REVIEW OF APPLICATION FOR RE-CERTIFICATION BY THE LOW IMPACT HYDROPOWER INSTITUTE OF THE PUTTS BRIDGE HYDROELECTRIC FACILITY

Prepared by Patricia McIlvaine June 10, 2019

I. <u>INTRODUCTION</u>

This report summarizes the review findings of the application submitted by Central Rivers Power MA, LLC, (Central Rivers or Applicant) to the Low Impact Hydropower Institute (LIHI) for recertification of the Putts Bridge Hydroelectric Project FERC P-10677 (Putts Bridge or Project). North America Energy Alliance, LLC owned the Project when first certified by LIHI after which it was sold to Essential Power Massachusetts, LLC. On April 13, 2017, Essential Power Massachusetts, LLC transferred the direct ownership of its hydroelectric power facilities, including the Putts Bridge Project, to Nautilus Hydro, LLC, and the company name was subsequently changed names to Central Rivers Power MA, LLC on June 20, 2018.

The Project was initially certified by LIHI as Low Impact on March 4, 2013, LIHI Certificate No. 102, for a five-year term, effective December 20, 2012 and expiring December 20, 2017. Expiration extensions were issued with new dates of June 30, 2018, November 30, 2018 and May 31, 2019. This re-certification review was conducted in compliance with LIHI's Handbook, 2nd Edition, Revision 2.03: December 20, 2018.

The Project's original certification had three conditions:

- 1. As the final confirmation that the recently submitted Minimum Flow and Impoundment Fluctuation Monitoring Plan sufficiently addresses compliance with the various flow requirements is contingent upon review and approval of six months of flow data by the US Fish and Wildlife Service (USFWS), Essential Power shall provide LIHI a letter documenting that such records have been provided within nine months of Project certification.
- 2. Essential Power shall certify to LIHI that the 24-hour period of empirical data to compare with the calculated flows for USFWS's evaluation of the Flow Monitoring Plan has been provided. Essential Power shall also provide LIHI, documentation of the USFWS review/approval or concerns found with this data comparison within nine months of Project Certification.
- 3. Should the review process in Condition #2 find that modifications are needed to the Flow Monitoring Plan, Essential Power shall forward a copy of the modifications, along with resource agency approval of these modifications, within one month of the Plan submission to FERC. Essential Power shall also provide LIHI a copy of FERC's final Plan approval within one month of receipt of this approval.

All three conditions were satisfied in 2015.

II. <u>RECERTIFICATION PROCESS AND MATERIAL CHANGE REVIEW</u>

Under the 2016 LIHI Handbook, reviews are a two-phase process starting with a limited review of a completed LIHI application, focused on three questions:

(1) Is there any missing information from the application?

(2) Has there been a material change in the operation of the certified facility since the previous certificate term?

(3) Has there been a change in LIHI criteria since the Certificate was issued?

In accordance with the Recertification Standards, if the only issue is that there is some missing information, a Stage II review may not be required. These standards also state that "material changes" mean non-compliance and/or new or renewed issues of concern that are relevant to LIHI's criteria. If the answer to either question (2) or (3) is "Yes," a more thorough review of the application using the LIHI criteria in effect at the time of the recertification application, and development of a complete Stage II Report, is required. As a result, all Projects currently applying for renewal must go through a full review unless their most recent certification was completed using the 2018 Handbook.

A review of the initial application, dated February 12, 2019, resulted in a Stage I or Intake Report, dated February 19, 2019. The Stage I assessment indicated there were no "material changes" at the Project. The response to the Stage I Report was provided in the form of supplemental information from the Applicant rather than an updated application. The initial application was complete enough to be posted for public comment since only a limited amount of data was missing.

This Stage II assessment included review of the application package, communication with the Applicant's representative, supplemental information, public records in FERC's eLibrary since LIHI certification in 2012, and the annual compliance statements received by LIHI during the past term of Certification.

III. PROJECT'S GEOGRAPHIC LOCATION

The project is located on the Chicopee River (river mile 9.2) in the Towns of Wilbraham and Ludlow and City of Springfield in Hampden County, Massachusetts. The Project dam crosses the town line between Springfield and Ludlow; the powerhouse is located in Ludlow. The impoundment extends in a northeasterly direction, bordering Springfield and Ludlow. The Project was originally constructed in 1918 by the Ludlow Manufacturing Company. In 1988, the Federal Energy Regulatory Commission determined that the Chicopee River is a navigable waterway under its jurisdiction and ordered Western Massachusetts Electric Company, the Project's owner at the time, to prepare an application for Exemption from Licensing.

