

LOW IMPACT HYDROPOWER INSTITUTE

APPENDIX B – QUESTIONNAIRE

April 2014 REVISION

Background Information	
1) Name of the Facility as used in the FERC license/exemption.	Loring Road Hydroelectric Project
2) Applicant's complete contact information (please use Appendix D, Project Contact Form)	Pamela Heidell, Policy and Planning Manager Massachusetts Water Resources Authority (MWRA) 100 First Ave, Charlestown Navy Yard Boston, MA 02129 (617) 788-1102
3) Location of Facility including (a) the state in which Facility is located; (b) the river on which Facility is located; (c) the river-mile location of the Facility dam; (d) the river's drainage area in square miles at the Facility intake; (e) the location of other dams on the same river upstream and downstream of the Facility; and (f) the exact latitude and longitude of the Facility dam.	There is no river associated with the facility which is located in Weston, Massachusetts. The Loring Road hydroelectric facility generated power from fully treated potable water as it is transferred via a pipeline from one water storage tank in MWRA's distribution system to another storage tank.
4) Installed capacity.	200 kW
5) Average annual generation.	1,211,845 kWh
6) Regulatory status.	FERC Conduit Exemption #13400 issued August 2009. See attached FERC Order Granting

	Exemption from licensing.
7) Reservoir volume and surface area measured at the normal maximum operating level.	Not applicable. The inflow to the unit is treated water downstream of a Water Treatment plant and distribution storage tank.
8) Area occupied by non-reservoir facilities (e.g., dam, penstocks, powerhouse).	The vault chamber in which the hydro unit is installed is approximately 125 feet by 50 feet
9) Number of acres inundated by the Facility.	No inundation is associated with the facility.
10) Number of acres contained in a 200-foot zone extending around entire reservoir.	No impoundment is associated with the facility
11) Contacts for Resource Agencies and non-governmental organizations	Please see attached Agency Consultation list from the FERC process (2009). There were no recommended conditions.
12) Description of the Facility, its mode of operation (i.e., peaking/run of river) and photographs, maps and diagrams.	Please see attached description of this conduit hydroelectric facility and its mode of operation (harnessing energy from potable water as it conveyed from a water distribution storage tank to a second storage tank that is at a lower hydraulic gradeline). The hydropower provides energy recovery along with the primary purpose of Loring Road, which is to regulate flow and provide a constant pressure water supply to MWRA's Low (Pressure) service area.
Questions for "New" Facilities Only: If the Facility you are applying for is "new" (i.e., an existing dam that added or increased power generation capacity after August of 1998) please answer the following questions to determine eligibility for the program.	The project is not located at a dam, and the questions that follow in this section are not applicable.

13) When was the dam associated with the Facility completed?	
14) When did the added or increased generation first generate electricity? If the added or increased generation is not yet operational, please answer question 18 as well.	
15) Did the added or increased power generation capacity require or include any new dam or other diversion structure?	
16) Did the added or increased capacity include or require a change in water flow through the facility that worsened conditions for fish, wildlife, or water quality (for example, did operations change from run-of-river to peaking)?	
17 (a) Was the existing dam recommended for removal or decommissioning by resource agencies, or recommended for removal or decommissioning by a broad representation of interested persons and organizations in the local and/or regional community prior to the added or increased capacity? (b) If you answered “yes” to question 17(a), the Facility is not eligible for certification, unless you can show that the added or increased capacity resulted in specific measures to improve fish, wildlife, or water quality protection at the existing dam. If such measures were a result, please explain.	
18 (a) If the added or increased generation is not yet operational, has the increased or added generation received regulatory authorization (e.g., approval by the Federal Energy Regulatory Commission)? If not, the facility is not eligible for consideration; and (b) Are there any pending appeals or litigation regarding that authorization? If so, the facility is not eligible for consideration.	
A. Flows	PASS
1) Is the Facility in Compliance with Resource Agency Recommendations	YES = Pass, Go to B NO = Fail

<p>issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations) for both the reach below the tailrace and all bypassed reaches?</p>	<p>N/A = Go to A2</p>	
<p>2) 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, is the Facility 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?</p>	<p>YES = Pass, go to B NO = Go to A3 N/A - Facility is a conduit facility that does not discharge to a river.</p>	
<p>3) If the Facility is unable to meet the flow standards in A.2., has the Applicant demonstrated, and obtained a letter from the relevant Resource Agency confirming that demonstration, that the flow conditions at the Facility are appropriately protective of fish, wildlife, and water quality?</p>	<p>YES = Pass, go to B N/A</p>	<p>NO = Fail</p>
<p>B. Water Quality</p>		
<p>1) Is the Facility either:</p>		
<p>a) In Compliance with all conditions issued pursuant to a Clean Water Act Section 401 water quality certification issued for the Facility after December 31, 1986? Or</p> <p>b) In Compliance with the quantitative water quality standards established by the state that support designated uses pursuant to the federal Clean Water Act in the Facility area and in the downstream reach?</p>	<p>YES = Go to B2 Not Applicable- Water Quality Cert. was not required</p>	<p>FAIL NO = Fail</p>
<p>2) Is the Facility area or the downstream reach currently identified by the</p>		

state as not meeting water quality standards (including narrative and numeric criteria and designated uses) pursuant to Section 303(d) of the Clean Water Act?	YES = Go to B3 NO = Pass	
3) If the answer to question B.2 is yes, has there been a determination that the Facility does not cause, or contribute to, the violation?	YES = Pass	NO = Fail
C. Fish Passage and Protection	PASS	FAIL
1) Are anadromous and/or catadromous fish present in the Facility area or are they known to have been present historically?	YES = Go to C2 NO = Go to C6 Facility is within a water distribution system	
2) Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986?	YES = Go to C6 N/A = Go to C2	NO = Fail
3) Are there historic records of anadromous and/or catadromous fish movement through the Facility area, but anadromous and/or catadromous fish do not presently move through the Facility area (e.g., because passage is blocked at a downstream dam or the fish no longer have a migratory run)? a) If the fish are extinct or extirpated from the Facility area or downstream reach, has the Applicant demonstrated that the extinction or extirpation was not due in whole or part to the Facility? b) If a Resource Agency Recommended adoption of upstream and/or downstream fish passage measures at a specific future date, or when a triggering event occurs (such as completion of passage through a downstream	YES = Go to C2a NO = Go to C3 NA: Facility is within a water distribution system YES = Go to C2b N/A = Go to C2b YES = Go to C5 N/A = Go to C3	NO = Fail NO = Fail NO = Fail

