Reviewer's Report on Application for Certification to the Low Impact Hydropower Institute from the Byron Weston Power Company, LLC

Gary M. Franc
Franc Logic
2/3/2017

Table of Contents

REVIEW OF APPLICATION FOR CERTIFICATION BY THE LOW IMPACT HYDROPOWER INSTITUTE OF THE BYRON WESTON PROJECT

Prepared by:
Gary M. Franc
Feb 3, 2017

1. INTRODUCTION

This report reviews the application received by the Low Impact Hydropower Institute (LIHI) for Low Impact Hydropower Certification of the Byron Weston Hydroelectric Project (Byron Weston or Project).

The owner of the Project is Crane & Company, Inc. (CCI).[1] CCI's direct contact is David Boino.[2] The original Application for Certification was received by LIHI on July 15, 2015 to allow for review using the older LIHI Certification Handbook (April 2014 version). The Application Intake Review was completed on October 20, 2015 by Gary Franc, with requests for additional information to be provided by the applicant. CCI retained GZA GeoEnvironmental, Inc (GZA)[3]. The revised application for certification was received from the applicant on December 29, 2016 and will be reviewed using the April 2014 LIHI Certification Handbook rules.

On September 23, 2011, the Massachusetts Department of Environmental Protection (MADEP) issued a Water Quality Certificate (WQC)[4] for the Project. The Federal Energy Regulatory Commission (FERC) granted the Project a license exemption (FLE) on February 29, 2012 (P-13583)[5].

The Project has an installed capacity of 0.25 megawatts (MW). As stated in the LIHI Certification application, the average annual energy (AAE) for the Project is estimated at 938 megawatt-hours (MWh), corresponding to a plant factor of 43.0%. The power output generated by the Project is used within CCI's mill complex, which includes the Byron Weston Defiance Mill building as well as other facilities. The mill complex serves as the headquarters and principal paper manufacturing location for CCI.

2. PROJECT LOCATION

The Project is located at the Bryon Weston Dam No. 2 in Dalton, Massachusetts on the East Branch of the Housatonic River. The development is located at river mile (RM) 7.97 upstream from the East Branch confluence with the main Housatonic River (42.472501"N 73.158074" W) (See Figure 1).

---

1 CCI is located at 30 South Street, Dalton, MA 01226. CCI is a manufacturer of cotton-based paper products used in the printing of national currencies, passports and banknotes.

2 David Boino, Manager of Engineering - 413-684-6502 - David.Boino@cranecurrency.com.

3 Mr. Chad Cox - GZA GeoEnvironmental, Inc., 249 Vanderbilt Avenue, Norwood, MA 02062 - 781.278.5787 - chad.cox@gza.com. The company's webpage is www.gza.com.