The Putts Bridge Project is situated upstream of three other hydroelectric facilities located on the Chicopee River and downstream of two other dams on the River. As shown on Figure 1 below, the order of the hydroelectric dams, starting with the lowest dam, on the Chicopee River is Dwight Station Project (P-10675) river mile 1.2, Chicopee Falls Project (P-6522) river mile 3.0, Indian Orchard Project (P-10678) river mile 7.8, Collins Hydro Project (P-6544) river mile 12.6 and Red Bridge Project (P-10676) river mile 15.2.



Figure 1 – Projects on the Chicopee River

Dwight Station Project, Indian Orchard Project and the Red Bridge Project (P-10676) are also owned and operated by Central Rivers Power. Other Chicopee River Projects which are LIHI Certified are Indian Orchard (LIHI Certificate #112), Collins Project (LIHI Certificate #88) and Red Bridge (LIHI Certificate #96).

IV. PROJECT AND IMMEDIATE SITE CHARACTERISTICS

The Project includes an approximate 223-foot-long by 22-foot-high dam with a crest elevation of 203.6 feet (NGVD), an impoundment that extends approximately 3.3 miles upstream, a minimum flow gate, a concrete headgate structure, two conduits, a forebay, trashrack, and intake structure, a powerhouse with two generating units, a tailrace channel (normal tailrace elevations 160.9 feet) and appurtenant facilities. Wooden headgates isolate the forebay from the generating units. The tailrace canal runs 355 feet from the powerhouse in a westerly direction to where the flow re-enters the Chicopee River. There are no fish passage facilities at the Project. Figures 2 and 3 show the dam and impoundment.



Figure 2 -Putts Bridge Dam

Figure 3 – Putts Bridge Impoundment

The station operates as a limited pond-and-release Project with a year-round maximum one-foot drawdown. The number of turbines operating is controlled by semi-automatic float controls with the duration of operations based on inflows at the Project. As the Project is currently operated, the Facility has limited usable storage estimated at 65 acre-feet. At 25 cubic feet per second (cfs) of minimum flow and no inflow, it takes just over 22 hours and 28 minutes to empty the Facility's useable storage.

V. ZONES OF EFFECT AND STANDARDS SELECTED

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

- ZOE #1 Impoundment (Figure 4)
- ZOE #2 Bypass Reach (Figure 5)
- ZOE #3 Tailrace and Regulated Reach (Figure 5)



Figure 4 – Impoundment ZOE #1



Figure 5 – Bypass (ZOE #2) and Tailrace/Regulated Reach (ZOE#3)

The Tables below show the selected Standards and my recommended changes (noted in red). My rationale is:

<u>Ecological Flow Regime</u> – Standard A-1 should be used as provided for in the LIHI handbook for all impoundments.

<u>Water Quality</u> – I believe Standard B-1 is more appropriate for all ZOEs as it does not appear that Project operations are affecting water quality.

<u>Threatened and Endangered Species Protection</u> – Standard F-1 is appropriate for the impoundment as no listed species are expected to occur and Standard F-2 is appropriate for the bypass reach as one threatened species may be in the area but no impacts are expected.

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

ZOE #1 – Impoundment

			Alternative Standards				
	Criterion	1	2	3	4	Plus	
А	Ecological Flow Regimes	X	X				
В	Water Quality	Χ	X				
С	Upstream Fish Passage	Х					
D	Downstream Fish Passage	Х					
E	Watershed and Shoreline Protection	Х					
F	Threatened and Endangered Species	X	X				
	Protection						
G	Cultural and Historic Resources Protection		Х				
Н	Recreational Resources		Х				

ZOE #2 – Bypass Reach

		Alternative Standards					
Criterion		1	2	3	4	Plus	
Α	Ecological Flow Regimes		Х				
В	Water Quality	Χ	X				
С	Upstream Fish Passage	X					
D	Downstream Fish Passage	Χ					
Е	Watershed and Shoreline Protection	Χ					
F	Threatened and Endangered Species Protection	X	Χ				
G	Cultural and Historic Resources Protection		Х				
Н	Recreational Resources		X				

ZOE #3 – Tailrace and regulated Reach

		Alternative Standards					
Criterion		1	2	3	4	Plus	
А	Ecological Flow Regimes		Х				
В	Water Quality	X	X				
С	Upstream Fish Passage	X					
D	Downstream Fish Passage	Х					
Е	Watershed and Shoreline Protection	X					
F	Threatened and Endangered Species Protection		Х				
G	Cultural and Historic Resources Protection		Х				
Η	Recreational Resources		X				

VI. REGULATORY AND COMPLIANCE STATUS

In 1988, the Federal Energy Regulatory Commission determined that the Chicopee River is a navigable waterway under its jurisdiction and ordered Western Massachusetts Electric Company (WMECO), the Project's owner at the time, to prepare an application for Exemption from Licensing. The License Exemption was issued to WMECO on September 11, 1992. It was subsequently amended on December 29, 1999 to reflect upgraded nameplate capacity due to unit rewinding and increased cooling at the station transformer in lieu of installation of a minimum flow unit. The exemption was amended again on November 8, 2001 to revise the Project description to reflect the as-built capacities.

