisdictional")	Exemption
	Water Quality Certificate identifier, issuance date, and issuing agency name. Include information on amendments.	None
	Hyperlinks to key electronic records on FERC e-library website or other publicly accessible data repositories ²	

² For example, the FERC license or exemption, recent FERC Orders, Water Quality Certificates, Endangered Species Act documents, Special Use Permits from the U.S. Forest Service, 3rd-party agreements about water or land

<i>Item</i>	<i>Information Requested</i>	<i>Response (include references to further details)</i>
Powerhouse	Date of initial operation (DOIO) (past or future for pre-operational applications) Total installed capacity (MW) For recertifications: Indicate if installed capacity has changed since last certification	DOIO – 1985 0.100 MW. Capacity has not changed from last LIHI Certification
	Average annual generation (MWh) and period of record used For recertifications: Indicate if average annual generation has changed since last certification	287 MWh for years 2011 through 2019 and includes period of no generation for equipment failure and repairs. Recent generation after the 2015 repairs have averaged 415 MWh. Ave Annual generation for the 10 year period of record is approximately the same from previous Certification.
	<u>Mode of operation</u> (run-of-river, peaking, pulsing, seasonal storage, diversion, etc.) For recertifications: Indicate if mode of operation has changed since last certification	“Run of River” No Change in mode of operation since last Certification
	Number, type, and size of turbine/generators, including maximum and minimum hydraulic capacity and maximum and minimum output of each turbine and generator unit	1 horizontal double regulated Kaplan with 100 kW generator. Hydraulic capacity Min/Max: 10/110 cfs
	Trashrack clear spacing (inches) for each trashrack	The trash racks are constructed with 1” spacing
	Approach water velocity (ft/s) at each intake if known	Water flow velocity is 1.64 fps at 145 cfs through the trashrack system.
	Dates and types of major equipment upgrades For recertifications: Indicate only those since last certification	None since last certification
	Dates, purpose, and type of any recent operational changes For recertifications: Indicate only those since last certification	No operational changes from last certification.
	Plans, authorization, and regulatory activities for any facility upgrades or license or exemption amendments	There are no plans for facility upgrades at this time.

management, grants of right-of-way, U.S. Army Corps of Engineers permits, and other regulatory documents. If extensive, the list of hyperlinks can be provided separately in the application.

<i>Item</i>	<i>Information Requested</i>	<i>Response (include references to further details)</i>
<i>Dam or Diversion</i>	Date of original dam or diversion construction and description and dates of subsequent dam or diversion structure modifications	According to FERC records the current dam configurations and type was constructed in 1936.
	Dam or diversion structure length, height including separately the height of any flashboards, inflatable dams, etc. and describe seasonal operation of flashboards and the like	The Ogee section of the dam is approximately 97 feet long including the center abutment. The top elevation of the Ogee dam is 947.8 msl. Total height of Ogee Dam section is 8.4 feet. The top elevation of the center abutment is 956.6 msl. Total height of the center abutment is 17.2 feet. The Ogee Dam upstream to downstream width is approximately 20.5 feet. Along the top of the concrete Ogee dam section is approximately 7' high Marden Style needle and stop log flashboard installation. The top elevation of the stop logs is 954.89 feet msl. Four (4) notches are cut into the stop logs with bottom of the notch at elevation 954.38 to allow instantaneous minimum flows over the dam.
	Spillway maximum hydraulic capacity	940 cfs from FERC Pertinent Datasheet
	Length and type of each penstock and water conveyance structure between the impoundment and powerhouse	There is no penstock. The open channel intake structure is located at the dam on the north side of the river. There is one steel head gate with dimensions 10.5 feet wide by 13.0 feet high at the entrance to the open channel intake structure. The head gate requires manual operation and is used for maintenance purposes only. The open channel intake structure is approximately 25 feet long by 14 feet wide by 14.33 feet high. Normal water depth in the intake structure is 12.42 feet deep. There is a trash rack installed at the end of the intake structure just before the power house.
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	Power

<i>Item</i>	<i>Information Requested</i>	<i>Response (include references to further details)</i>
Conduit Facilities Only	Date of conduit construction and primary purpose of conduit	NA
	Source water	NA
	Receiving water and location of discharge	NA
Impoundment and Watershed	Authorized maximum and minimum impoundment water surface elevations For recertifications: Indicate if these values have changed since last certification	There is no change from the last certification. The authorized maximum and minimum water surface elevations are 954.73/954.4. 954.73 is the maximum pond level allowed before flood control measures must be taken including opening flood gates, etc. See Stream Flow Compliance Plan for further discussion filed separately as CEII.
	Normal operating elevations and normal fluctuation range For recertifications: Indicate if these values have changed since last certification	There is no change from the last certification. The normal operating surface elevation is 954.4 feet USGS datum. Project is run of river. See Stream Flow Compliance Plan for further discussion filed separately as CEII.
	Gross storage volume and surface area at full pool For recertifications: Indicate if these values have changed since last certification	There is no change from the last certification. The gross storage capacity is 120 acre-feet with the maximum surface area is approximately 13 acres at full pool.
	Usable storage volume and surface area For recertifications: Indicate if these values have changed since last certification	There is no change from the last certification. Project is run of river. See Stream Flow Compliance Plan for further discussion filed separately as CEII.
	Describe requirements related to impoundment inflow and outflow, elevation restrictions (e.g., fluctuation limits, seasonality) up/down ramping and refill rate restrictions.	Project is run of river. See Stream Flow Compliance Plan for further discussion filed separately as CEII.

Item	Information Requested	Response (include references to further details)																										
	Upstream dams by name, ownership and river mile. If FERC licensed or exempt, please provide FERC Project number of these dams. Indicate which upstream dams have downstream fish passage.	<table><tr><th rowspan="2">Dam Name</th><th rowspan="2">Ownership</th><th rowspan="2">River Mile</th><th rowspan="2">FERC Number</th><th colspan="2">Fish Passage</th></tr><tr><th>UpStream</th><th>Downstream</th></tr><tr><td>Upper Naukeag Lake Dam</td><td>Town of Ashburnham</td><td>46.8</td><td>non FERC Regulated</td><td>No</td><td>No</td></tr><tr><td>Lower Naukeag Lake Dam</td><td>Lower Naukeag Lake Association</td><td>41.8</td><td>non FERC Regulated</td><td>No</td><td>No</td></tr><tr><td>Whitney Dam</td><td>Town of Winchendon</td><td>36</td><td>non FERC Regulated</td><td>No</td><td>No</td></tr></table>	Dam Name	Ownership	River Mile	FERC Number	Fish Passage		UpStream	Downstream	Upper Naukeag Lake Dam	Town of Ashburnham	46.8	non FERC Regulated	No	No	Lower Naukeag Lake Dam	Lower Naukeag Lake Association	41.8	non FERC Regulated	No	No	Whitney Dam	Town of Winchendon	36	non FERC Regulated	No	No
Dam Name	Ownership	River Mile					FERC Number	Fish Passage																				
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Upper Naukeag Lake Dam	Town of Ashburnham	46.8	non FERC Regulated	No	No																							
Lower Naukeag Lake Dam	Lower Naukeag Lake Association	41.8	non FERC Regulated	No	No																							
Whitney Dam	Town of Winchendon	36	non FERC Regulated	No	No																							