4 WQC - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12771659

5 FLE - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12904906

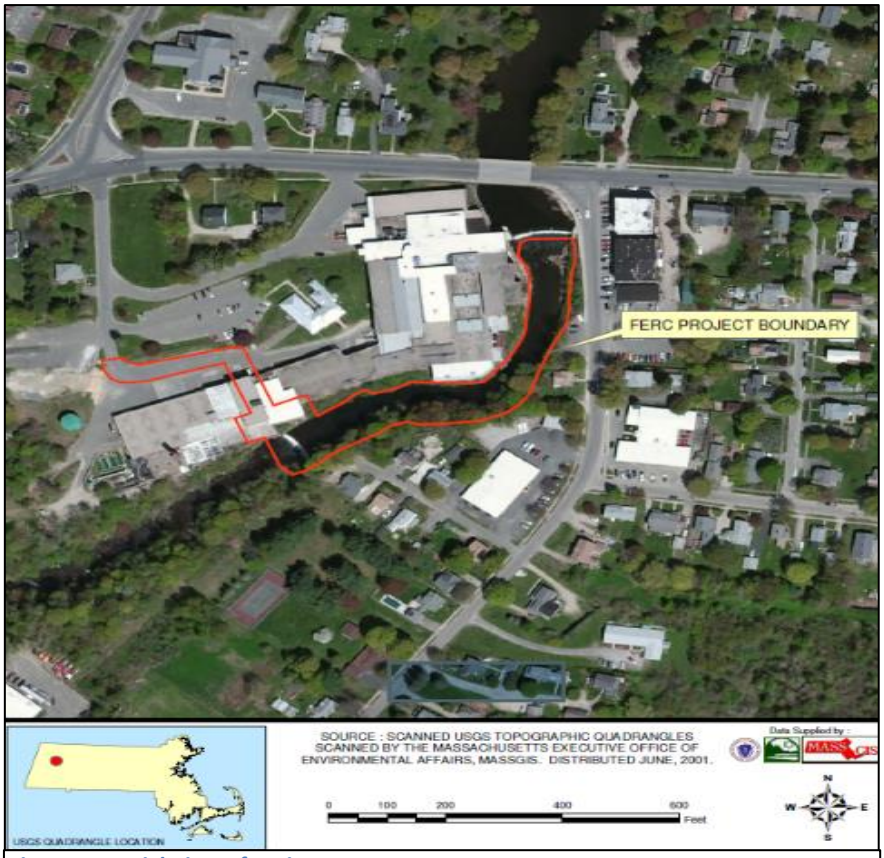


Figure 1 - Aerial View of Project

The application states the development has a 51.3 square mile (SQMI) drainage basin upstream of the dam. Upstream of the development is the Bryon Weston Dam No. 1 approximately 700-ft above Byron Weston Dam No. 2. Downstream of the development, the Upper Pioneer Dam is located at RM 6.87 and the Government Dam Project is located at RM 5.67.

The closest USGS gaging station (01197000 East Branch Housatonic River at Coltsville, MA[6]) is downstream of the Project and has been recording streamflow since March of 1936. The gage's contributing drainage area is 57.6 SQMI.

The Project's flow duration curve, based on historical period of record (POR) daily flows since March 8, 1936 through January 17, 2017 is shown in Figure 2. The 90, 50 and 10 percent exceeded flows are 20 cubic feet per second (cfs), 55-cfs and 211-cfs, respectively. The Project's average annual flow over this POR is 97-cfs, which is exceeded approximately 28% of the time.

[6] USGS gage 01197000 - http://waterdata.usgs.gov/pa/nwis/uv?site_no=01197000. The recorded parameters are gage height and streamflow.