A Water Quality Certification (WQC) was not issued for the Putts Bridge Project since at the time of the processing for a License Exemption, the Massachusetts Department of Environmental Protection (MDEP) had not completed a water quality study for the Project waters, and hence did not issue a WQC.

A review of the FERC database from March 1, 2013 through June 4, 2019 found no reported compliance issues. My review also confirmed that no material changes in the facility design or operation were reported since the previous LIHI review.

VII. PUBLIC COMMENT RECEIVED OR SOLICITED BY LIHI

The deadline for submission of comments on the LIHI certification application was June 7, 2019. No comments on the recertification application were received by LIHI.

I did not contact any stakeholders because the Applicant contacted the key agencies knowledgeable of the Project as part of the application process, and I had no questions requiring clarification. The Applicant's representative requested feedback from the following agencies as part of the application process:

- Caleb Slater, Anadromous Fish Project Leader for Massachusetts Division of Fish and Wildlife (MDFW);
- Robert Kubit of the MDEP; and
- Melissa Grader, Biologist with the USFWS.

Only the MDEP responded. A copy of this letter is included in Appendix A.

VIII. DETAILED CRITERIA REVIEW

A. ECOLOGICAL FLOW REGIMES

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

Assessment of Criterion Passage

The Applicant selected **Standard A-2**, **Agency Recommendation** for all three ZOEs, although as suggested on Table B-2, **Standard A-1**, **Not Applicable/De Minimis Effect** should be used for ZOE #1, the impoundment, even though there are headpond limits at the Project.

There have been no changes in requirements or in the mode of operation of the Facility (limited pond-and-release) since it was certified by LIHI effective December 2012. The initial Ecological Flows Standards for the Facility were developed during the late 1980 and early 1990s FERC licensing process. Initially, the exemption required a continuous minimum flow release of 247 cfs, or inflow (if less), at the Project dam to the bypass reach. The exemption also limited pond drawdowns to one foot below the top of the flashboards from April to June and two feet for the remainder of the year. This former requirement was subsequently revised when the Exemptee elected to not install a minimum flow turbine, and instead they proposed a minimum flow release of 25 cfs to the bypass from installation of a new automated slide gate.

During a June 22, 1999 meeting, the USFWS requested evidence that operation of the Putts Bridge Project did not impact the minimum flow release at the downstream Indian Orchard Project. In response to USFWS concerns, studies were conducted and filed on December 6, 1999. Based on the results, pond level control was set at Indian Orchard Project to provide sufficient storage to permit the continuous discharge of the minimum flow at the Indian Orchard Project and 25 cfs at Putts Bridge was considered suitable.

On January 27, 2000, USFWS also requested evidence that the 25 cfs flow to the bypass reach at Putts Bridge would not create unacceptable water quality. Following a Study Plan approved by USFWS, MDFW and MDEP, the studies were conducted over a sixty-day period (between July 7 and September 6, 2000). Results showed that dissolved oxygen (DO) concentrations and water temperatures in the Putts Bridge bypass reach exceeded MDEP Class B water quality standards. As such, it was concluded that the 25 cfs minimum flow, as released by the electronically operated skimmer gate at the dam, are sufficient for maintaining flows downstream and adequate water quality in the Putts Bridge bypass reach.

Review of the FERC eLibrary documents confirmed compliance with minimum flow requirements during the past five years. None of the agencies contacted by the applicant reported flow compliance issues. Therefore, I believe the Project satisfies this criterion.

This Project Passes Criterion A – Ecological Flow Regimes

B. WATER QUALITY

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

Assessment of Criterion Passage

The Applicant selected Standard **B-2**, Agency Recommendation to pass this criterion, however I believe that **Standard B-1**, Not Applicable/De Minimis Effect, is more appropriate for all ZOEs.

A Water Quality Certification was not issued and there was no specific agency recommendation related to water quality in the FERC license exemption.