<p>obstruction or the completion of a specified process), has the Facility owner/operator made a legally enforceable commitment to provide such passage?</p>		
<p>4) If, since December 31, 1986:</p> <p>a) Resource Agencies have had the opportunity to issue, and considered issuing, a Mandatory Fish Passage Prescription for upstream and/or downstream passage of anadromous or catadromous fish (including delayed installation as described in C.3.a above), and</p> <p>b) The Resource Agencies declined to issue a Mandatory Fish Passage Prescription,</p> <p>c) Was a reason for the Resource Agencies' declining to issue a Mandatory Fish Passage Prescription one of the following: (1) the technological infeasibility of passage, (2) the absence of habitat upstream of the Facility due at least in part to inundation by the Facility impoundment, or (3) the anadromous or catadromous fish are no longer present in the Facility area and/or downstream reach due in whole or part to the presence of the Facility?</p>	<p>NO = Go to C6 <u>N/A</u> = Go to C4</p>	<p>YES = Fail</p>
<p>5) If C4 was not applicable:</p> <p>a) Are upstream and downstream fish passage survival rates for anadromous and catadromous fish at the dam each documented at greater than 95% over 80% of the run using a generally accepted monitoring methodology? Or</p> <p>b) If the Facility is unable to meet the fish passage standards in 5.a, has the Applicant either i) demonstrated, and obtained a letter from the U.S. Fish and</p>	<p>YES = Go to C6 Not applicable: facility is a conduit facility and within a water distribution system</p>	<p>NO = Fail</p>

<p>Wildlife Service or National Marine Fisheries Service confirming that demonstration, that the upstream and downstream fish passage measures (if any) at the Facility are appropriately protective of the fishery resource, or ii) committed to the provision of fish passage measures in the future and obtained a letter from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service indicating that passage measures are not currently warranted?</p>		
<p>6) Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and/or downstream passage of Riverine fish?</p>	<p>YES = Go to C7 <u>N/A</u> = Go to C7</p>	<p>NO = Fail</p>
<p>7) Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?</p>	<p>YES = Pass, go to D <u>N/A</u> = Pass, go to D</p>	<p>NO = Fail</p>
<p>D. Watershed Protection</p>	<p>PASS</p>	<p>FAIL</p>
<p>1) Is there a buffer zone dedicated for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low-impact recreation) extending 200 feet from the average annual high water line for at least 50% of the shoreline, including all of the undeveloped shoreline?</p>	<p>YES = Eligible for 3 extra years of certification; Go to D4 <u>NA</u></p>	<p>NO = Go to D2</p>
<p>2) Has the Facility owner/operator established an approved watershed enhancement fund that: 1) could achieve within the project's watershed the ecological and recreational equivalent of land protection in D.1, and 2) has the agreement of appropriate stakeholders and state and federal resource agencies?</p>	<p>YES = Eligible for 3 extra years of certification; Go to D4 <u>NA</u></p>	<p>NO = Go to D3</p>
<p>3) Has the Facility owner/operator established through a settlement agreement with appropriate stakeholders, with state and federal resource agencies agreement, an appropriate shoreland buffer or equivalent watershed land protection plan for conservation purposes (to protect fish and wildlife</p>	<p>YES = Go to D4 <u>NA</u></p>	<p>NO = Go to D4</p>

<p>habitat, water quality, aesthetics and/or low impact recreation)?</p>		
<p>4) Is the facility in compliance with both state and federal resource agencies recommendations in a license approved shoreland management plan regarding protection, mitigation or enhancement of shorelands surrounding the project?</p>	<p>YES = Pass, go to E <u>N/A</u> = Pass, go to E</p>	<p>No = Fail</p>
<p>E. Threatened and Endangered Species Protection</p>	<p>PASS</p>	<p>FAIL</p>
<p>1) Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?</p>	<p>YES = Go to E2 <u>NO</u> = Pass, go to F</p>	
<p>2) If a recovery plan has been adopted for the threatened or endangered species pursuant to Section 4(f) of the Endangered Species Act or similar state provision, is the Facility in Compliance with all recommendations in the plan relevant to the Facility?</p>	<p>YES = Go to E3 N/A = Go to E3</p>	<p>NO = Fail</p>
<p>3) If the Facility has received authorization to incidentally Take a listed species through: (i) Having a relevant agency complete consultation pursuant to ESA Section 7 resulting in a biological opinion, a habitat recovery plan, and/or (if needed) an incidental Take statement; (ii) Obtaining an incidental Take permit pursuant to ESA Section 10; or (iii) For species listed by a state and not by the federal government, obtaining authorization pursuant to similar state procedures; is the Facility in Compliance with conditions pursuant to that authorization?</p>	<p>YES = Go to E4 N/A = Go to E5</p>	<p>NO = Fail</p>
<p>4) If a biological opinion applicable to the Facility for the threatened or endangered species has been issued, can the Applicant demonstrate that:</p> <p>a) The biological opinion was accompanied by a FERC license or exemption or a habitat conservation plan? Or</p>	<p>YES = Pass, go to F</p>	<p>NO = Fail</p>