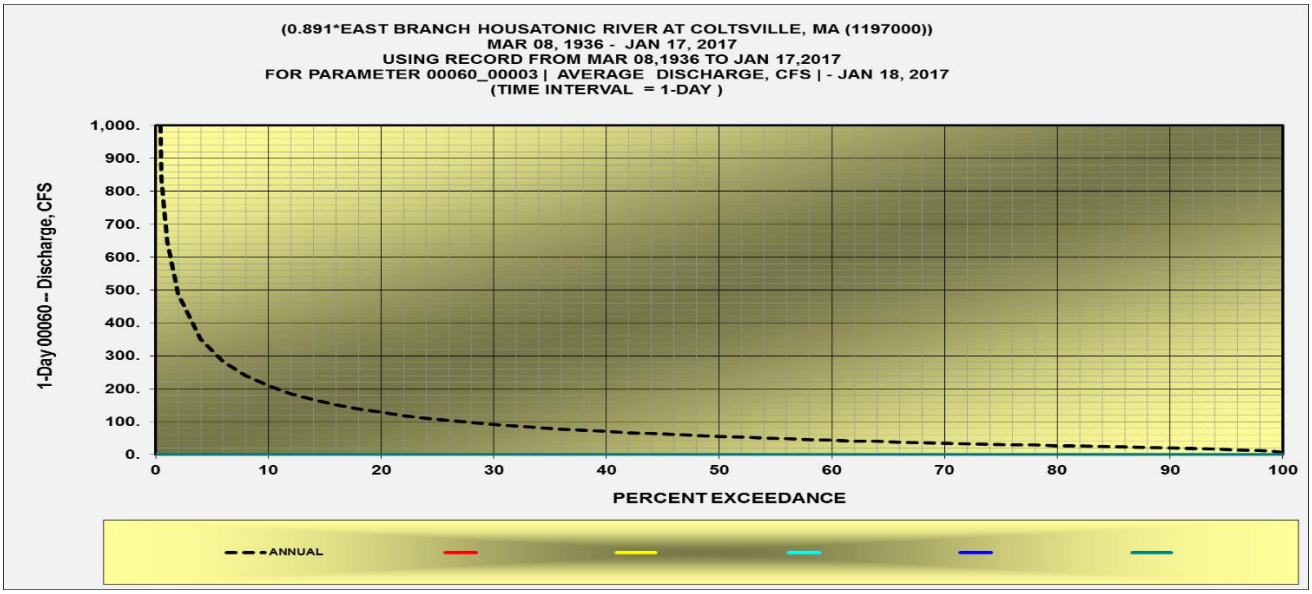


Figure 2 - Annual Flow Duration Curve

The Project's historic minimum average monthly flow is 11-cfs occurring in July of 1962, whereas the Project's historic minimum average weekly flow is 8-cfs occurring in the 37th week of the year (1st week of September in 2010). The Project's historic minimum average daily flow is 4-cfs occurring on August 15, 1936.

A frequency analysis using annual instantaneous maximum inflows for the period of record is shown in Figure 3. The 10-year, 50-year and 100-year floods are 3,306-cfs, 5,555-cfs and 6,745-cfs, respectively. Historically, no year has occurred without an instantaneous maximum peak inflow of at least 351-cfs. The Project's instantaneous maximum peak inflow was 5,709-cfs; it occurred on August 28, 2011. This corresponds to about a 60-year flood event.

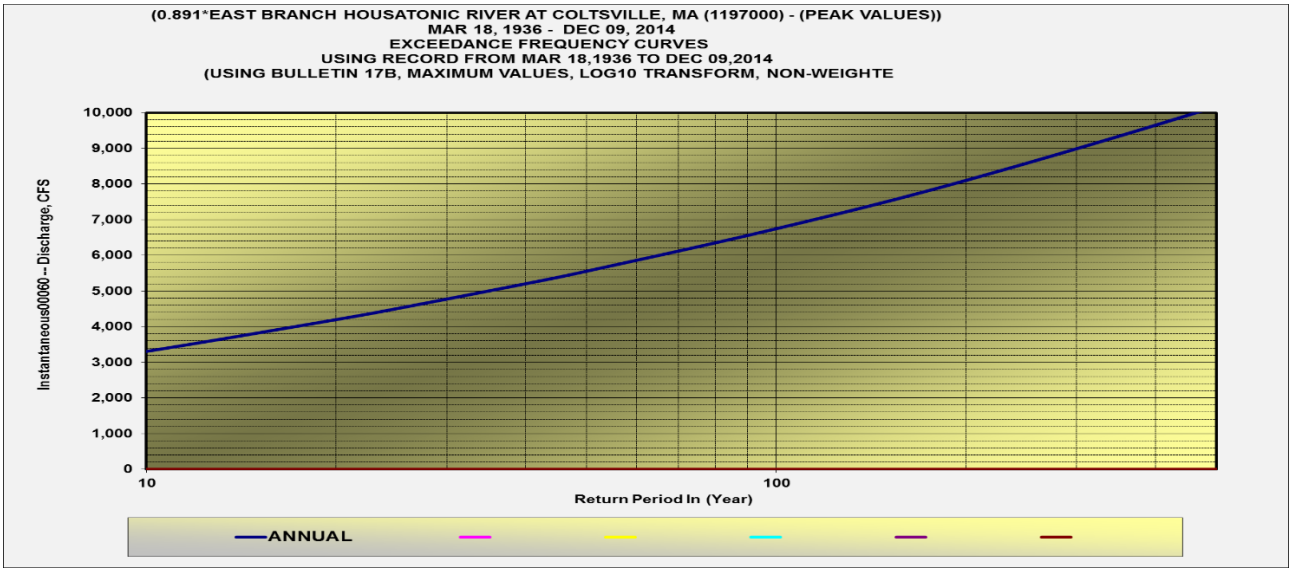


Figure 3 - Annual Frequency Curve

3. PROJECT DESCRIPTION

The FERC granted the Project a license exemption on February 29, 2012 (P-13583). The Project has an installed capacity of 0.25 megawatts (MW). As stated in the LIHI Certification application, the average annual energy (AAE) for the Project is estimated at 938 megawatt-hours (MWh), corresponding to a plant factor of 43.0%. The Project first produced power on October 3, 2013.

The Project's primary features include the Byron Weston Dam No. 2, originally built in 1887, an inside mill headrace canal and a powerhouse.

Descriptions of the major Project facilities and components are provided below.