Item	Information Requested	Response (include references to further details)																																												
	Downstream dams by name, ownership, river mile and FERC number if FERC licensed or exempt. Indicate which downstream dams have upstream fish passage	<table><tr><th rowspan="2">Dam Name</th><th rowspan="2">Ownership</th><th rowspan="2">River Mile</th><th rowspan="2">FERC Number</th><th colspan="2">Fish Passage</th></tr><tr><th>UpStream</th><th>Downstream</th></tr><tr><td>Tannery Dam</td><td>French River Land Company</td><td>35.4</td><td>P-8895-MA</td><td>No</td><td>No</td></tr><tr><td>Birch Hill Dam</td><td>Army Corp</td><td>26.5</td><td>Army Corps Flood Control Dam</td><td>No</td><td>No</td></tr><tr><td>Cresticon Upper Dam</td><td>LP Athol</td><td>20.1</td><td>P-10163-MA</td><td>No</td><td>No</td></tr><tr><td>Cresticon Lower Dam</td><td>LP Athol</td><td>20</td><td>P-10163-MA</td><td>No</td><td>No</td></tr><tr><td>Starrett Company Dam</td><td>LS Starrett Co</td><td>19.5</td><td>P-14447</td><td>No</td><td>No</td></tr><tr><td>New Home Dam</td><td>Mini-Watt Hydroelectric LLC</td><td>13.6</td><td>P-6096-MA</td><td>Eel only</td><td>Yes</td></tr></table>	Dam Name	Ownership	River Mile	FERC Number	Fish Passage		UpStream	Downstream	Tannery Dam	French River Land Company	35.4	P-8895-MA	No	No	Birch Hill Dam	Army Corp	26.5	Army Corps Flood Control Dam	No	No	Cresticon Upper Dam	LP Athol	20.1	P-10163-MA	No	No	Cresticon Lower Dam	LP Athol	20	P-10163-MA	No	No	Starrett Company Dam	LS Starrett Co	19.5	P-14447	No	No	New Home Dam	Mini-Watt Hydroelectric LLC	13.6	P-6096-MA	Eel only	Yes
Dam Name	Ownership	River Mile					FERC Number	Fish Passage																																						
			UpStream	Downstream																																										
Tannery Dam	French River Land Company	35.4	P-8895-MA	No	No																																									
Birch Hill Dam	Army Corp	26.5	Army Corps Flood Control Dam	No	No																																									
Cresticon Upper Dam	LP Athol	20.1	P-10163-MA	No	No																																									
Cresticon Lower Dam	LP Athol	20	P-10163-MA	No	No																																									
Starrett Company Dam	LS Starrett Co	19.5	P-14447	No	No																																									
New Home Dam	Mini-Watt Hydroelectric LLC	13.6	P-6096-MA	Eel only	Yes																																									
	Operating agreements with upstream or downstream facilities that affect water availability and facility operation	None																																												

Item	Information Requested	Response (include references to further details)																																																																																																																																																																																						
	Area of land (acres) and area of water (acres) inside FERC project boundary or under facility control. Indicate locations and acres of flowage rights versus fee-owned property.	The Hunts Pond Dam creates an average 7.5-foot deep, 120-acre impoundment that is 2,081 feet long. This entire area is the property of the Owner.																																																																																																																																																																																						
Hydrologic Setting	Average annual flow at the dam, and period of record used	97.8 cfs average annual flow for the Water Year period 1916 to 2019																																																																																																																																																																																						
	Average monthly flows and period of record used	<table><tr><td colspan="14">USGS 01162000 MILLERS RIVER NEAR WINCHENDON, MA</td></tr><tr><td colspan="14">Worcester County, Massachusetts</td></tr><tr><td colspan="14">Hydrologic Unit Code 01080202</td></tr><tr><td colspan="14">Latitude 42°41'03", Longitude 72°05'02" NAD27</td></tr><tr><td colspan="14">Drainage area 81.8 square miles</td></tr><tr><td colspan="14">Contributing drainage area 81.8 square miles</td></tr><tr><td colspan="14">Gage datum 826.66 feet above NGVD29</td></tr><tr><td colspan="14">00060, Discharge, cubic feet per second,</td></tr><tr><td colspan="14">Monthly mean in ft3/s (Calculation Period: 1916-07-01 -> 2019-12-31)</td></tr><tr><td colspan="14">Calculation period restricted by USGS staff due to special conditions at/near site</td></tr><tr><td>YEAR</td><td>Jan</td><td>Feb</td><td>Mar</td><td>Apr</td><td>May</td><td>Jun</td><td>Jul</td><td>Aug</td><td>Sep</td><td>Oct</td><td>Nov</td><td>Dec</td><td>Annual Ave</td></tr><tr><td>Mean of Monthly River Flows at Gage</td><td>147.5</td><td>141.7</td><td>262.8</td><td>364.2</td><td>177.3</td><td>114.9</td><td>63.6</td><td>54.3</td><td>66.4</td><td>101.4</td><td>129.8</td><td>154.4</td><td>148.2</td></tr><tr><td>Mean of Monthly River Flows at Project</td><td>97.4</td><td>93.5</td><td>173.5</td><td>240.4</td><td>117.0</td><td>75.9</td><td>42.0</td><td>35.8</td><td>43.8</td><td>67.0</td><td>85.7</td><td>101.9</td><td>97.8</td></tr></table>	USGS 01162000 MILLERS RIVER NEAR WINCHENDON, MA														Worcester County, Massachusetts														Hydrologic Unit Code 01080202														Latitude 42°41'03", Longitude 72°05'02" NAD27														Drainage area 81.8 square miles														Contributing drainage area 81.8 square miles														Gage datum 826.66 feet above NGVD29														00060, Discharge, cubic feet per second,														Monthly mean in ft3/s (Calculation Period: 1916-07-01 -> 2019-12-31)														Calculation period restricted by USGS staff due to special conditions at/near site														YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Ave	Mean of Monthly River Flows at Gage	147.5	141.7	262.8	364.2	177.3	114.9	63.6	54.3	66.4	101.4	129.8	154.4	148.2	Mean of Monthly River Flows at Project	97.4	93.5	173.5	240.4	117.0	75.9	42.0	35.8	43.8	67.0	85.7	101.9	97.8
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<i>Item</i>	<i>Information Requested</i>	<i>Response (include references to further details)</i>
	Location and name of closest stream gaging stations above and below the facility	Downstream gage is USGS 01162000 MILLERS RIVER NEAR WINCHENDON, MA with LOCATION--Lat 42°41'03", long 72°05'02", Worcester County, Hydrologic Unit 01080202, on right bank 10 ft downstream from Nolan Bridge, 0.3 mi downstream from Tarbell Brook, 2 mi west of Winchendon, and at mile 32.8. DRAINAGE AREA--81.8 mi ² . This gage approximately 3 miles downstream of the project. There is no upstream gage.
	Watershed area at the dam (in square miles). Identify if this value is prorated from gage locations and provide the basis for proration calculation.	Watershed area at the Dam is 54 Square miles. The river flow available at this facility is approximated by taking the ratio of drainage areas for the facility to the Winchendon Gage as follows: Facility (54 square miles (SM)) divided by Winchendon Gage (81.8 SM) or approximately 66% of flows recorded by the Winchendon Gage.
	Other facility specific hydrologic information	https://www.mass.gov/files/documents/2017/01/to/34wqar07.pdf?_ga=2.70036688.112899140.1587573416-1030547751.1528478852
<i>Designated Zones of Effect</i>	Number of zones of effect	Two (2) ZoE #1 Impoundment ZoE # 2 Tailrace
	Type of waterbody (river, impoundment, bypassed reach, etc.)	River
	Upstream and downstream locations by river miles	Dam- RM 35.6 Upstream limit of Head Pond - 36