<p>b) The biological opinion was issued pursuant to or consistent with a recovery plan for the endangered or threatened species? Or</p> <p>c) There is no recovery plan for the threatened or endangered species under active development by the relevant Resource Agency? Or</p> <p>d) The recovery plan under active development will have no material effect on the Facility's operations?</p>		
<p>5) If E.2 and E.3 are not applicable, has the Applicant demonstrated that the Facility and Facility operations do not negatively affect listed species?</p>	<p>YES = Pass, go to F</p>	<p>NO = Fail</p>
<p>F. Cultural Resource Protection</p>		
<p>1) If FERC-regulated, is the Facility in Compliance with all requirements regarding Cultural Resource protection, mitigation or enhancement included in the FERC license or exemption?</p>	<p>PASS</p> <p>YES = Pass, go to G N/A = Go to F2 And there are no requirements</p>	<p>FAIL</p> <p>NO = Fail</p>
<p>2) If not FERC-regulated, does the Facility owner/operator have in place (and is in Compliance with) a plan for the protection, mitigation or enhancement of impacts to Cultural Resources approved by the relevant state or federal agency or Native American Tribe, or a letter from a senior officer of the relevant agency or Tribe that no plan is needed because Cultural Resources are not negatively affected by the Facility?</p>	<p>YES = Pass, go to G</p>	<p>NO = Fail</p>
<p>G. Recreation</p>		
<p>1) If FERC-regulated, is the Facility in Compliance with the recreational</p>	<p>PASS</p> <p>YES = Go to G3</p>	<p>FAIL</p> <p>NO = Fail</p>

access, accommodation (including recreational flow releases) and facilities conditions in its FERC license or exemption?	N/A = Go to G2 There were no requirements	
2) If not FERC-regulated, does the Facility provide recreational access, accommodation (including recreational flow releases) and facilities, as Recommended by Resource Agencies or other agencies responsible for recreation?	YES = Go to G3	NO = Fail
3) Does the Facility allow access to the reservoir and downstream reaches without fees or charges?	YES = Pass, go to H <u>NA</u>	NO = Fail
H. Facilities Recommended for Removal		
1) Is there a Resource Agency Recommendation for removal of the dam associated with the Facility?	PASS NO = Pass, Facility is Low Impact	FAIL YES = Fail

Loring Road Hydroelectric Facility Description

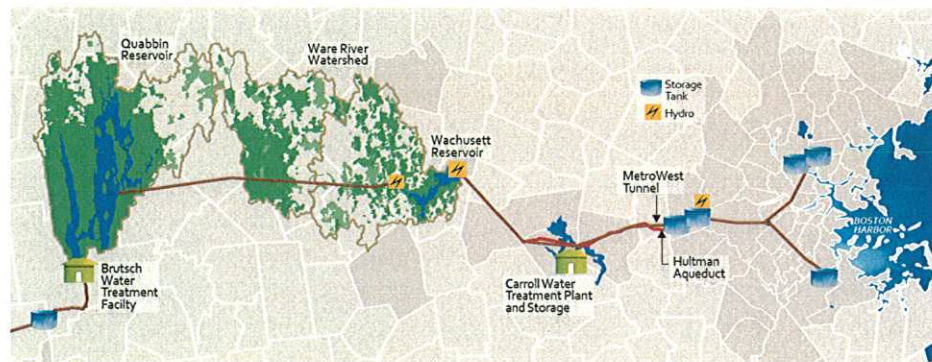
The Loring Road Small Conduit Hydroelectric Facility is located in a valve chamber at the Massachusetts Water Resources Authority's (MWRA) Loring Road Covered Storage Facility in Weston, Massachusetts. The hydroelectric facility generates power from fully treated potable water as it is transferred via a pipeline from one water supply storage tank in MWRA's water distribution system (Norumbega) to another storage tank (Loring Road). The hydro facility's operation is driven by water demand in MWRA's Low Water Service area, and does not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away. To place this facility in context, a description of the MWRA water supply system and facilities upstream and downstream of Loring Road is provided below.

Background

The MWRA supplies wholesale water to local water departments in 50 communities, primarily in the Boston metropolitan area. MWRA's water comes from the Quabbin Reservoir, about 65 miles west of Boston, and the Wachusett Reservoir, about 35 miles west of Boston. The two reservoirs combined supplied an average of 220 million gallons per day to consumers in 2007. A transmission system consisting of over 100 miles of tunnels and aqueducts transport water largely by gravity to points of distribution within the MWRA service area. Water that is conveyed to the Boston Metropolitan area is treated at the John J. Carroll Water Treatment Plant (JJCWTP) in Marlborough, then sent eastward through either the new MetroWest Water Supply Tunnel or Hultman Aqueduct.

Downstream of JJCWTP and close to its centers of demand, MWRA has recently constructed a new network of tanks to protect and store treated drinking water in compliance with the Federal Safe Drinking Water Act. The network of new tanks includes the Norumbega and Loring Road Covered Storage Facilities. The tanks replace a 100-year old system of open reservoirs. The covered tanks protect drinking water from potential contamination. The water is continuously used and replenished. From the tanks, water is then distributed to member communities.

Schematics of the MWRA water transmission and distribution system are presented on the following pages, as are figures showing the project location and aerial views of the Loring Road site.