3.1 Major Project Works

The Project main components consists of:

- The existing 30-foot-high, 90-foot-long, stone-masonry Byron Weston Dam No. 2. The dam structure includes a 23-foot high, 75-foot-long spillway, which comprises the majority of the dam. The Project reservoir extends 700 feet upriver where it meets the Byron Weston Dam No.1. The headpond has a total surface area of 0.94 acres at the normal maximum reservoir elevation of 1,116.7 feet mean sea level (FMSL), containing a gross storage of 3.1 acre-feet.
- An existing intake structure equipped with trashracks and a headgate. The water passes through the headgate to an existing 50-foot-long, 9.5-foot-wide headrace canal. The headrace canal will convey flow to a new 15-foot-long, 4.4-foot-diameter penstock leading to a 0.25 MW turbine-generating unit within the existing Byron Weston Defiance Mill building. The unit is a vertically oriented double regulated Kaplan turbine manufactured by Canadian Hydro Components Ltd. for installation at the project site. The turbine can operate as low as 20-cfs. The rated flow is 133-cfs, whereas the maximum Flow is 170-cfs.
- A 12-inch low-level outlet pipe that provides the means to divert flow from the headrace during times when the turbine is out-of-service.
- A draft tube within the existing tailrace approximately 35-feet downstream of the dam.
- A bypass reach approximately 35-feet long configured to create a backwater at the toe of the spillway.

3.2 Mode of Operation for Power

As required under Article 18 of the terms of the FLE, the Project must operate under a Run-of-River Operation Maintenance and Monitoring Plan (ROR Plan). GZA prepared the ROR Plan on behalf of CCI, which was submitted to FERC on October 9, 2012[7]. The plan complies with the Terms and Conditions of the exemption provided by the Massachusetts Division of Fisheries and Wildlife (MADFW), the U.S. Department of Interior (USDOI) and with the WQC issued by the Massachusetts Department of Environmental Protection (MADEP).

The plan includes a description of the mechanisms and structures used, the level of manual and automatic operation, the methods for recording data on the run-of-river operation and a plan for maintaining the data for inspection by the USDOI, MADFW, MADEP and FERC. Project operation is coordinated with downstream hydroelectric plants and the overall PJM Interconnection System.

The Project operates in ROR mode year round. Inflows to the Project must pass either through the power plant intake or over the spillway. Inflows into the intake can pass through the turbine or through the low-level outlet. The power plant is located adjacent to the dam/spillway; therefore, there is no significant bypass reach. The Project is not required to release a minimum flow.

[7] ROR Plan - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13083694

Project flow control is automated by a Programmable Logic Controller (PLC) connected to a water level sensor within the impoundment, just upstream of the trashrack. The PLC adjusts turbine wicket gates automatically based the impoundment elevation provide by the water level sensor.

The Project is configured so that the PLC will be capable of sending and receiving signals from a remote plant control system via an Ethernet connection. CCI staff will monitor the Project remotely. The PLC will shut the Project down (i.e. close the wicket gates and route all flow over the spillway) in the event of a power outage, generator fault, or other incident that takes the PLC off-line. A battery backup provides operations capability in the event of loss of external power.

The PLC is programmed to maintain the impoundment's normal pool level at the crest of the spillway, elevation 1116.7 FMSL. If the PLC senses a decrease in impoundment level, the PLC adjusts the wicket gates to reduce flow to the turbine and stabilize the impoundment level. Conversely, for a detected increase in the impoundment level, the PLC adjusts the wicket gates to increase turbine flow. A hydraulic governor linked to the PLC provides physical actuation of the wicket gates.

The PLC can be manually overridden in the event of equipment failure or other need. Manual flow control to dewatering the Project is available via the timber slide gate at the headworks and via timber stop logs on the exterior of the tailrace discharge portal.

Whenever the impoundment elevation is below 1116.7 FMSL, the turbine is shut down until such time that the impoundment level returns to 1116.7 FMSL or greater and inflow is less than 20-cfs. When inflow is between 20-cfs to 170-cfs, the PLC operates the turbine by setting the wicket gates to pass the entire inflow. For inflows above 170-cfs, 170-cfs passes through the turbine with excess inflow passing over the spillway.

Drawdown of the impoundment below the spillway elevation of 1116.7-feet occurs only under extraordinary circumstances such as a dam safety emergency, for unusual extensive dam repair activities, or for temporary inspection of the spillway "in the dry".