The Project ZOE's are all included in the state's water quality river segment 36-24. Based on a review of the draft Massachusetts 2016 Integrated List of Waters, the Chicopee River Watershed Water Quality Assessment Report dated October 2008, and a letter dated May 9, 2019, from Mr. Robert Kubit of MDEP, it appears that the impoundment is considered impaired for pathogens, but wet weather combined sewer overflows upstream of the Project are the likely cause of this impairment, not the Project. Mr. Kubit also states that based on state data collected for this river segment, but not specifically at the Putts Bridge Project, water quality standards are being met. Therefore, he believes the Project likely does not cause or contribute to any water quality violations. This letter can be found in Appendix A.

Based on this information, I believe the Project has demonstrated compliance with this criterion.

This Project Passes Criterion B – Water Quality

C. UPSTREAM FISH PASSAGE

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

Assessment of Criterion Passage

The Applicant has appropriately selected **Standard C-1**, **Not Applicable/De Minimis Effect** for all ZOEs as there are three downstream dams within nine miles, Dwight, Chicopee Falls, and Indian Orchard, that have no upstream facilities for anadromous or catadromous species.

As noted in the Application, review of "A Comprehensive Watershed Assessment, 2003", and the "Chicopee River Basin, Five-Year Watershed Action Plan, 2005-2010" showed no listing of migratory species. The Application denoted the presence of Bluegill, Black Crappie, Chain Pickerel, Golden Shiner, Largemouth Bass, Pumpkinseed, Rock Bass, Redbreast Sunfish, Tesselated Darter, White Perch, White Sucker and Yellow Perch above and below the Putts Bridge Dam, based on the applicant's consultation with Dr. Caleb Slater of MDFW. The oldest of the

three dams dates to the late 1800s. Thus, migratory fish were extirpated from the Project area well before construction of the Putts Bridge Project in 1918.

Currently there are no active migratory fish management efforts within the Chicopee River watershed. A 2017 LIHI application review done on the upstream Collins Dam found that the fisheries agencies are not currently requiring upstream passage for anadromous species, nor American eel, at Collins, as the number of eels in the river is limited.

The 1992 License Exemption, Article 2, contains a requirement that the Exemptee construct, operate, maintain, and monitor upstream and downstream fish passage facilities when prescribed by the USFWS or MDFW. These requirements are noted as mandatory terms and conditions under Section 30(c) of the Federal Power Act and Section 408 of the Energy Security Act. As written, these requirements clearly apply to both anadromous and riverine fish, but remain "silent" with regard to catadromous species. The Owner is committed to fulfilling these obligations when required by the fisheries agencies.

The Applicant send several requests to both Ms. Melissa Grader of the USFWS and Dr. Caleb Slater of MDFW regarding the current need for fish passage facilities at the Putts Bridge Project. Neither agency provided feedback to the Applicant, nor did either submit comments to LIHI during the public comment period. Thus, it is assumed that neither have determined that passage for any species is warranted at this time.

I believe the Project satisfies this criterion with a recommended condition addressing potential need for passage installation should it be mandated within the next five years

This Project Conditionally Passes Criterion C – Upstream Fish Passage

D. DOWNSTREAM FISH PASSAGE AND PROTECTION

Goal: The facility allows for the safe, timely, and effective downstream passage of migratory fish. For riverine (resident) fish, the facility minimizes loss of fish from reservoirs and upstream river reaches affected by Facility operations. All migratory species are able to successfully complete their life cycles and to maintain healthy, sustainable fish and wildlife resources in the areas affected by the Facility.

Assessment of Criterion Passage

The Applicant has appropriately selected with **Standard D-1**, **Not Applicable/De Minimis Effect** for all ZOEs. As upstream migration by anadromous species is blocked, and there are limited numbers of eel in the Project area, there has not been a requirement to install downstream passage. No comment was received from either the USFWS and MDFW in response to the Applicant's request for feedback on the need for downstream diadromous fish passage. The application noted that while not designed as such, riverine fish can pass over the dam via the minimum flow gate. As noted above, the License exemption does include a requirement for the construction of downstream passage when determined to be needed by the fisheries agencies. A condition has been

recommended to address this potential need should it be required within the next five years.

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

E. SHORELINE AND WATERSHED PROTECTION

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

Assessment of Criterion Passage

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

There has been no change in the Shoreline and Watershed Protection requirement of the Facility since it was certified by LIHI in 2012. No conservation buffer zone, watershed enhancement fund, or shoreland management plan were required by the FERC License Exemption for the Putts Bridge Project.