<i>Item</i>	<i>Information Requested</i>	<i>Response (include references to further details)</i>
	Delimiting structures or features	Headpond/Impoundment Dam Intake Powerhouse
<i>Pre-Operational Facilities Only</i>		
<i>Expected operational date</i>	Date generation is expected to begin	NA
<i>Dam, diversion structure or conduit modification</i>	Description of modifications made to a pre-existing conduit, dam or diversion structure needed to accommodate facility generation. This includes installation of flashboards or raising the flashboard height. Date the modification is expected to be completed	NA
<i>Change in water flow regime</i>	Description of any change in impoundment levels, water flows or operations required for new generation	NA

3.0 Table B-1.2.a Standards Matrix for Hunts Pond Dam Project (LIHI #125)

Facility Name: Hunts Pond Dam		Zone of Effect: #1 Impoundment				
		Alternative Standards Applied				
	Criterion	1	2	3	4	5 Plus
A	Ecological Flow Regimes	<u>X</u>				
B	Water Quality	<u>X</u>				
C	Upstream Fish Passage	<u>X</u>				
D	Downstream Fish Passage		<u>X</u>			
E	Watershed and Shoreline Protection	<u>X</u>				
F	Threatened and Endangered Species	<u>X</u>				
G	Cultural and Historic Resources Protection	<u>X</u>				
H	Recreational Resources	<u>X</u>				

Facility Name: Hunts Pond Dam				Zone of Effect: #2 Tailrace		
		Alternative Standards Applied				
	Criterion	1	2	3	4	5 Plus
A	Ecological Flow Regimes	<u>X</u>				
B	Water Quality	<u>X</u>				
C	Upstream Fish Passage		<u>X</u>			
D	Downstream Fish Passage	<u>X</u>				
E	Watershed and Shoreline Protection	<u>X</u>				
F	Threatened and Endangered Species	<u>X</u>				
G	Cultural and Historic Resources Protection	<u>X</u>				
H	Recreational Resources	<u>X</u>				

4.0 Criterion Discussion for Each ZoE

Notice to relevant agencies sent by email dated 10/27/2020 requesting comments regarding this Project and the relative goals of the LIHI seven (7) Criterion:

Criterion A	Ecological Flow Standards
Criterion B	Water Quality Standards
Criterion C	Upstream Fish Passage Standards
Criterion D	Downstream Fish Passage Standards
Criterion E	Shoreline and Watershed Protection Standards
Criterion F	Threatened and Endangered Species Standards
Criterion G	Cultural and Historic Resources Standards
Criterion H	Recreational Resources Standards

Summary of Agency Response:

1. US Fish and Wildlife Service – comments received and included herein.
2. Massachusetts Division of Fisheries and Wildlife - comments received and included herein.
3. Massachusetts Department of Environmental Protection - comments received and included herein.
4. National Marine Fisheries Services – No Response on Original Application – did not ask for comments this renewal.
5. Army Corps of Engineers Services – No Response on Original Application – did not ask for comments this renewal.
6. FERC Services – No Response on Original Application – the project did ask FERC Project Representative if FERC provides comment on the LIHI Application Process. Representative responded on 12/30/2020, “I do not know of any instance that FERC provides comment for this type of thing.”
7. Massachusetts Historical Commission Services – No Response on Original Application – did not ask for comments this renewal.
8. Winchendon Historical Society - LIHI requested that the project contact the local historic agency due to the fact that the Massachusetts Historical Commission does not respond to the LIHI Application Process. The project requested comment from the Winchendon Historical Society but no response was received.

Zone of Effect (ZOE) #1 Impoundment

Criterion A Ecological Flow Regimes

Goal: To meet Standard A-1. The facility operates in a true run-of-river operational mode and there are no bypassed reaches or water diversions associated with the facility.

No change from Original Certification

The Project is operated in “run of river” mode. Detailed information is provided in separate CEII filing document – Stream Flow Compliance Plan (SFCP).

2020 & 2013 Agency Review/Response:

Appendix II: USF&W E-mail dated 12/9/200 & 3/28/2013

Appendix IV: MADF&W E-mail dated 10/29/2020 & 4/23/2013

Appendix III: MADEP Letter dated 11/20/2020 & 4/26/2013

Criterion B Water Quality

Goal: To meet Standard B-1. The facility does not alter the physical, chemical, or biotic water characteristics necessary to support fish and wildlife resources or human water uses.

No change from Original Certification

2020 & 2013 Agency Review/Response:

Appendix III: MADEP Letter dated 11/20/2020 & 4/26/2013

Appendix II: USF&W E-mail dated 12/9/2020 & 3/28/2013

Criterion C Upstream Fish Passage

Goal: To meet Standard C-1. The facility is in compliance with resource agencies requirements for fish passage.

No change from Original Certification

In accordance with definition provided by LIHI once above the dam and in the impoundment there is no further project-related impediment to continued upstream migration.

Migratory fish species – refer to prior application and emails from Melissa Grader and Caleb Slater in the appendix that indicates only American eel are present in the river but well downstream due to barriers between this project and where eels are located. Other migratory species could have formerly been present including Atlantic salmon, American shad, blueback herring and sea lamprey based on current fish counts at Turners Falls (https://www.fws.gov/r5csrc/pdf/fish-counts/CT-River-Fishway-Count-Rpt-12_30_19.pdf), but again there are numerous downstream barriers that prevent all migratory species from reaching Hunts Pond.

Resident fish species - There are 2 distinct Catch and Release segments of the Millers River have limited cold water characteristics during the spring and fall as noted by LIHI reviewers. These areas are some distance downstream of the Project site and are part of a fish stocking program for Rainbow Trout. Resident fish in these areas include Brown, Rainbow and Brook Trout along with Smallmouth Bass, Rock Bass, Bluegill, Pumpkinseeds, Redbreast Sunfish, Fallfish, and Common Shiner. For more information on these 2 distinct areas check