MADFW, USDOI, MADEP and FERC are notified in advance of any planned extensive repair activities requiring drawdown. Maintenance and repairs to the hydropower plan will not require dewatering of the impoundment under most circumstances because the headrace can be isolated from the impoundment by closing the timber head gate. Likewise, the draft tube can be isolated from the tailrace by means of timber stop logs at the discharge portal arch.

Any temporary drawdown for the purpose of dry spillway inspection are typically required for less than one hour approximately once a year. Any temporary drawdown is managed to ensure that the minimum impoundment level is maintained at or above 1116.2 FMSL.

Following a drawdown, the refill procedure passes approximately 90 percent of inflow through the turbine or low-level outlet to maintain downstream flows while the impoundment refills using the remaining 10 percent of the inflow. The PLC maintains this procedure until spillway flow begins, at which time standard ROR operation is resumed.

Finally, the PLC continuously monitors water level of the impoundment and digitally records the elevations every hour. Approximately, once per year the PLC record is transferred to a backup computer. Records are maintained by CCI's Engineering Department. Requests for data review can be made through CCI's Director of Environmental Engineering.

3.3 Mode of Operation for Fish Passage

The application states that no anadromous and/or catadromous fish are present in the Facility area or known to have been present historically. Letters from the MADFW[8] and the USFWS[9], dated January 29 and February 1, 2010, respectively, indicate that anadromous and catadromous fish are not present within the Facility or its vicinity. Both letters acknowledge that a migratory fish restoration program targeting American eel (Anguilla rostrata), American shad (Alosa sapidissima), and river herring (Alosa pseudoharengus) is underway on the Housatonic River in Connecticut and that presently there were no plans to extend the project to the Massachusetts portion of the river on the East Branch of the Housatonic River. Both letters further acknowledge that upstream and downstream fish passage is not presently required, but could be in the future.

Additionally, no mandatory Fish Passage Prescriptions were included in the FLE[10] or accompanying WQC[11], and not requested by MADFW or USFWS during the licensing process. Item #13 of the FLE requires that the Facility to construct, operate, maintain, and evaluate upstream and downstream fish passage facilities when notified by the agencies that such facilities are necessary. To date, the resource agencies have not requested the need for upstream and/or downstream facilities.

Regarding riverine, anadromous and catadromous fish entrainment protection, CCI installed trash racks meeting requirements of provision #19 of the WQC. The racks are full-depth trash racks with clear spacing of one inch or less and an approach velocity of 2.0 feet per second (fps) or less.

3.4 Mode of Operation for Minimum Flow Releases

As discussed in the October 2012 ROR Plan, the power plant is located adjacent to the dam/spillway and therefore, there is no significant bypass reach below the dam. Given this configuration, no minimum flow is recommended in the plan. The plan states it complies with the Terms and Conditions of the exemption provided by the MADFW, the USDOI and with the WQC. My review of the FERC docket indicates that no resource agencies have taken exception with this recommendation.

4. REGULATORY STATUS

4.1 Summary of Project Licensing and Agency Consultation Process

The FERC granted the Project a license exemption on February 29, 2012 (P-13583). FERC orders issued subsequent to this action include:

- July 12, 2012 – FERC order granting a time extension to submit responses to Articles 12, 13, 18, 22, 23, 24, and 27 of an Order Granting Exemption from Licensing[12];
- July 18, 2012 – FERC order approving Phase I construction plans and specifications (privileged).
- August 28, 2012 – FERC order approving Exhibit G drawings[13].
- October 12, 2012 – FERC order approving Wheel Turbine Relocation Plan pursuant to Article 27 of FLE[14].
- December 7, 2012 – FERC order accepting Public Safety Plan[15].
- October 2, 2014 – FERC order approving as-built Exhibits A and F[16].

---

8 MADFW - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12259861
9 USFWS - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12263979
10 FLE - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12904906
11 WQC - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12771659
12 https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13026903
13 https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13111202
14 https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13111396
15 https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13136697
16 https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13650085

4.2 Compliance Issues

No compliance issues associated with the project's FLE have arisen, and there have been only a few "extension of time" requests by CCI since October of 2012. The last time extension request occurred on June 29, 2012[17]. The FERC order documented above in the July 12, 2012 letter granted this request.