Loring Road Hydroelectric Facility Operation

The Loring Road facility establishes the hydraulic grade line of the MWRA's Low Service Area (areas of lower elevation within the MWRA service area). The water reaches Loring Road at a hydraulic grade line of approximately 282 feet. At Loring Road, the flow is divided; some flow is directed to a supply pipeline serving MWRA's High Service System, while other flow is directed to pressure reducing valves inside Valve Chamber One, an underground valve chamber. Either the hydro turbine or sleeve valves, or both when water demand is high, are used to reduce the grade line to approximately 200 feet. After the hydro turbine or pressure reducing valves, water is sent via a pipeline to a second valve chamber that directs flows to either Loring Road Storage Tank One or Two. A steady flow rate of 20 mgd can be discharged from Valve Chamber One into the tanks on a nearly constant basis. From the Tanks, flow is discharged to downstream pipelines (Weston Aqueduct Supply Mains) serving MWRA's Low Service Area. The hydro turbine driven generator provides energy recovery along with the primary purpose of the Loring Road facility to regulate flow and provide a constant pressure water supply to the low service system.

MWRA's operates the turbine at a relatively constant flow rate averaging around 19-20 mgd (29-31 cfs) year-round except for those seasonal periods when potable water demand is below that rate. During periods of low demand, the turbine operates at a flow that is slightly lower than 19-20 mgd. The net operating head is 70-75 feet. A 200-kilowatt (kW) turbine-generator unit is installed; it is a compact design, horizontal Francis turbine (James Leffel) with wicket gates utilizing a Francis type runner. The average annual generation over the four years of operation has averaged 1,211,845 kWh. The Loring Road Storage Facility operates 24/7, and the hydroelectric facility is integrated into existing operations.

128 FERC ¶ 62,105
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Massachusetts Water Resources Authority

Project No. 13400-000

ORDER GRANTING EXEMPTION FROM LICENSING (CONDUIT)

(Issued August 07, 2009)

Introduction

1. On March 17, 2009, Massachusetts Water Resources Authority (applicant) filed an application to exempt the proposed 200-kilowatt (kW) Loring Road Hydroelectric Project from the licensing requirements set forth in Part I of the Federal Power Act (FPA).¹ The small conduit hydropower project would be located on a water treatment distribution pipeline in Middlesex County, Massachusetts. The applicant owns all the land and structures necessary to develop and operate the project.² The project would not occupy any federal lands. As discussed below, a conduit exemption is being issued for the project.

Project Description

¹ Under Part I of the FPA, 16 U.S.C. §§ 792-823 (2006), the Commission issues licenses to non-federal interests authorizing the construction, operation, and maintenance of water power projects on navigable waters of the United States, on federal lands, and on streams subject to Congress' jurisdiction. Pursuant to section 30 of the FPA, 16 U.S.C. § 823, the Commission is authorized to exempt from the licensing requirements of Part I of the FPA any facility (not including a dam or other impoundment) that is constructed, operated, or maintained for the generation of electric power and is located on non-federal lands and uses for generation only the hydroelectric potential of a manmade conduit, which is operated for the distribution of water for agricultural, municipal, or industrial consumption (and not primarily for the generation of electricity).

² The application contained documentation that the applicant has the necessary property rights to develop the project.

2. The proposed Loring Road Hydroelectric Project consists of an existing valve chamber containing one proposed generating unit having an installed capacity of 200 kW, and appurtenant facilities. The applicant estimates that the project would have an average annual generation of 1,207,000 kW-hours that would be used on-site and any excess would be sold to a local utility.
3. The Loring Road Hydroelectric Project would be located on the applicant's existing water distribution system. The distribution system begins on the Wachusett Reservoir (about 30 miles northeast of the proposed project's location). From the reservoir, water passes through a series of aqueducts, to a water treatment plant, and then to a covered storage reservoir. The water continues through a tunnel to an underground valve chamber where it runs through pressure-reducing valves to reduce the hydraulic pressure of the water. Once the pressure is reduced, the water flows through a second valve chamber that directs the flows to one of two storage tanks. From the tanks, the water discharges into a water supply conduit.
4. The proposed Loring Road Hydroelectric Project will replace the pressure reducing valves in the first valve chamber with a hydro-turbine generator. The generator will regulate flow and provide a constant pressure, in addition to energy recovery.

Background

5. On April 14, 2009, public notice of the application was issued, establishing June 15, 2009, as the deadline for filing comments and motions to intervene. On June 10, 2009, the United States Department of Interior stated it had no comments on the project. No other comments or motions to intervene were filed in response to the notice.

Section 30(c) Conditions

6. Section 30(c) of the FPA³ requires the Commission to include in its conduit exemptions such terms and conditions as may be prescribed by federal and state fish and wildlife agencies to prevent loss of, or damage to fish and wildlife resources and to otherwise carry out the purposes of the Fish and Wildlife Coordination Act (16 U.S.C. §§ 661-667e (2006)). Standard Article 2 of this exemption requires compliance with the terms and conditions prepared by federal or state fish and wildlife agencies to protect fish and wildlife resources. No federal or state fish and wildlife agency submitted terms and conditions for this exemption.

³ 16 U.S.C. § 823a(c) (2006).

Environmental Assessment

7. Pursuant to section 380.4(a)(14) of the Commission's regulations,⁴ Commission staff is not required to prepare an environmental assessment or an environmental impact statement for conduit exemption applications. Nonetheless, staff has considered the environmental information in the exemption application and other public comments, and finds that issuance of this order is not a major federal action significantly affecting the quality of the human environment.

Administrative Conditions

1. Annual Charges

8. The Commission collects annual charges from exemptees for the administration of its hydropower program. Under the regulations currently in effect, projects, with an installed capacity of 1,500 kW or less, like this project, are not assessed an annual charge as explained in Article 7.

2. Start of Construction

9. Article 8 states that the Commission may revoke the exemption if the exemptee fails to start construction of the facilities within two years of the date this exemption is issued or has not completed construction within four years.