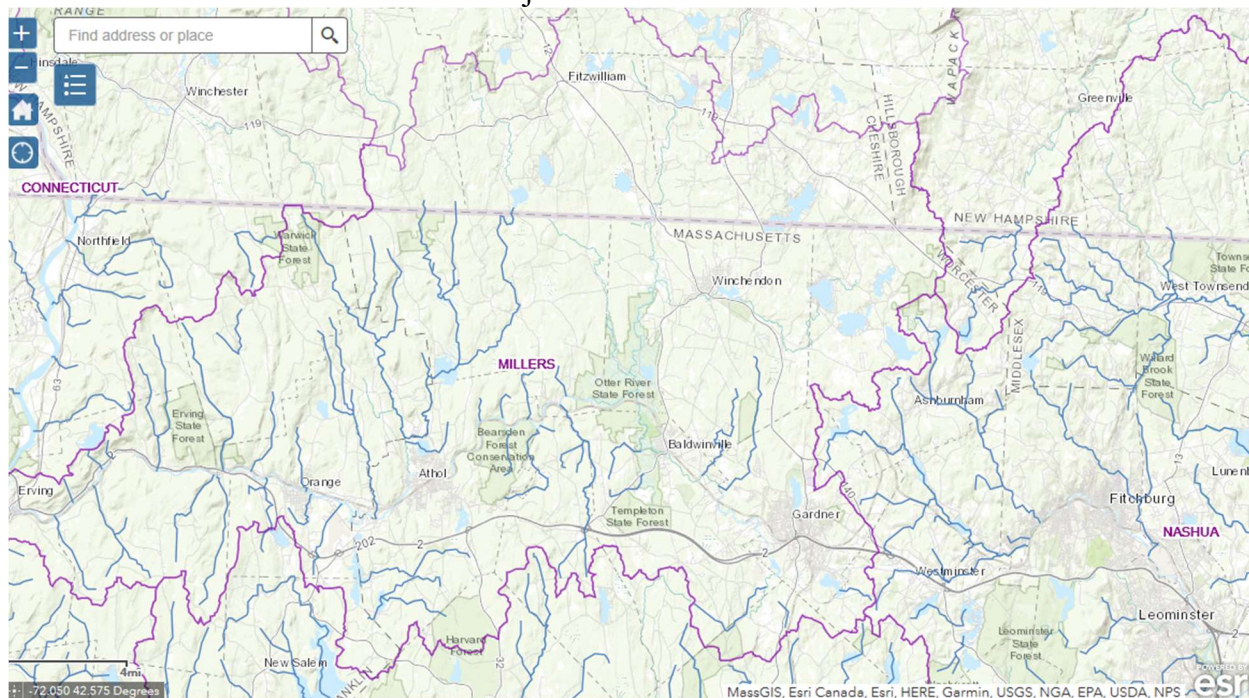
https://www.mass.gov/doc/millers-river-catch-and-release-lower-section/download?_ga=2.202202580.477608418.1542119057-211889673.1524659564.

As requested during the LIHI intake review of the draft application: “For resident fish, it is best to ask Caleb Slater for details and mention that the river is a cold water fishery (per Melissa Grader’s 2013 letter). The reference letter from Melissa was an email comment as follows: “Water Quality We are aware of no data documenting that Class B Cold Water Fishery (BCWF) water quality standards are being maintained (or violated) within the project area.”

Caleb Slater’s Response is as follows: “The Millers River WAS listed as a Coldwater Fishery Resource (CFR) because of the presence of stocked Atlantic Salmon. Atlantic Salmon are no longer stocked in the Millers River and it is no longer listed as a CFR- However MANY tributaries are listed. <https://www.mass.gov/info-details/coldwater-fish-resources>.” As can be seen on the interactive link the Millers River Main stem is no longer listed as a CFR.

Furthermore there are no CFR Tributaries to the Millers River either upstream or downstream in the Town of Winchendon and that includes the Project Location.

Below is a screen shot of the Millers River Cold Water Resources Map from the MA web site, note the blue water lines are tributary only to the Millers River and all those tributaries are downstream of Winchendon and the Project Site:



2020 & 2013 Agency Review/Response:

Appendix II: USF&W Email dated 12/9/2020 & 3/28/2013

Appendix IV: MADF&W Email dated 10/29/2020 & 4/23/2013

Criterion D Downstream Fish Passage

Goal: To meet Standard D-2. The facility is in compliance with resource agencies requirements for fish passage.

No change from Original Certification

There is fish passage development as required by the relevant fish agencies at some of the downstream dams. However as stated by the USF&W documentation in Appendix II USF&W email dated 3/28/2013 fish passage is not currently warranted at this time for this Facility.

2020 & 2013 Agency Review/Response:

Appendix II: USF&W Email dated 12/9/2020 & 3/28/2013

Appendix IV: MADF&W Email dated 10/29/2020 & 4/23/2013

Criterion E Shoreline and Watershed Protection

Goal: To meet Standard E-1. There are no lands associated with the facility under the direct or indirect ownership or control of the facility owner that have been identified as having significant ecological value for protecting water quality, aesthetics, or low-impact recreation, and the facility is not subject to any Shoreline Management Plan (SMP) or similar protection plan

No change from Original Certification

The project has a very small footprint, it is in an urbanized area and there are no critical habitats for the only threatened and endangered species that might be present. The USFWS previously stated, "The Service, to date, has not required a Shoreland Management Plan pursuant to our authority under section 30(c) of the Federal Power act."

2020 & 2013 Agency Review/Response:

Appendix II: USF&W E-mail dated 3/28/2013

Criterion F Threatened and Endangered Species

Goal: To meet Standard F-1.

No change from Original Certification

An IPaC Report was generated for the Project from the USFWS has been included in Appendix F-1. Only the northern long eared bat has been identified as potentially being in the Project Area. The Project has no effect on the potential bat species from facility operations.

A NHESP Priority Habitats Maps was generated for the Project using OLIVER: MassGIS Online Mapping Tool and is included in Appendix F-2. There are no state-listed priority habitats for sensitive species in the Project Area.

2020 & 2013 Agency Review/Response:

Appendix IV: MADF&W Letter dated 10/29/2020 & 4/26/2013

Appendix II: USF&W E-mail dated 12/9/2020 & 3/28/2013

Criterion G Cultural and Historic Resources

Goal: To meet Standard G-1.

No change from Original Certification

Please note that Appendix F of the original LIHI application documents the Projects' attempts to get input from the MA SHPO, to no avail and that the project area is not listed on the National Register of Historic Places. However, the adjacent parcel, Mason and Parker Manufacturing Company, as a whole (28 Front St) which includes the project area is listed in Massachusetts "Inventory of Historic Assets" but the powerhouse and new intake structure were built at the time of FERC exemption at the existing dam. The dam is not included in the state inventory. <https://mhc-macris.net/Details.aspx?MhclId=WIN.3>

Criterion H Recreational Resources

Goal: To meet Standard H-1.

No change from Original Certification

The Project does not own any accessible lands, the footprint is really small at the powerhouse, approximately 2,260 square feet, and for public safety reasons access is not allowed to the project infrastructure. We are not aware of any other public access points.

Zone of Effect (ZOE) #2 Tailrace

Criterion A Ecological Flow Regimes – Response same as ZOE#1

Criterion B Water Quality – Response same as ZOE#1

Criterion C Upstream Fish Passage

Goal: To meet Standard C-2. The facility is in compliance with resource agencies requirements for fish passage.

No change from Original Certification

There is fish passage development as required by the relevant fish agencies at some of the downstream dams. However as stated by the USF&W documentation in Appendix II USF&W email dated 3/28/2013 fish passage is not currently warranted at this time for this Facility.

Criterion D Downstream Fish Passage

Goal: To meet Standard D-1.

No change from Original Certification

In accordance with definition provided by LIHI once below the dam and in the river stream there is no further project-related impediment to continued downstream migration.

Criterion E Shoreline and Watershed Protection– Response same as ZOE#1

Goal: To meet Standard E-1.