5. PUBLIC COMMENTS RECEIVED

The original Application for Certification was received by LIHI on July 15, 2015 to allow for review using the older LIHI Certification Handbook (April 2014 version). The Application Intake Review was completed on October 20, 2015 by Gary Franc, with requests for additional information to be provided by the applicant. The revised application for certification was received from the applicant on December 29, 2016 and will be reviewed using the April 2014 LIHI Certification Handbook rules. Public comment on this revised application terminates on March 27, 2017.

The lists of resource agency contacts contained within the LIHI certification application acknowledged to be knowledgeable on the operational issues with the Project are:

- Nathaniel W. Karns, AICP, Executive Director, Berkshire County Regional Planning Commission, One Fenn Street, Suite 201, Pittsfield, MA 01201 - (413.442.1521 - nkarns@berkshireplanning.org);
- Robert Bishop, Chairman, Dalton Conservation Commission, 426 Main Street, Dalton, MA 01226 – (413.684.6111 x 11 - Rwbishop52@gmail.com);
- Paul Jahnige, Director, Greenways & Trails Program, Department of Conservation & Recreation, 136 Damon Road, Northampton, MA 01060 – (413.586.8706 x 20 - paul.jahnige@state.ma.us);
- Michael Gorski, Regional Director, Western Regional Office, Department of Environmental Protection, State House West - 4th Floor, 436 Dwight Street, Springfield, MA 01103 – (413.784.1100 - Michael.Gorski@State.MA.US);
- Jack Buckley, Director, Field Headquarters, Division of Fisheries & Wildlife, One Rabbit Hill Road, Westborough, MA 01581 – (508.389.6340 - jack.buckley@state.ma.us);
- Thomas French, Assistant Director of DFW for NHESP, Natural Heritage & Endangered Species Program, Division of Fisheries & Wildlife, One Rabbit Hill Road, Westborough, MA 01581 – (508.389.6355 - tom.french@state.ma.us);
- Mr. David Turin, Water Quality Branch, USEPA REGION 1 - New England, 5 Post Office Square, Mail Code: OES04-3, Boston, MA 02109-3912 – (617.918.1598 - Turin.david@Epa.gov);
- Mr. Caleb Slater, BS, MS, PhD, Anadromous Fisheries, Project Leader, MA Division of Fisheries & Wildlife, One Rabbit Hill Rd, Westborough, MA 01581 – (508.389.6331 - Caleb.Slater@state.ma.us);
- Michael Stroman, Program Chief, Office of Energy and Environmental Affairs, Wetlands & Watersheds, Massachusetts Div. of Wetlands, 1 Winter St, Floor 9, Boston, MA 02108 – (617-292-5526 - Michael.Stroman@state.ma.us);
- Caleb J. Darby, Chairman, Town of Dalton Planning Board, 426 Main Street, Dalton, MA 01226 – (413.684.6111 x 29 - daltonpb@bcn.net);
- Col. Christopher Barron, District Engineer Commander, New England District, U.S. Army Corps of Engineers, 696 Virginia Drive, Concord, MA 01742-2751 – (978.318.8238 - cenae-pa@usace.army.mil);
- Mr. Alexander R Hoar, U.S. Fish and Wildlife Service, Northeast Regional Office, 300 Westgate Center Drive, Hadley, MA 01035 – (413.253.8200 - alexander_hoar@fws.gov);

[17] https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13019569

- Ms. Melissa Grader, Partners for Fish and Wildlife Program, U.S. Fish and Wildlife Service, c/o CT River Coordinator's Office, 103 East Plumtree Rd., Sunderland, MA 01375 – (413.548.8002 x 124 - Melissa_Grader@fws.gov);
- Bryan Redmond, Division Director, Vermont Department of Environmental Conservation, Drinking Water and Groundwater Protection Division, Main Building - 2nd Floor, One National Life Drive, Montpelier, VT 05620-3521 – (802.585.4900 - bryan.redmond@vermont.gov);
- Alyssa B. Schuren, Commissioner, Agency of Natural Resources, Department of Environmental Conservation, Main Building - 2nd Floor, One National Life Drive, Montpelier, VT 05620 – (802.828.1556 - alyssa.schuren@vermont.gov).