3. Exhibit F and G Drawings

10. Although the Exhibit F drawings filed on March 17, 2009 are being approved, the Commission requires exemptees to file sets of approved project drawings on microfilm and in electronic file format. Article 9 requires the exemptee to file the Exhibit F drawings approved in Ordering Paragraph (C) in microfilm and electronic file format.

11. Ordering Paragraph (D) requires the exemptee to file revised Exhibit G drawings for Commission approval. The filed Exhibit G-1 and G-2 drawings show the project boundary enclosing all of the project works; however, the drawings must conform to the Commission's regulations, 18 C.F.R. §§ 4.39 and 4.41.

12. More specifically, the Exhibit G drawings must contain a minimum of three known reference points (i.e., latitude and longitude coordinates, or state plane coordinates). The points must be arranged in a triangular format for GIS geo-referencing the project boundary drawing to the polygon data, and must be based on a standard map

⁴ 18 C.F.R. § 380.4(a)(14) (2009).

coordinate system. The spatial reference for the drawing (*i.e.*, map projection, map datum, and units of measurement) must be identified on the drawing and each reference point must be labeled. In addition, each project boundary drawing must be stamped by a registered land surveyor.

13. Under Article 10, the exemptee, within 90 days of completion of construction of the project facilities, is required to file revised Exhibit F and G drawings showing the as-build conditions.

4. Operation and Maintenance

14. Ensuring that the exempted project is fit for use is an important public interest function of the Commission. Article 11 is included, which states that if the exemptee causes or allows essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, the Commission may revoke the exemption.

5. Exemptee Liability

15. Section 10(c) of the FPA provides that licensees, and not the United States, are liable for “damages occasioned to the property of others by the construction, maintenance, or operation of the project works”⁵ To clarify that exemptees would be similarly liable, Article 12 is included, which states that the exemptee is liable for damages to the property of others.

6. Property Rights

16. Pursuant to 18 C.F.R. § 4.31(c)(2)(ii), an applicant for exemption is required to demonstrate that, at the time it files its exemption application, it has sufficient rights to any non-federal land and facilities required for the construction and operation of the project. However, because an exemption is issued in perpetuity, Article 13 is included, which reserves the Commission’s authority to revoke the exemption if in the future the exemptee fails to maintain sufficient rights to comply with the terms and conditions of the exemption.

7. Review of Final Plans and Specifications

17. To ensure that the exemptee is in constructing and operating a safe and adequate project, Article 14, requires the exemptee to file final contract drawings and specifications for the pertinent features of the project for Commission approval prior to commencing construction.

⁵ 16 U.S.C. § 803(c) (2006).

The Director orders:

(A) The Loring Road Hydroelectric Project is exempted from the licensing requirements of Part I of the Federal Power Act, subject to the articles below.

(B) The project consists of:

(1) All lands, to the extent of the exemptee's interests in those lands, enclosed by the project boundary shown by Exhibits G-1 and G-2 filed on March 17, 2009.

(2) The following project works: an existing valve chamber that will contain one generating unit having an installed capacity of 200 kW, and appurtenant facilities. These project works are more specifically shown and described by those portions of Exhibits A and F below:

Exhibit A: Exhibit A, pages 2 through 6, filed on March 17, 2009.

Exhibit F: The following Exhibit F drawings filed on March 17, 2009.

Exhibit No.	FERC Drawing No.	Drawing Title
F-1	P-13400-1	Basement and First Floor Plan
F-2	P-13400-2	Section View
F-3	P-13400-3	Electrical One-Line Diagram and Control System Architecture

(3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project, or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The Exhibits A and F described above are approved and made part of the exemption. The Exhibit G drawings filed on March 17, 2009, are not approved.

(D) Within 45 days of the effective date of this exemption, the exemptee shall file, for Commission approval, revised Exhibit G-1 and G-2 drawings that comply with the Commission's regulations, 18 C.F.R. §§ 4.39 and 4.41.

(E) This exemption is also subject to the articles set forth in Form E-1 entitled "Standard Terms and Conditions of Exemption from Licensing" (attached), and the following additional articles:

Article 7. Administrative Annual Charges. The exemptee shall pay the United States annual charges, effective the first day of the month in which the exemption is issued, as determined in accordance with the provisions of the Commission's regulations

in effect from time to time, for the purpose of reimbursing the United States for the cost of administration of the Commission's hydropower program. The authorized installed capacity for that purpose is 200 kilowatts. Under the regulations currently in effect, projects with authorized installed capacity of less than or equal to 1,500 kilowatts will not be assessed annual charges.

Article 8. Start of Construction. The Commission may revoke this exemption if actual construction of any proposed or required project works has not begun within two years or has not been completed within four years from the issuance date of the exemption. If an exemption is revoked under this article, the Commission will not accept from the prior exemption holder a subsequent application for exemption from licensing for the same project within two years of the revocation.

Article 9. Exhibit Drawings. Within 90 days of the date of issuance of this order, the exemptee shall file the approved exhibit drawings in aperture card and electronic file formats, as described below.

(a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Project-Drawing Number (i.e., P-13400-1 through P-13400-3) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1, etc.), Drawing Title, and date of this exemption shall be typed on the upper left corner of each aperture card. See Figure 1.