Criterion F Threatened and Endangered Species– Response same as ZOE#1

Goal: To meet Standard F-1.

Criterion G Cultural and Historic Resources– Response same as ZOE#1

Goal: To meet Standard G-1.

Criterion H Recreational Resources– Response same as ZOE#1

Goal: To meet Standard H-1.

5.0 Summary Statement of Planned or Unplanned Deviations or Violations

The Project is in compliance with all conditions of its FERC Exemption and previous LIHI Certification.

There are no planned or unplanned deviations from, or violations of the FERC Exemption, or other permit or authorization over the past five (5) years.

6.0 Sworn Statement

All applications for LIHI Certification must include the following sworn statement before they can be reviewed by LIHI:

SWORN STATEMENT

As an Authorized Representative of Winchendon Hydroelectric 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.

FOR PRE-OPERATIONAL CERTIFICATIONS:

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: Winchendon Hydroelectric LLC

Authorized Representative:

Name: Joanne M. Beauregard

Title: Treasurer, O'Connell Development Group Inc., Its Manager

Authorized Signature: Joanne M. Beauregard, Treas.

Date: 1/12/2021

7.0 Facility Contacts Form

A. Applicant-related contacts

Facility Owner:	
Name and Title	Joanne M. Beauregard, Treasurer, O'Connell Development Group Inc., Its Manager
Company	Winchendon Hydroelectric LLC
Phone	413-540-1317
Email Address	jbeauregard@oconnells.com
Mailing Address	800 Kelly Way, Holyoke, MA 01040
Facility Operator (if different from Owner):	
Name and Title	Stephen Fisk, Project Manager
Company	O'Connell Development Group Inc.
Phone	413-540-1454
Email Address	sfisk@oconnells.com
Mailing Address	800 Kelly Way, Holyoke, MA 01040
Consulting Firm / Agent for LIHI Program (if different from above):	
Name and Title	Not Applicable
Company	
Phone	
Email Address	
Mailing Address	
Compliance Contact (responsible for LIHI Program requirements):	
Name and Title	Stephen Fisk, Project Manager
Company	O'Connell Development Group Inc.
Phone	413-540-1454
Email Address	sfisk@oconnells.com
Mailing Address	800 Kelly Way, Holyoke, MA 01040
Party responsible for accounts payable:	
Name and Title	Gary Popovich, Assistant Controller
Company	Winchendon Hydroelectric LLC
Phone	413-540-2705
Email Address	gpopovich@oconnells.com
Mailing Address	800 Kelly Way, Holyoke, MA 01040

B. Current and relevant state, federal, and tribal resource agency contacts with knowledge of the facility (copy and repeat the following table as needed).

<i>Agency Contact</i>		<i>Area of Responsibility</i>
Agency Name	US Fish and Wildlife Service, NE Field Office	<u>X Flows</u> <u>X Water Quality</u> <u>X Fish/Wildlife</u> <u>X Watershed</u> <u>X T&E Species</u>
Name and Title	Melissa Grader, Fish and Wildlife Biologist	
Phone	(413) 548-9138	
Email address	Melissa_Grader@fws.gov	
Mailing Address	Migratory Fish/Hydropower Program 103 East Plumtree Road, Sunderland, MA 01375	

<i>Agency Contact</i>		<i>Area of Responsibility</i>
Agency Name	Massachusetts Division of Fisheries and Wildlife	<u>X Flows</u> <u>X Water Quality</u> <u>X Fish/Wildlife</u> <u>X Watershed</u> <u>X T&E Species</u>
Name and Title	Caleb Slater, PhD Hatchery Supervisor	
Phone	(508) 389-6331	
Email address	caleb.slater@state.ma.us	
Mailing Address	Massachusetts Division of Fisheries and Wildlife 1 Rabbit Hill Road Westborough, MA 01581	

<i>Agency Contact</i>		<i>Area of Responsibility</i>
Agency Name	Massachusetts Department of Environmental Protection	<u>X Flows</u> <u>X Water Quality</u> <u>X Fish/Wildlife</u> <u>X Watershed</u> <u>X T&E Species</u>
Name and Title	Robert D. Kubit, P.E.(retired after providing comments 2020) Derek Standish for future contacts	
Phone	(508) 767-2854	
Email address	robert.kubit@state.ma.us derek.standish@state.ma.us	
Mailing Address	MA Department of Environmental Protection Wetlands and Waterways Program 8 New Bond Street Worcester MA 01606	

<i>Agency Contact</i>		<i>Area of Responsibility</i>
Agency Name	Winchendon Historical Society	<u>X</u> Cultural/Historic
Name and Title	Via email	
Phone	978-297-2142 978-833-3025	
Email address	info@winchendonhistory.com	
Mailing Address	Sent via web page 2020-10-26	

C. Current stakeholder contacts that are actively engaged with the facility (copy and repeat the following table as needed).

<i>Stakeholder Contact</i>		<i>Area of Responsibility</i>
Organization Name	None	<input type="checkbox"/> Flows <input type="checkbox"/> Water Quality <input type="checkbox"/> Fish/Wildlife <input type="checkbox"/> Watershed <input type="checkbox"/> T&E Species <input type="checkbox"/> Cultural/Historic <input type="checkbox"/> Recreation
Name and Title		
Phone		
Email address		
Mailing Address		

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Company Name: Winchendon Hydroelectric LLC

Authorized Representative:

Name: Joanne M. Beauregard

Title: Treasurer, O'Connell Development Group Inc., Its Manager

Authorized Signature: Joanne M. Beauregard, Treas.

Date: 1/12/2021

Supporting Documentation

Appendix I. Index to 2020 and 2013 Comment Letters

<u>LIHI Agency Contact Documentation</u>				
			Document Date	
			Original	Current
<u>Appendix A</u>	<u>Ecological Flows</u>			
	Comment Letter	MDEP	4/26/2013	11/20/2020
	Comment Letter	MDFW	4/23/2013	10/29/2020
	Comment Letter	USFWS	3/28/2013	12/9/2020
<u>Appendix B</u>	<u>Water Quality</u>			
	Comment Letter	MDEP	4/26/2013	11/20/2020
	Comment Letter	USFWS	3/28/2013	12/9/2020
<u>Appendix C</u>	<u>Upstream Fish Passage</u>			
	Comment Letter	MDFW	4/23/2013	10/29/2020
	Comment Letter	USFWS	3/28/2013	12/9/2020
<u>Appendix D</u>	<u>Downstream Fish Passage</u>			
	Comment Letter	MDFW	4/23/2013	
	Comment Letter	USFWS	3/28/2013	12/9/2020
<u>Appendix E</u>	<u>Shoreline and Watershed Protection</u>			
	Comment Letter	USFWS	3/28/2013	12/9/2020
<u>Appendix F</u>	<u>Threatened and Endangered Species</u>			
	Comment Letter	MDFW via overnight mail	4/26/2013	10/29/2020
	Comment Letter	USFWS	3/28/2013	12/9/2020
	Online Download	IPaC Resource List USFWS		2020
	Online Download	NHESP MassGIS Map		2020
<u>Appendix G</u>	<u>Cultural and Historic Resources</u>			
<u>Appendix H</u>	<u>Recreational Resources</u>			

Fisk, Steve

From: Grader, Melissa <melissa_grader@fws.gov>
Sent: Wednesday, December 9, 2020 9:24 AM
To: Fisk, Steve
Cc: Mattocks, Steven (FWE); 'Caleb Slater'; 'derek.standish@state.ma.us'
Subject: Re: [EXTERNAL] FW: Hunts Pond Dam LHI Recertification Application For Comment

Great - thank you for your quick response Steve!