While the application denotes 69 acres within the Project boundary, of which approximately 65 acres are impoundment, follow-up communications were conducted on May 8 and 25, 2019 with the Applicant's representative. (These are included in Appendix A.) The May 26 email stated that this estimate of 69 acres may be too low. However, a confirmed acreage was not be provided. The FERC Environmental Report submitted with the license application included the Project Boundary map shown below in Figure 6 and the Vegetation Cover Map in Figure 7. For the most part, the Project boundary follows the Chicopee River shoreline. The three areas outlined in red and indicated by the arrows on Figure 6 and Figure 7 was used to determine habitats with the Project Boundary. The Environmental Report does state that the reported 269 acre "study area" of the vegetation map is larger than the lands within the Project Boundary, but does not define the acres within the Project Boundary.

Review of available data suggests that the plant species found in the upland fields and forests adjacent to the impoundment are typical of the region. As discussed under the Threatened and Endangered Species Protection criterion, no State-designated Priority Habitat has been listed for the area adjacent to the impoundment, where an estimated 27 acres of shrub or forested wetlands have been mapped. Such habitat has only been identified for the bypass and tailrace ZOEs, both of which are outside the Project Boundary. Thus, it does not appear that Project lands include any areas of significant ecological value.



Figure 6 – Map Identifying the Project Boundary



Figure 7 – Vegetation Cover Map of Study Area for the Putts Bridge Project

Based on this review, I believe the Project passes this criterion. The condition recommended under Threatened and Endangered Species Protection criterion would address potential impacts to the swamp dock, a state-protected species.

The Project Passes Criterion E – Shoreline and Watershed Protection

F. THREATENED AND ENDANGERED SPECIES PROTECTION

Goal: The Facility does not negatively impact listed species.

Assessment of Criterion Passage

I believe **Standard F-1, Not Applicable/De Minimis Effect** is appropriate to pass this criterion for the impoundment and **Standard F-2, Finding of No Negative Effects** is appropriate for the bypass and tailrace/regulated reach. As noted in Section V, this varies slightly from what the applicant selected. Nonetheless, sufficient data was provided to demonstrate compliance.

The application contained documentation showing that the only federally-protected species potentially in the Project area is the Northern Long-eared Bat, because its habitat may exist statewide. Applicant communication with the MDFW, Natural Heritage & Endangered Species Program (Program), did not identify the Project area as Priority Habitat for this bat species. This MFDW data indicated that Priority Habitat for swamp dock, a state-threatened plant species, is mapped along the bypass and tailrace/regulated reach ZOEs. It does not show the wetlands adjacent to the impoundment as Priority Habitat for this species. Based on the Program's website data, swamp dock habitat includes water or areas periodically flooded including stream and river floodplains, swamps, marshy areas and drainage or irrigation ditches. No Priority or Estimated Habitat was found for the impoundment. These agency communications were attached to the recertification application to LIHI.

The application states that the Applicant has no plans to cause any ground disturbance in the Project area and no changes to Facility operations are planned that would modify flows currently experienced in the bypass or tailrace.

Bases on the above information, I believe the Project will have no impact to these species if they occur, provided no changes to the bypass and tailrace areas are undertaken. A condition has been recommended to ensure protection for the state-protected swamp dock should it be found in the area.

The Project Conditionally Passes Criterion F – Threatened and Endangered Species Protection

G. CULTURAL AND HISTORIC RESOURCE PROTECTION

Goal: The Facility does not inappropriately impact cultural or historic resources that are associated with the Facility's lands and waters, including resources important to local indigenous

populations, such as Native Americans.

Assessment of Criterion Passage

The Applicant has appropriately selected **Standard G-1**, **Not Applicable/De Minimis Effect** to pass the Cultural and Historic Protection criterion for the Project for all ZOEs.

During the licensing process, Commission staff specifically determined that exempting the proposed Project would have no effect on National Register or eligible properties based on the Exemptee's proposal to use the existing Project works for its historic purpose, i.e. hydropower. Article 12 of the License Exemption requires the Exemptee to consult with the State Historic Preservation Officer (SHPO) before undertaking any construction activity that would result in any modification of the Project's existing historic facilities and Article 13 requires the Exemptee to consult with the SHPO and, if necessary, develop and implement a cultural resource management plan before undertaking any Project-related construction activity that is not specifically authorized by the 1992 exemption order.

There has been no land disturbance in the past five years and Central Rivers Power has no plans for such work in the foreseeable future. Therefore, I believe the Project satisfies this criterion.

The Project Passes Criterion G - Cultural and Historic Resource Protection

H. RECREATIONAL RESOURCES

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

Assessment of Criterion Passage

The Applicant has selected and demonstrated compliance with **Standard H-2**, **Agency Recommendation** to pass the Recreational Resources criterion for the Project for all ZOEs.

Limited seasonal boating and fishing opportunities are available at the Project. The Project is required to maintain an informal boat ramp and parking area on the east side of the impoundment (south shore) as shown on Figure 8 below.