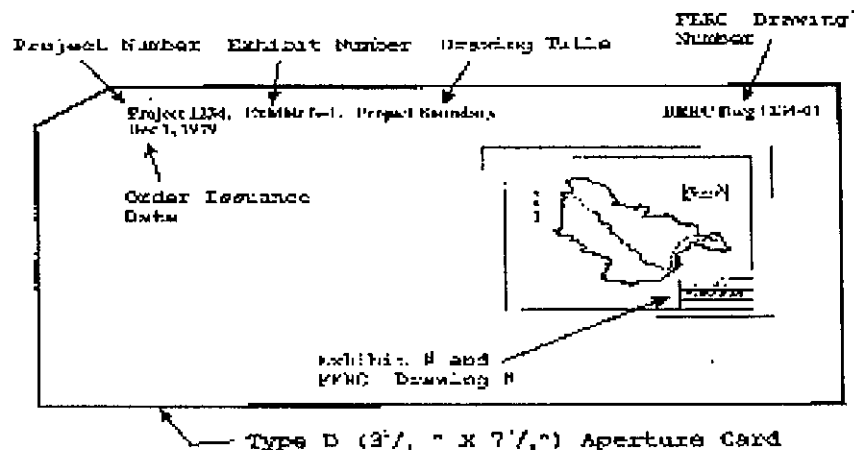


Figure 1 Sample Aperture Card Format

Two of the sets of aperture cards shall be filed with the Secretary of the Commission,

ATTN: OEP/DHAC. The third set shall be filed with the Commission's Division of Dam Safety and Inspections New York Regional Office.

(b) The exemptee shall file two separate sets of exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections New York Regional Office. Exhibit F drawings must be identified as **(CEII) material under 18 C.F.R. § 388.113(c)**. Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this exemption, and file extension in the following format [e.g., P-13400-1, F-1, Basement and First Floor Plan, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY - black & white raster file
FILE TYPE – Tagged Image File Format, (TIFF) CCITT Group 4
RESOLUTION – 300 dpi desired, (200 dpi min)
DRAWING SIZE FORMAT – 24" X 36" (min), 28" X 40" (max)
FILE SIZE – less than 1 MB desired

Article 10. *Exhibit G and F Drawings.* The exemptee shall file, within 90 days from completion of construction of the subject facilities, revised Exhibit F and G drawings showing the as-built conditions.

Article 11. *Operation and Maintenance.* The Commission may revoke this exemption if essential project property is removed or destroyed or becomes unfit for use, without adequate replacement; or if the project is abandoned or good faith project operation or maintenance is discontinued; or if the exemptee refuses or neglects to comply with the terms of the exemption and the lawful orders of the Commission.

Article 12. *Liability.* The exemptee shall be liable for all damages occasioned to the property of others by the construction, operation, or maintenance of the project works or works appurtenant or accessory thereto, constructed under this exemption and in no event shall the United States be liable therefore.

Article 13. *Property Rights.* The Commission reserves the right to require the exemptee to gain additional property rights, if such rights become necessary to develop, operate, or maintain the project or to achieve compliance with the terms and conditions of the exemption. The Commission may revoke this exemption if, at any time, the exemptee does not hold sufficient property rights in the land or project works necessary to develop, maintain, and operate the project.

Article 14. *Contract Drawings and Specifications.* The exemptee shall, at least 60 days prior to the start of construction, submit one copy to the Commission's Regional

Director and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the final contract drawings and specifications. The Commission may require changes in the plans and specifications to assure a safe and adequate project. The exemptee shall not start any construction activities before getting a prior authorization from the Commission's Regional Office.

(E) The exemptee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission.

(F) This order is issued under authority delegated to the Director and constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 825 (2006), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2009). The filing of a request for rehearing does not operate as a stay of the effective date of this exemption or any of its requirements.

William Y. Guey-Lee
Chief, Engineering and Jurisdiction Branch
Division of Hydropower Administration and
Compliance

Standard Terms and Conditions of Exemption from Licensing
18 C.F.R. § 4.94 (2009)

Any exemption granted under § 4.93 of the Commission's regulations, 18 C.F.R. § 4.93 (2009), for a small conduit hydroelectric facility is subject to the following standard terms and conditions:

Article 1. The Commission reserves the right to conduct investigations under sections 4(g), 306, 307, and 311 of the Federal Power Act with respect to any acts, complaints, facts, conditions, practices, or other matters related to the construction, operation, or maintenance of the exempt facility. If any term or condition of the exemption is violated, the Commission may revoke the exemption, issue a suitable order under section 4(g) of the Federal Power Act, or take appropriate action for enforcement, forfeiture, or penalties under Part III of the Federal Power Act.

Article 2. The construction, operation, and maintenance of the exempt project must comply with any terms and conditions that the United States Fish and Wildlife Service and any state fish and wildlife agencies have determined are appropriate to prevent loss of, or damage to, fish and wildlife resources or otherwise to carry out the purposes of the Fish and Wildlife Coordination Act, as specified in Exhibit E of the application for exemption from licensing or in the comments submitted in response to the notice of the exemption application.

Article 3. The Commission may revoke this exemption if actual construction of any proposed generating facilities has not begun within two years or has not been completed within four years from the effective date of this exemption. If an exemption is revoked under this article, the Commission will not accept from the prior exemption holder a subsequent application for exemption from licensing or a notice of exemption from licensing for the same project within two years of the revocation.

Article 4. In order to best develop, conserve, and utilize in the public interest the water resources of the region, the Commission may require that the exempt facilities be modified in structure or operation or may revoke this exemption.

Article 5. The Commission may revoke this exemption if, in the application process, material discrepancies, inaccuracies or falsehoods were made by or on behalf of the applicant.

Article 6. Before transferring any property interests in the exempt project, the exemption holder must inform the transferee of the terms and conditions of the exemption. Within 30 days of transferring the property interests, the exemption holder must inform the Commission of the identity and address of the transferee.