Melissa Grader
Fish and Wildlife Biologist
Migratory Fish/Hydropower Program
103 East Plumtree Road, Sunderland, MA 01375
p: (413) 548-8002 ext 8124 |
[fws.gov/newengland/FERC/](https://www.fws.gov/newengland/FERC/) | [facebook.com/usfwsnortheast/](https://www.facebook.com/usfwsnortheast/)

From: Fisk, Steve <SFisk@oconnells.com>
Sent: Wednesday, December 9, 2020 9:17 AM
To: Grader, Melissa <melissa_grader@fws.gov>
Cc: Mattocks, Steven (FWE) <steven.mattocks@state.ma.us>; 'Caleb Slater' <caleb.slater@state.ma.us>; 'derek.standish@state.ma.us' <derek.standish@state.ma.us>
Subject: RE: [EXTERNAL] FW: Hunts Pond Dam LHI Recertification Application For Comment

Hello Melissa,

Sorry, I sent the previous email without the Commitment Letter. Copy attached. I think this answers all your questions/comments. Thanks,

Steve

Stephen J. Fisk
General Manager

O'Connell Energy Group
800 Kelly Way
Holyoke, MA 01040

O'CONNELL
— ENERGY GROUP —

Office: 413.540.1454
Mobile: 413.537.9029
Email: sfisk@oconnells.com

From: Fisk, Steve
Sent: Wednesday, December 9, 2020 9:14 AM

To: 'Grader, Melissa' <melissa_grader@fws.gov>
Cc: Mattocks, Steven (FWE) <steven.mattocks@state.ma.us>; Caleb Slater <caleb.slater@state.ma.us>; derek.standish@state.ma.us
Subject: RE: [EXTERNAL] FW: Hunts Pond Dam LIH Recertification Application For Comment

Hello Melissa,

Thank you for the comments. I have provided responses (in red) to your comments in your email below.

Stephen J. Fisk
General Manager

O'Connell Energy Group
800 Kelly Way
Holyoke, MA 01040

O'CONNELL
— ENERGY GROUP —

Office: 413.540.1454
Mobile: 413.537.9029
Email: sfisk@oconnells.com

From: Grader, Melissa [mailto:melissa_grader@fws.gov]
Sent: Tuesday, December 8, 2020 5:54 PM
To: Fisk, Steve <SFisk@oconnells.com>
Cc: Mattocks, Steven (FWE) <steven.mattocks@state.ma.us>; Caleb Slater <caleb.slater@state.ma.us>; derek.standish@state.ma.us
Subject: Re: [EXTERNAL] FW: Hunts Pond Dam LIH Recertification Application For Comment

Hi Steve,

I have reviewed your LIH recertification application for the Hunts Pond Project and offer the following comments:

General

- In the table on Page 14 of the application, we recommend removing the word "each" from the sentence "1 each horizontal double regulated Kaplan with 100 kW generator," as it implies there is more than one turbine. **Noted and will be corrected.**
- The Service was consulted on the Stream Flow Compliance Plan required pursuant to the FERC exemption amendment, but do not have a copy of the final plan. Please provide us with a copy of the plan filed with FERC and LIH. **We submitted a final copy to USF&W 1/6/2016 which was acknowledged in an email on 4/18/2016 as follows: "We have reviewed the revised Stream Flow Compliance Plan and find that it addresses all of the issues raised in our December 30, 2015 email. Therefore, the Service has no objection to you filing the plan with FERC." I attach a copy of the email and the Stream Flow Compliance Plan for your records.**

ZOE #1 Impoundment

Criterion D - Downstream Fish Passage

The Service's position with respect to downstream fish passage has not changed since 2013 (i.e., not currently warranted at this time for the Hunts Pond facility). The 2015 LIHI certification required the Winchendon Hydroelectric to provide a letter to LIHI within 30 days of receiving LIHI certification, committing to upstream and downstream passage protections for American Eel if and when such fish passage mitigation is determined to be necessary by the Massachusetts Division of Fisheries and Wildlife and/or the Service.

Please provide proof that the required letter of commitment was submitted to LIHI within the timeline specified. **As noted on page 3 of the application in the section titled section 1 Introduction, LIHI Certification History is taken directly from the LIHI web page for this project and indicates "Condition Satisfied 2016...", this Attached is a copy of the commitment letter.**

Criterion F - Threatened and Endangered Species

The application identifies that the federally threatened northern long-eared bat (NLEB) potentially occurs in the Project Area. You state that the Project has no effect on NLEB from facility operations. While hydropower generation may not affect NLEB or its habitat, routine maintenance activities involving tree removal could alter NLEB roosting habitat. Therefore, we recommend Winchendon Hydroelectric commit to avoiding tree removal activities between April 1 and October 31 unless they are an immediate threat to human life or property. **There are no trees on the project property.**

ZOE #2 Tailrace

Criterion C - Upstream Fish Passage

Similar to our comments under ZOE #1 - Downstream Fish Passage, please provide proof that the required letter of commitment was submitted to LIHI within the timeline specified. **See response in ZOE#1.**

Criterion F - Threatened and Endangered Species

Please refer to our comments under ZOE #1, Criterion F, above. **See response in ZOE#1.**

Section 7.0 - Facility Contacts Form

1. Please remove Thomas Chapman (retiring at the end of this month) and John Warner (retired 3 years ago) as agency contacts for the U.S. FWS. (Page 31 of 50) **Noted and will be corrected.**
2. For MA DEP, please replace Robert Kubit with Derek Standish. Bob retired last month and Derek will be assuming his responsibilities. **Noted and will be corrected. Please note that Mr. Kubit did respond prior to retiring.**

Thank you for providing the opportunity to comment on your LIHI recertification application.

Regards,

Melissa Grader
Fish and Wildlife Biologist
Migratory Fish/Hydropower Program
103 East Plumbtree Road, Sunderland, MA 01375
p: (413) 548-8002 ext 8124 |
[fws.gov/newengland/FERC/](https://www.fws.gov/newengland/FERC/) | [facebook.com/usfwsnortheast/](https://www.facebook.com/usfwsnortheast/)

From: Grader, Melissa <melissa_grader@fws.gov>
Sent: Thursday, March 28, 2013 1:35 PM
To: Fisk, Steve
Cc: William P. Short (w.shortiii@verizon.net); Berry, Steve; Caleb Slater; Robert Kubit
Subject: Re: Winchendon Hydroelectric Improvements LIHI

Hi Steve,

I've had a chance to go through the Hunts Pond Project file and can offer the following comments regarding the LIHI consultation criteria you have requested our input on:

Project Details

Project features include an existing 16-foot-high dam comprised of a concrete weir topped with stoplogs, a slide gate leading to a powerhouse containing two turbines with an installed capacity of 120 kW (operating at flows from 8 cfs up to 172 cfs), and a 13 acre headpond. The project operates in a true run-of-river mode. There is a short 50-foot bypass reach with no flow requirement.