On January 20, 2017, this reviewer emailed these individuals the following:

"Attached is the LIHI application provide by the owner of the Byron Weston Project. I am the LIHI reviewer tasked with determining whether the Byron Weston Project should be LIHI certified. I am emailing you today because you have been identified in the application as resource agency and non-governmental organization contacts familiar with the project. I would appreciate your perspective regarding the project's proposed operation with regard to satisfying its licensed environmental obligations (FERC articles) and your views pertaining to the project being "low impact". Without your input my review can only be based on the documents found in the FERC docket. Thank you for your time in this matter.

Please refer to the LIHI website for more details on the Byron Weston application and LIHI low impact criteria. http://lowimpacthydro.org/."

On January 20, 2017, I received an email from Caleb Slater. He states *"… If operated in accordance with the terms and conditions of the FERC exemption, the Byron Weston Project has the potential to be a "Low Impact" Hydro project. Given the project owner's cooperation to date, it is reasonable to expect that the terms and conditions of the FERC exemption will be met …"*

6. CONSISTENCY WITH LIHI CRITERIA AND ISSUES IDENTIFIED

This section summarizes the record for LIHI certification.

6.1 Summary of the Reviewer's Findings

Criterion A – Flows and Pond Fluctuations

The applicant states the Project complies with resource agency recommendations issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement for both the reach below the tailrace and all bypassed reaches.

A FLE for the Project was issued on February 29, 2012 (P-13583)[18]. As required under Article 18 of the FLE, the Project owner must negotiate with the resource agencies on developing a ROR Plan. This ROR Plan was developed and submitted to FERC on October 9, 2012[19]. The plan complies with the Terms and Conditions of the exemption provided by the MADFW, the USDOI and with the WQC issued by the MADEP.

[18] FLE - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12904906
[19] ROR Plan - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13083694

The plan includes a description of the mechanisms and structures used, the level of manual and automatic operation, the methods for recording data on the run-of-river operation and a plan for maintaining the data for inspection by the USDOI, MADFW, MADEP and FERC. Project operation is coordinated with downstream hydroelectric plants.

My review of the FERC docket indicates that no compliance issues have arisen since issuance of the FLE. Since the Project complies with flow and pond fluctuation aspects of its operation, this LIHI criterion is satisfied.

Criterion B – Water Quality

On September 23, 2011, the MADEP issued a WQC[20] for the Project. The applicant states that the Project complies with all conditions of the WQC issued by the MADEP.

The WQC contains 24 provisions to protect water quality in these river reaches. Provision 13 of the WQC requires the Project to operate in an instantaneous run-of-river mode, with outflows equaling inflows at the project on an instantaneous basis. Provision 17 requires the Project to submit a plan for monitoring run-of-river operation, including descriptions of the control mechanisms, the level of manual and automatic operation, data recording methodology, and an implementation schedule. The ROR plan, developed in concert with the MADEP, satisfies these provisions.

The applicant states the Project complies with the quantitative water quality standards established by the state that support designated uses pursuant to the WQC downstream of the Project. Provision 18 of the WQC requires CCI to conduct a post-operation water quality monitoring study in an identical manner as the pre-operation study.

CCI conducted a post-operation study from September 4, 2015 through November 5, 2015, using the same format as the pre-operation study (See Table 5 – Appendix A). The study used four in-situ water quality measuring instruments, spaced from the upstream to downstream of the Byron Weston No. 2 Dam, to record parameters including flow rate, water temperature, water barometric pressure, and dissolved oxygen, every 15 minutes for the duration of the study. Additionally, precipitation and daily high and low air temperatures were recorded.

GZA, the owner's engineering firm, analyzed the collected data. Flow rates ranged from 14.7-cfs to 284-cfs. Water temperatures at the four locations ranged from 40.3◦F to 72.4◦F and barometric pressures ranged from 26.6 to 29.3 inches of Mercury. Dissolved oxygen (DO) levels of 8.1 milligrams per liter (mg/L) to 14.1 mg/L. DO levels above 100 percent saturation occurred at locations immediately downstream of the spillway.

Study results indicate the Project complies with the water quality standards established under 314 CMR 4.05 for Class B warm water fisheries for temperature (not above 83 °F) and DO (not below 5.0 mg/L) between and downstream of the Byron Weston Dams No. 1 and No. 2.

According to the Massachusetts 2014 Integrated Waters List, the East Branch of the Housatonic River (MA21-02) is classified as a "Water Requiring a Total Maximum Daily Load (TMDL)[21]." Per a 2002 Water Quality Assessment Report (WQAR) on the Housatonic River Watershed published by MADEP in September of 2007[22], the cause of impairment is fecal coliforms and PCB in fish tissue.