Document Content(s)

P-13400-000.DOC.....1-9



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Field Office
70 Commercial Street, Suite 300
Concord, New Hampshire 03301-5087
<http://www.fws.gov/northeast/newenglandfieldoffice>

REF: Loring Road Hydropower Small Conduit Exemption
Massachusetts Water Resources Authority
COMMENTS

December 16, 2008

Michael J. Hornbrook
Massachusetts Water Resources Authority
Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Dear Mr. Hornbrook:

This is in response to your letter dated December 1, 2008, requesting our review of an Initial Consultation Package (ICP) for the proposed Loring Road Hydropower Small Conduit Facility, to be located within the Massachusetts Water Resources Authority's (MWRA) public water supply distribution system in Weston, Massachusetts. In addition to reviewing the ICP, MWRA requests that we concur with its request to waive the second-stage consultation requirements in 18 CFR Part 4, Subpart D, Section 4.38(c) and allow the MWRA to proceed directly to filing an application for exemption with the Federal Energy Regulatory Commission. We have reviewed the ICP and offer the following comments.

PROPOSAL

The applicant, the MWRA, proposes to install a hydroelectric turbine within a valve chamber presently used to relieve water pressure in the water supply distribution system. Specifically, water enters Valve Chamber One (VC1), where sleeve valves are used to reduce water pressure; then water is sent to one of two storage tanks, from which it is sent to a pipeline that provides public water to MWRA's Low Water Service area. If approved, instead of using sleeve valves to dissipate energy, the hydroturbine would be used to harness the energy to regulate flow and provide a constant pressure water supply to the Low Service system.

The project would use one 200-kW turbine generator unit (either a Kaplan or Francis-type runner), with a hydraulic capacity of approximately 39 cfs at an operating head of 75 feet. Project operations would be integrated into existing MWRA operations and controlled by SCADA.

FISH AND WILDLIFE RESOURCES

VC1, where the turbine/generator unit would be placed, is located within the 20-acre Loring Road facility. The majority of the site is grass, with a wooded perimeter. VC1 is an underground vault, appearing only as a concrete slab at the surface. There is an access road leading to a paved parking area between VC1 and Storage Tank One. While there are no rivers or streams within the project area, there is a wetland to the west of Storage Tank Two.

The ICP states that there are no threatened or endangered species or critical habitats within the project bounds. As part of our review of the ICP, we used the Service's New England Field Office website to determine whether any federally-listed, threatened, proposed, or candidate species (T/E) are likely to occur within the proposed project action area based on the location of the proposed project. Since the proposed project occurs in a county with no known listed, proposed, or candidate species present, no further T/E coordination is needed. Enclosed please find a letter stating this fact, which should be included in your final exemption application.

COMMENTS

The proposed project appears to have minimal, if any, impacts to fish and wildlife resources. The construction activities would occur in an already disturbed area, and operation of the project would use water coming from a water supply pipeline, and discharge to another water supply pipeline, utilizing a completely contained system that has no hydraulic connection to natural waterbodies. As such, the U.S. Fish and Wildlife Service fully supports this project, and concurs that a waiver of second stage consultation requirements is appropriate. No further consultation with this office is necessary.

Thank you for this opportunity to comment. If you have any questions or require further information, please contact Melissa Grader of this office at 413-548-8002, extension 124.

Sincerely yours,



Marilyn D. Brower
Acting Supervisor
New England Field Office

Enclosure

cc: FERC, Secretary
MA DFW, Caleb Slater
MA DEP, Robert Kubit
Reading File
ES: MGrader:12-16-08:603-223-2541



United States Department of the Interior
FISH AND WILDLIFE SERVICE
New England Field Office
70 Commercial Street, Suite 300
Concord, New Hampshire 03301-5087



January 1, 2008

To Whom It May Concern:

This project was reviewed for federally-listed or proposed threatened or endangered species presence per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website (<http://www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpec-Consultation.htm>). Based on information currently available, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service (Service) are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with the Service under Section 7 of the Endangered Species Act is not required.

This concludes the review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this review, unless additional information on listed or proposed species becomes available.

Thank you for your coordination. Please contact us at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Anthony P. Tur
Endangered Species Specialist
New England Field Office



Frederick A. Laskey
Executive Director

MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

RECEIVED

DEC 02 2008

MASS. HIST. COMM
AC. 45479

Telephone: (617) 242-6000
Fax: (617) 788-4899
TTY: (617) 788-4971

December 1, 2008

Ms. Brona Simon
Secretary of the Commonwealth
MA Historical Commission
MA Archives Building
220 Morrissey Boulevard
Boston, MA 02125

Subject: Initial Consultation Package
Proposed Loring Road Hydropower Small Conduit Exemption
Located at MWRA Loring Road Covered Storage Facility

Dear Ms. Simon:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

At MWRA's Loring Covered Storage Facility in Weston, sleeve valves in an underground vault are currently used to reduce the pressure of water to safely send approximately 22 million gallons per day of water to storage tanks serving a portion of MWRA's service area. A hydropower turbine-generator at this location could harness the power of this water, and provide energy recovery along with the primary purpose of the Loring Road facility to regulate flow and provide a constant pressure water supply to water supply customers.

As defined by FERC, a small conduit hydroelectric facility includes "all structures, fixtures, equipment and lands used and useful in the operation or maintenance of the hydroelectric facility, but excludes the conduit on which the hydroelectric facility is located or the transmission lines associated with the hydroelectric facility." As a result, the geographic scope of this project is limited.

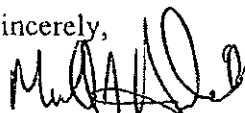
The material presented in this initial consultation package is presented and formatted as the FERC Application for a Conduit Exemption itself. FERC regulations require that federal and state resource agencies be consulted prior to submission of the final application to FERC; evidence of agency consultation must be included in the exemption application. MWRA anticipates that limited consultation will be necessary given the nature of this project, and plans to request that FERC, pursuant to its authority, waive the second stage consultation requirements in 18 CFR Part 4, Subpart D, Section 4.38

(c) and allow the MWRA to proceed directly the third stage of consultation (filing of the Application for Exemption with the FERC). Therefore, MWRA would appreciate your timely review and comment, and your concurrence with a waiver of the second stage consultation requirements.