Project History

The project was issued an exemption on 2/19/85. By letter dated August 24, 1984, the U.S. Fish and Wildlife Service issued seven mandatory terms and conditions (T&Cs) for the proposed project. On February 4, 1985 the Department of the Interior added an eighth condition. Service conditions include: providing fish passage when prescribed by the Service and/or the Massachusetts Division of Fisheries and Wildlife; providing an instantaneous minimum discharge below the project of at least 25 cfs, or inflow, whichever is less; and requiring the Exemptee to submit a compliance monitoring plan to the Service within six months from the date of issuance of an exemption.

In 1991 the exemption was amended to increase capacity to 320 kW, however that upgrade never took place. In August of 1996 Behrens Energy Systems, Inc. sold the project to O'Connell Engineering & Financial Inc. (O'Connell). Upon acquiring the project, O'Connell automated the control system, including remote control capabilities. On March 12, 2013 O'Connell notified the FWS of its intent to undergo turbine replacement and dam maintenance/repair activities at the project. O'Connell proposes to replace the two crossflow turbines with one double regulated Kaplan unit. The new turbine/generator would have a nameplate rating of 100 kW and operate at flows from 10 cfs to 110 cfs. The Service is in the process of responding to this request.

A review of the project file and recent submittals on FERC Online indicates that there have been no documented compliance issues with the project (other than the below-noted flow monitoring plan).

LIHI Consultation Criteria

1. Endangered Species

There are no federally listed endangered species within the project area.

2. Exemption terms and conditions

Bypass flow

The project has a short 50-foot-long bypass reach. Due to the short length of the reach and backwatering from the tailrace, no dedicated flow is required to be spilled over the dam.

Impoundment Fluctuations

According to O'Connell, the project operates run-of-river, which means the headpond is not drawn down for the purposes of generation. The normal water surface elevation is at the top of the stoplogs. This mode of operation should minimize impoundment fluctuations.

Flow Monitoring Plan

The terms and conditions submitted by the FWS for the project (per letter of 2/4/1985) required the Exemptee to present a Flow Monitoring Plan to the Service for approval within six months from issuance of an exemption. Based on our file review as part of the LIHI consultation process for the Hunts Pond Project, we find no documentation that this flow plan was ever developed or approved by our office.

Fish Passage

The FWS terms and conditions require that the Exemptee provide fish passage facilities when prescribed by the FWS and/or MA DFW. To date, neither agency has triggered this fish passage requirement through the FERC process. As O'Connell is well aware, efforts are underway to implement passage for American eels at the first project on the river (O'Connell's New Home Project). However, we do not expect to trigger eel passage at the Hunts Pond Project (which is well upstream of New Home with a number of dams in between) within the term of any initial LIHI certification.

Water Quality

We are aware of no data documenting that Class B Cold Water Fishery (BCWF) water quality standards are being maintained (or violated) within the project area.

Shoreland Management Plan

The Service, to date, has not required a Shoreland Management Plan pursuant to our statutory authority under Section 30(c) of the Federal Power Act.

Comments

Based on our review of the project file, it appears that the only outstanding issue regarding terms and conditions prescribed by this office for the project relate to developing a flow monitoring plan. Our files indicate that this requirement has not yet been fulfilled. Therefore, the Service recommends that LIHI certification only be granted if it contains a condition requiring the Exemptee to fulfill this obligation. O'Connell should provide a draft Operations and Flow Monitoring Plan for Service review and approval within three months of receiving LIHI certification.

We hope these comments have been responsive to your requests regarding Low Impact Hydropower Certification criteria. If you have any questions or require additional information please feel free to contact me.

Regards,
Melissa

On Wed, Mar 20, 2013 at 9:16 AM, Steve <SFISK@oconnells.com> wrote:

Hello Melissa,

Attached are letters requesting comments for LIHI Application Appendices, A Minimum Flows; C Fish Passage; D Watershed Protection; and E Endangered Species. Please call me if you should have any question regarding the attached information.

Fisk, Steve

From: Kubit, Robert (DEP) <robert.kubit@state.ma.us>
Sent: Friday, November 20, 2020 3:34 PM
To: Slater, Caleb (FWE); Fisk, Steve
Cc: Mancino, Mark; Melissa Grader; Mattocks, Steven (FWE)
Subject: [EXTERNAL] Re: Hunts Pond Dam LHI Recertification Application For Comment

Mr. Fisk,

The MA Department of Environmental Protection concurs with the recommendation from the MA Division of Fisheries and Wildlife.

Thank you.

Robert Kubit, P.E.
MA Department of Environmental Protection
Wetlands and Waterways Program
8 New Bond Street
Worcester MA 01606
robert.kubit@mass.gov
508-767-2854

From: Slater, Caleb (FWE)
Sent: Thursday, October 29, 2020 11:11 AM
To: Fisk, Steve
Cc: Mancino, Mark; Melissa Grader; Kubit, Robert (DEP); Mattocks, Steven (FWE)
Subject: Re: Hunts Pond Dam LHI Recertification Application For Comment

Steve,

I have no new requirements for the project

Caleb Slater, PhD
Hatchery Supervisor
Massachusetts Division of Fisheries and Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6331 | c: (508)245-8846
e: caleb.slater@mass.gov
mass.gov/masswildlife | facebook.com/masswildlife



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Central Regional Office • 627 Main Street, Worcester MA 01608 • 508-792-7850

CHARLIE L. PATRICK
Governor

THEODORE F. MURPHY
Lieutenant Governor

RICHARD K. SULLIVAN, JR.
Secretary

KENNETH L. KIMMEL
Commissioner

Stephen A. Fisk, General Manager
O'Connell Energy Group
57 Suffolk Street, Suite 200
Holyoke MA 01040

April 26, 2013

Re: Application of Hunts Pond Project (FERC # P-8012) for Certification by the Low Impact Hydropower
Institute 35-01

Dear Mr. Fisk,

In response to your request that the MA Department of Environmental Protection (the Department)
provide you with a letter confirming that:

If there is no flow condition recommended by any Resource Agency for the Facility, or if
the recommendation was issued prior to January 1, 1987, the Facility is in Compliance
with a flow release schedule, both below the tailrace and in all bypassed reaches, that at
a minimum meets Aquatic Base Flow standards or "good" habitat flow standards
calculated using the Montana-Tennant method.

The Hunts Pond exemption was issued in 1985 with no associated water quality certificate.
Instantaneous run of river flow is an exemption condition, however, the Department has never required
nor ever received flow records from the facility to verify that this condition has been met. As noted in
the Millers River Watershed 2000 Water Quality Assessment Report, pulsing flows have been recorded
at the USGS gauge for this river segment. Possible causes include reservoir operations at Lake
Monomonic and Whitney Pond or operations at Hunts Pond and Tannery Pond hydroelectric facilities.
We recommend that to ensure run-of-river operations, all dam operators install, calibrate and maintain
a continuous streamflow monitoring gauge or determine some other method to ensure compliance with
run-of-river operations.

Note the Department relies on our sister agency, the MA Division of Fish & Wildlife, to determine
adequate minimum flows from hydroelectric facilities.

This information is available in alternate format. Call Michelle Waters-Ekanens, Diversity Director, at 617-293-5751. TDD 1-800-635-7822 or 1-617-674-8858
MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

The Department has reviewed available information regarding water quality in the river segment where this facility is located and believes this facility does not cause nor contribute to water quality violations.