The last FERC inspection at the Project was in 2010, at which time some maintenance improvements were needed at the ramp and parking area. These were remedied in 2012. There has been no change in the recreational requirement of the Facility since it was certified by LIHI in 2012. No issues were identified by any stakeholders regarding these facilities. Thus, I believe the Project meets the requirements of this criterion.

The Project Passes Criterion H – Recreational Resources



Figure 8 – Location of the Project Recreational Facilities

IX. GENERAL CONCLUSIONS AND REVIEWER RECOMMENDATION

Based on my review, I believe that the Putts Bridge Project conditionally meets the requirements of a Low Impact facility and recommend it be re-certified for a five (5)-year period with the conditions noted below. This will ensue satisfaction of the criteria addressing upstream and downstream fish passage.

- Condition 1: Should the Facility Owner receive notification during the term of this LIHI Certification from either the USFWS or MDFW that upstream and/or downstream passage for anadromous or catadromous fish is required, based on sound science / technical data that has shown that such passage is required at the Putts Bridge Project, the Facility Owner shall forward a copy of that notification and its response to LIHI within 45 days of receipt of the notification.
- Condition 2: Should the Facility Owner determine that ground disturbance or significant changes in project operations are desired during the term of this LIHI Certification that could affect habitat for the swamp dock, the Facility Owner shall conduct studies and filings deemed necessary by the MDFW to determine impacts to swamp dock that may occur in the Project area. LIHI shall be provided copies of agency communications (e.g. approvals, denials, mitigation measures, etc.) associated with such desired Project changes. This information should be submitted as part of the LIHI annual compliance statements.

APPENDIX A

Stakeholder Letters and Other Key Correspondance

Commonwealth of Massachusetts Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Central Regional Office • 627 Main Street, Worcester MA 01608 • 508-792-7650

Charles D. Baker Governor

Karyn E. Polito Lieutenant Governor Matthew A. Bealon Secretary

May 9, 2019

Martin Suuberg Commissioner

William P. Short III On behalf of Central Rivers Power MA, LLC P.O. Box 237173 New York, New York 10023-7173

Re: Request for Water Quality Status Putts Bridge Project, FERC #10677

Dear Mr. Short,

In order to achieve certification from the Low Impact Hydropower Institute, Central Rivers Power MA, LLC seeks a letter from the Massachusetts Department of Environmental Protection (Department) that discusses the water quality at the Putts Bridge impoundment, bypassed reach and tailrace.

Water Quality of Putts Bridge Impoundment

The Department possesses limited water quality data collected downstream of the Project site; however, the Department does have data collected in the Project vicinity (river segment 36-24) and believes the presence of wet weather combined sewer overflows upstream of the Project is likely the principal cause for the presence of pathogens. The Department believes the Project does not cause nor contribute to Water Quality Standards violations in the Project area.

Water Quality of Bypassed Reach to the confluence with the tailrace and Chicopee River

The Department does not possess water quality data collected at the Project site; however, the Department does have data collected in the Project vicinity (river segment 36-24) and believes state Water Quality Standards are met. The Department believes the Project does not cause nor contribute to any state Water Quality Standards violations.

Water Quality of Tailrace to the confluence with the bypassed reach and the Chicopee River

The Department does not possess water quality data collected at the Project site; however, the Department does have data collected in the Project vicinity (river segment

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751. TTY# MassRelay Service 1-800-439-2370

MassDEP Website: www.mass.gov/dep

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36-24) and believes state Water Quality Standards are met. The Department believes the Project does not cause nor contribute to any state Water Quality Standards violations.

If you have any questions, please contact me at 508-767-2854.

Sincerely,

RCARA

Robert Kubit, P.E. MA Department of Environmental Protection 8 New Bond Street Worcester MA 01606 robert.kubit@state.ma.us

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

May 8, 2019

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

Re: Application of Putts Bridge Project for Re-Certification by the Low Impact Hydropower Institute

Dear Ms. Ames:

Per Pat McIlvanie's Low Impact Hydropower Recertification Stage I Review (the "Review"), Central River Power MA, LLC submits its answers on the open items mentioned in the Review.

• Please provide the upstream and downstream river mile of each of the three ZOEs so that the length of each can be determined. Alternatively, just provide the length of each ZOE in feet.

This information was supplied with the Stage I Recertification Review. (See bottom of page 8 and top of page 9 of the Review). The impoundment ZOE is 3.3 miles long, starting at river mile 9.2 and ending at river mile 12.5. The Tailrace ZOE and the Bypassed Reach ZOEs each start at river mile 9.0 and end at river mile 9.2.