Should you have any questions about the project or the process outlined above, please do not hesitate to contact me at (617) 788 4359 or Pam Heidell of my staff at (617) 788 1102.

After review of MHC files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.

Sincerely,



Michael J. Hombrook,
Chief Operating Officer



MHC PC 45479

Edward L. Bell

Date

Senior Archaeologist 09 December 2008

Massachusetts Historical Commission

cc: Marianne Connolly, MWRA



MassWildlife

Commonwealth of Massachusetts

Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

Michael J. Hornbrook
Massachusetts Water Resources Authority
Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

December 9, 2008

**RE: Proposed Loring Road hydropower small conduit exemption
Weston, MA
NHESP File No. 08-25912**

Dear Mr. Hornbrook:

Thank you for contacting the Division of Fisheries and Wildlife for information relative to the above referenced project. The Fisheries Section supports the project and is in favor of a waiver of the second stage consultation requirements.

At this time the site is not mapped as Priority or Estimated Habitat and the Natural Heritage and Endangered Species Program does not have any rare species concerns associated with this site. Should your site plans change, or new rare species information become available, this evaluation may be reconsidered.

For questions regarding the Natural Heritage & Endangered Species Program, please contact Amanda Veinotte at (508) 389-6380. For questions regarding fisheries issues, please contact Richard Hartley at (508) 389-6330.

Sincerely,

Thomas W. French, PhD
Assistant Director

www.masswildlife.org

Division of Fisheries and Wildlife
Field Headquarters, One Rabbit Hill Road, Westborough, MA 01581 (508) 389-6300 Fax (508) 389-7890
An Agency of the Department of Fisheries, Wildlife & Environmental Law Enforcement



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

January 16, 2009

Regulatory Division
CENAE-R-2008-3759

Michael J. Hornbrook
Massachusetts Water Resources Authority
Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Dear Mr. Hornbrook:

We have determined that a Department of the Army permit is not required for the construction of a hydroelectric facility within an existing valve chamber at the Loring Road Covered Storage Facility in Weston, Massachusetts. The work includes installation of a hydropower turbine-generator and associated equipment within an existing 50 foot by 125 valve chamber and will not result in the placement of fill material within waterways or wetlands. This determination is based on the information in your submittal entitled "LORING ROAD HYDROELECTRIC PROJECT, FIRST STAGE CONSULTATION DOCUMENT", and plans entitled "MASSACHUSETTS WATER RESOURCES AUTHORITY, METROWEST WATER SUPPLY TUNNEL, SHAFT W, GENERAL PLAN 11" on two sheets.

Our regulatory jurisdiction encompasses all work in or affecting navigable waters of the United States under Section 10 of the Rivers and Harbors Act of 1899 and the discharge of dredged or fill material into all waters of the United States, including adjacent wetlands under Section 404 of the Clean Water Act. Since your proposal does not include any of the aforementioned activities, a Department of the Army permit is not required and further consultation with our office concerning the Federal Energy Regulatory Commission application for this project is not necessary.

Finally, our Corps permit process does not supersede any other agency's jurisdiction. Therefore, if other Federal, State, and/or local agencies have jurisdiction over your proposed activity, you must receive all other applicable permits before you can begin work. If you have any questions regarding this letter, please contact Ted Lento, Regulatory Branch project manager, at (978) 318-8863, or (800) 362-4367 within Massachusetts.

Sincerely,

Karen Kirk Adams
Chief, Permits & Enforcement Branch
Regulatory Division

The Massachusetts Water Resources Authority, by the undersigned, hereby affirms that the information presented in the foregoing applications to the Low Impact Hydropower Institute for certification of the Cosgrove Conduit Hydroelectric Facility, the Oakdale Conduit Hydroelectric Facility, and the Loring Road Conduit Hydroelectric facility is accurate and complete to the best of the knowledge, information and belief of those individuals from whom the information was gathered.

The primary goal of the Low Impact Hydropower Institute's Certification Program is public benefit. The Governing Board and its agents are not responsible for financial or other private consequences of its certification decisions. The undersigned Applicant agrees to release the Low Impact Hydropower Institute, the Governing Board and its agents from any claims arising out of any decision rendered on this or other applications or on any other action pursuant to the Low Impact Hydropower Institute's Certification Program.

Massachusetts Water Resources Authority

By: 
Its: Chief Executive Officer, Duly Authorized

Dated: 09/21/2015



APPENDIX D – PROJECT CONTACT FORM

Project Name: Loring Road Hydroelectric
(please provide name used in FERC license if applicable)

Project Owner/Operator:

Name and Title Michael Hornbrock, Chief Operating Officer
Company MA. WATER RESOURCES AUTHORITY
Phone 617-788-4359
Email address Michael.Hornbrock@mura.com
Mailing Address 100 First Ave, CMY, Building 39, Boston, MA 02129

Consulting firm that manages LIHI program participation (if applicable):

Name _____
Company _____
Phone _____
Email address _____
Mailing Address _____

Party responsible for compliance with LIHI program requirements:

Name and Title Pamela Heidell, Policy and Planning Manager
Phone 617, 788-1102
Email address Pamela.Heidell@mura.com
Mailing Address 100 First Ave, CMY, Building 39, Boston, MA 02129

Party responsible for accounts payable:

Name and Title Pamela Heidell, Policy and Planning Manager
Phone 617-788-1102
Email address Pamela.Heidell@mura.com
Mailing Address 100, First Ave, CMY, Building 39, Boston MA 02129

[Signature]
Project Owner/Operator Signature

09/21/2015
Date