Please let me know if any additional information is needed. My phone number is 508-767-2854.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Kubit', written in a cursive style.

Robert Kubit, P.E.

Appendix IV. MADFW 2020 & 2013 Comment Letter

Fisk, Steve

From: Slater, Caleb (FWE) <caleb.slater@state.ma.us>
Sent: Thursday, October 29, 2020 11:12 AM
To: Fisk, Steve
Cc: Mancino, Mark; Melissa Grader; Kubit, Robert (DEP); Mattocks, Steven (FWE)
Subject: [EXTERNAL] Re: Hunts Pond Dam LHI Recertification Application For Comment

Steve,

I have no new requirements for the project

Caleb Slater, PhD
Hatchery Supervisor
Massachusetts Division of Fisheries and Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6331 | c: (508)245-8846
e: caleb.slater@mass.gov
mass.gov/masswildlife | facebook.com/masswildlife

From: Fisk, Steve <SFisk@oconnells.com>
Sent: Thursday, October 29, 2020 10:58 AM
To: Slater, Caleb (FWE)
Cc: Mancino, Mark; Melissa Grader; Kubit, Robert (DEP); Mattocks, Steven (FWE)
Subject: RE: Hunts Pond Dam LHI Recertification Application For Comment

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.

Hello Caleb,

Thank you very much for the quick response.

Also, I wanted to point out that I included the comment emails and letters from the 2015 LIHI Certification in the appendix of the LIHI recertification application that I sent in the previous email. If you can review that and let me know if there are any changes to the requirements noted in that letter that would be helpful.

Thanks again,

Steve

Stephen J. Fisk
General Manager

O'CONNELL
—ENERGY GROUP—

From: Slater, Caleb (FWE) [mailto:caleb.slater@state.ma.us]
Sent: Thursday, October 29, 2020 10:40 AM
To: Fisk, Steve <SFisk@oconnells.com>; Melissa Grader <melissa_grader@fws.gov>; Kubit, Robert (DEP) <robert.kubit@state.ma.us>; Mattocks, Steven (FWE) <steven.mattocks@state.ma.us>
Cc: Mancino, Mark <mmancino@oconnells.com>
Subject: [EXTERNAL] Re: Hunts Pond Dam LIHI Recertification Application For Comment

Steve,

The Millers River WAS listed as a Coldwater Fishery Resource because of the presence of stocked Atlantic Salmon. Atlantic Salmon are no longer stocked in the Millers River and it is no longer listed as a CFR- However MANY tributaries are listed. <<https://www.mass.gov/info-details/coldwater-fish-resources>>
We are working on passage for American Eel in the basin, but being the 7th dam from the CT River it may be a while before we get to this dam.

Caleb

Caleb Slater, PhD
Hatchery Supervisor
Massachusetts Division of Fisheries and Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6331 | c: (508) 245-8846
e: caleb.slater@mass.gov
mass.gov/masswildlife | facebook.com/masswildlife

From: Fisk, Steve <SFisk@oconnells.com>
Sent: Tuesday, October 27, 2020 2:24 PM
To: Melissa Grader; Slater, Caleb (FWE); Kubit, Robert (DEP)
Cc: Mancino, Mark
Subject: Hunts Pond Dam LIHI Recertification Application For Comment

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.

The Hunts Pond Dam Hydroelectric Project obtained LIHI Certificate No. 125 on September 8, 2015. The Project is currently seeking LIHI Recertification and is requesting comments on the recertification application as required by the LIHI process. You can find the original LIHI Application on the LIHI website at <https://lowimpacthydro.org/lihi-certificate-125-hunts-pond-dam-project-massachusetts/> that includes all comments from 2015.

The project has not changed since the original certification however the LIHI format has changed requiring discussion that addresses Zones of Effects (ZOE). Therefore the new application arranges the documentation for each Criterion within the respective ZOE.

A draft recertification application was submitted to LIHI and nine (9) comments were received. These comments have been addressed in the attached LIHI Recertification of LIHI Project 125 - Agency Review Copy except as follows:

LIHI Comment #5 requested response regarding fish passage as follows:

"5a. For fish passage, we ask what species are now or were historically present, both migratory and resident. Agency comment requested.

5b. For resident fish, it is best to ask Caleb Slater for details and mention that the river is a cold water fishery (per Melissa Grader's 2013 letter). The reference letter from Melissa was an email comment as follows: "Water Quality We are aware of no data documenting that Class B Cold Water Fishery (BCWF) water quality standards are being maintained (or violated) within the project area."

I've looked at some online data that suggests that only cold water fisheries are the feeder brooks/streams to the Millers River. And even those feeder brooks/streams exceed cold water temperatures at times. Winchendon Publicly Owned Treatment Works (POTW) 637 River Street with a grade of 6-C begins warm water fishery just downstream of the project. So is this project still considered to be located in a cold water fishery. Please clarify.

All agency comments will be addressed and added to the Recertification Application and will be submitted to the LIHI in a FINAL Application Copy. I thank you in advance for your time to review and comment on this project.

Sincerely,

Stephen J. Fisk
General Manager

O'Connell Energy Group
800 Kelly Way
Holyoke, MA 01040

O'CONNELL
ENERGY GROUP

Office: 413.540.1454
Mobile: 413.537.9029
Email: sfisk@oconnells.com

Fisk, Steve

From: Slater, Caleb (MISC) <caleb.slater@state.ma.us>
Sent: Tuesday, April 23, 2013 3:18 PM
To: Fisk, Steve
Cc: Cohen, Russ (MISC); Grader, Melissa
Subject: RE: Winchendon Hydro

Steve,

I have reviewed the information you sent me on the Hunts Pond project (FERC# 8012).

- 1) As the project operates as Run of River and has no significant bypass reach it is compliance with flow recommendations.
- 2) There are no current fish passage requirements, however we would like a commitment to upstream and downstream passage protections for American eel when determined to be necessary by the Division and/or USFWS.
- 3) The facility is not in violation of any state required shoreline management plan.

Caleb

Caleb Slater, PhD
Anadromous Fish Project Leader
Massachusetts Division of Fisheries and Wildlife PLEASE NOTE NEW FIELD HEADQUARTERS ADDRESS (Phones and Emails have not changed.) Mass. Division of Fisheries & Wildlife
100 Hartwell Street, Suite 230
West Boylston MA 01583
508-389-6331
www.mass.gov/masswildlife

Appendix V. USFWS IPaC Resource List

IPaC Information for Planning and Consultation U.S. Fish & Wildlife Service

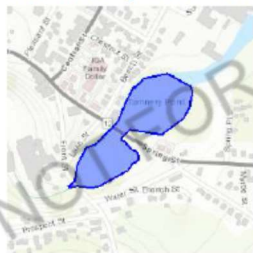
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Worcester County, Massachusetts



Local office

New England Ecological Services Field Office

☎ (603) 223-2541

📠 (603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

<http://www.fws.gov/newengland>

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are not shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds
<http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird

species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Canada Warbler <i>Cardellina canadensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagles Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

LAKE

[L1UBHh](#)

RIVERINE

[R3UBH](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or

local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Appendix VI. NHESP Priority Habitat Map