• Requested letter(s) from state agencies confirming minimum flow is still considered sufficient for fisheries should be provided upon receipt. (See Section A. Ecological Flow Regime, page 4 of 9 of the Review).

Letters have been forwarded to the appropriate officials at United States Fish and Wildlife Service, Massachusetts Department of Environmental Protection and Massachusetts Division of Fisheries and Wildlife requesting confirmation that the minimum flow (25 cfs) is still considered sufficient for fisheries.

• Requested a letter from MA DEP confirming the Project is not the cause for the river

impairment would strengthen the application although it is not critical since such a confirming letter was sent in 2012 and the pollutants causing the water quality impairment are the same. (See Section B. Water Quality Protection, page 4 of 9 of the Review).

A letter have been forwarded to the appropriate official at Massachusetts Department of Environmental Protection regarding water quality impairment for the impoundment, the bypassed reach and the tailrace and regulated reach requesting confirmation that the Project is not the cause of the impairment.

• American eels have been found in limited numbers upstream of Putts Bridge near the Collins and Red Bridge Projects per MDFW data. MDFW and USFWS both recently (2017 and 2018) confirmed that passage at these two upper dams is not currently required. A letter confirming the same at Putts Bridge should be provided if possible, but is not critical. Three downstream dams without upstream passage prevent anadromous fish from entering the Chicopee River. (See Section C. Upstream Fish Passage, page 5 of 9 of the Review).

Letters have been forwarded to the appropriate officials at United States Fish and Wildlife Service, Massachusetts Department of Environmental Protection and Massachusetts Division of Fisheries and Wildlife requesting confirmation that upstream passage at the Project is not currently required.

• American eels have been found in limited numbers upstream of Putts Bridge near the Collins and Red Bridge Projects per MDFW data. MDFW and USFWS both recently (2017 and 2018) confirmed that passage at these two upper dams is not needed at this time. A letter confirming the same at Putts Bridge should be provided if possible, but is not critical. Three downstream dams without upstream passage prevent anadromous fish from entering the river in the Putts Bridge area. (See Section D. Downstream Fish Passage and Protection, page 5 of 9 of the Review).

Letters have been forwarded to the appropriate officials at United States Fish and Wildlife Service, Massachusetts Department of Environmental Protection and Massachusetts Division of Fisheries and Wildlife requesting confirmation that downstream passage at the Project is not currently required.

• It must be demonstrated that there are no lands with significant ecological value associated with the (impoundment of the) facility. This can be shown by describing the land use and land cover within the project boundary. This data can be summarized from the Environmental Report (ER) issued during licensing if more current data sources are not available; or by describing land use/cover from a public source such as Google Earth images. (Section E. Watershed and Shoreline Protection, page 6 of 9 of the Review).

The Applicant does possess an Environmental Report for the Project that was filed with FERC when the then owner requested its Exemption From License for the Project. From that report the Applicant believes that there may be 27 acres with significant ecological value associated with the Facility's project area.

From the Project's Environmental Report, the vegetative cover for the study area (but not just the impoundment of the Facility) may be summarized as follows. Using those percentages and an estimate of the open water acreage, the Project area was estimated to be 290 acres.¹

Developed Lands	18.1%	53 acres
Shrub Uplands	1.6%	5 acres
Deciduous Forest	43.9%	128 acres
Mixed Forest	1.3%	4 acres
Open Water	24.1%	70 acres
Emergent Wetland	1.5%	4 acres
Shrub Wetland	8.2%	24 acres
Forested Wetland	1.1%	3 acres

A copy of the Project's Environmental Report has been included as an attachment to this letter.

• The land use and land cover for these ZOEs (both the Bypassed Reach and Tailrace and Regulated Reach) should be provided. The approximate number of acres of forested wetland and shrub wetland, both which are possible habitat for the Swamp Dock, should be identified as they could be viewed as providing "significant ecological value" under this criterion. This can be based on the information in the Environmental Report issued for the Project during licensing if more current data sources are not available. (Section E. Watershed and Shoreline Protection, page 7 of 9 of the Review).

There is no information on the land use and land cover for the Bypassed Reach and Tailrace and Regulated Reach. There is only information on the Project area. From that information the approximate number of acres of forested wetland (3 acres) and shrub wetland (24 acres) has been estimated.

• Please provide the approximate number of acres of forested wetland and shrub wetland, both which are possible habitat for the Swamp Dock, in these ZOEs (both the Bypassed Reach and Tailrace and Regulated Reach). To satisfy Standard F-2, confirmation that Project operations are not affecting these species must be provided. Ideally this would be a letter from the applicable state agency. Alternatively, Standard F-4 can be selected and supported by an owner's commitment to secure and implement agency-approved measures to avoid or minimize the impact of the facility on this species if Project operations change or these wetland areas along the river are disturbed. (Section F. Threaten and Endangered Species Protection, page 8 of 9 of the Review).

There is no information on the land use and land cover for the Bypassed Reach and Tailrace and Regulated Reach. There is only information on the Project area. From that information

¹ While there is no information on acreage of the open water for the Project, Exhibit A does list the acreage of the impoundment at 65 acres. Assuming an additional five acres of open water for the Bypassed Reach and the Tailrace and Regulated Reach, the open water acreage is estimated at 70 acres. With that number, all of estimated acreage of the Project area were estimated.

the approximate number of acres of forested wetland (3 acres) and shrub wetland (24 acres) has been estimated.

The Applicant commits to secure and implement agency-approved measures to avoid or minimize the impact of the Facility on the Swamp Dock if Project operations change or these wetland areas along the river are disturbed.

Furthermore, the Applicant selects LIHI Standard F-4 for its Putts Bridge LIHI recertification application.

• Please provide a confirming statement that all recreational facilities at the Project have been appropriately maintained during the last LIHI certification period and that free access continues to be provided to the public. (Section H. Recreational Resources, page 9 of 9 of the Review).

The recreational facilities of the Project have been appropriately maintained during the last LIHI certification period and that free access continues to be provided to the public.

Please review each of these answers. If you have any questions or concerns, please do not hesitate to contact the undersigned.

Sincerely yours,

William P. Shout The

attachments

cc: Patricia McIlvaine (e-mail only) Maryalice Fischer (e-mail only) Michael Mann (e-mail only) Kevin Telford (e-mail only) Ryan McQueeney (e-mail only) Randall Osteen (e-mail only)

List of Attachments

Low Impact Hydropower Recertification Stage I Review

Letter to United States Fish and Wildlife Service, dated April 19, 2019

- Letter to Massachusetts Department of Environmental Protection, dated April 19, 2019
- Letter to Massachusetts Division of Fisheries and Wildlife, dated April 19, 2019

Environmental Report for Putts Bridge Project (Exhibit E)

From: "William P. Short III" <w.shortiii@verizon.net> To: PBMwork@maine.rr.com Cc: "Maryalice Fischer" <mfischer@lowimpacthydro.org>, "Michael Mann" <mmann@hullstreetenergy.com>, "Kevin Telford" <ktelford@hullstreetenergy.com>, "Randall Osteen" <rosteen@hullstreetenergy.com> Bcc: Priority: Normal Date: Saturday May 25 2019 10:27:35PM RE: Question about project lands

Pat,

My estimate of 69 acres is probably low. It may be twice as large. However, the Environmental Report acreage of 269 acres may be an overstatement.

Looking at Appendix 3-4 and comparing it to Figure E-1. The Project Boundary area shown in Appendix 3-4 appears to be smaller than the area shown in Figure E-1.

You will note that the Project Boundary shown in Appendix 3-4 does not extend as far upstream as does the area covered in Figure E-1. Also the Project Boundary is not as wide in certain parts of the river as shown in Figure E-1.

From what I can see, it does look like all of the wetlands shown in Figure E-1 are inside of the Project Boundary. Thus, using my calculations in the my letter to Shannon Ames, I think that I have the wetlands acreage correct, a combined 31 acres,

As such, all wetlands are covered in the Project Boundary, the Swamp Dock appears to live in wetlands and Central Rivers has agreed to not disturb these wetlands without first contacting the various government agencies.

On the acreage in the Project Area itself, I probably cannot give you a good estimate, except that it is less than 269 acres

I am around all next week to talk further if you have any questions.

Bill Short



From: PBMwork@maine.rr.com <PBMwork@maine.rr.com> Sent: Thursday, May 16, 2019 11:40 AM To: 'w.shortiii@verizon.net' <w.shortiii@verizon.net> Subject: Question about project lands

Hi Bill

6/4/2019

RE: Question about project lands

I am hoping you can clarify something for me. In the application you state that the acreage inside the Project boundary is approximately 69 acres of which about 65 is the impoundment, leaving about 4 acres of land. However, in your May 8th email response to Shannon Ames about the Stage I report question about what cover type is found on the lands within the Project boundary, you are suggesting there are a total of 290 acres within the Project boundary...hence my confusion.

I attached a site plan from the original application to LIHI on which I roughly outlined what appears to be the major sections of land within the Project boundary that are undeveloped. Don't know if this helps or further confuses the issue.

Looking forward to hearing back from you.

Pat