---

[20] WQC - https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12771659

[21] A TMDL is a regulatory term describing the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards.

[22] http://www.mass.gov/eea/docs/dep/water/resources/07v5/21wqar07.pdf

In the WQAR, fecal coliform and E. coli samples were collected from two locations, both downstream of the Facility. Elevated bacteria levels were highest furthest downstream and were associated with wet weather days. While the source of the elevated fecal coliform bacteria levels is unknown, it is suspected to be storm water runoff from the area rather than from a specific source. The PCB issue only applies downstream of the Government Mill Dam which forms a barrier to impacted sediments and upstream passage by aquatic wildlife from the impacted reaches. Government Mill Dam is downstream of Byron Weston Dam No. 2. The source of the PCB discharges has been identified as originating from the General Electric facilities in downstream Pittsfield. A PCB cleanup project is ongoing.

CCI states the Project complies with the water quantitative standards within the Project area and in the downstream reach, and there have been no water quality compliance violations under the current license. My review did not find any violation of these standards. Since the Project complies with water quality aspects of its operation, this LIHI criterion is satisfied.

Criterion C – Fish Passage and Protection

No mandatory fish passage prescriptions were included in the FLE or accompanying WQC or requested by MADFW or USFWS during the licensing process. Item 13 of the FLE requires that the Project construct, operate, maintain, and evaluate upstream and downstream fish passage facilities when notified by the agencies that such facilities are necessary. To date, the resource agencies have not requested the need for upstream and/or downstream facilities.

A January 29, 2010 letter from the MADFW and a February 1, 2010 letter from the USFWS indicate that anadromous and catadromous fish are not present within the Project or its vicinity and that a migratory fish restoration program targeting American eel, American shad, and river herring is underway on the Housatonic River in Connecticut (See Appendix A).

Presently no plans to extend the project to the Massachusetts portion of the river on the East Branch of the Housatonic River are contemplated. Both letters acknowledge that upstream and downstream fish passage is not presently required, but could be in the future.

Regarding riverine, anadromous and catadromous fish entrainment protection, CCI installed trash racks meeting requirements of provision 19 of the WQC. The racks are full-depth trash racks with clear spacing of one inch or less and an approach velocity of 2.0 feet per second (fps) or less.

A review of the FERC docket, the LIHI application and correspondence with resource agencies confirms that the Project complies with fish passage and protection issues related to the Project and, therefore, this criterion has been satisfied.

Criterion D – Watershed Protection

The Project is located immediately adjacent to the river and uses the waterpower potential of the 30-foot-high, 90-foot-long, stone masonry Byron Weston Dam No. 2. The impoundment extends approximately 700 feet upstream to the toe of the Byron Weston Dam No. 1, which is more than 20 feet high and fully extends across the channel. Byron Weston Dam No. 1 is also a ROR facility owned by CCI.

No buffer zone exists within the Project boundary. The vertical masonry walls of the Crane mill building form the Project's impoundment banks on the right (looking downstream) side of the river. The impoundment banks on left side of the river are heavily wooded with steep slopes. Due to this steep topography, there are no means of access for the public. Furthermore, due to the historical use

of the shoreline for mill facilities, the area immediately adjacent to the Project including the shoreline offers limited access to the river.

In 2015, CCI donated a 685-acre parcel to the Berkshire Natural Resources Council. The undeveloped land, known as The Boulders, is located in parts of Dalton, Lanesborough and Pittsfield. While this property is not within the Project watershed, it is close by and demonstrates CCI's commitment to environmental conservation.

In addition, the local Dalton Conservation Commission (DCC) is responsible for administering and enforcing the Massachusetts Wetlands Protection Act (WPA), which protects the quality and quantity of surface and ground water, prevents flooding and storm damage, and protects wetlands-dependent wildlife and their habitat.

DCC approval of projects ensures that measures are taken to prevent erosion and damage to resource areas. A Request for Determination of Applicability was filed with the DCC on April 25, 2011. The DCC issued an approval of the Project on June 7, 2011 (See Appendix A). The determination indicates that while the proposed work is within an area subject to protection under the WPA, the work does not involve removing, filling, dredging, or altering the area and that, therefore, filing a Notice of Intent was not required.

Based on my review the Project complies with watershed protection requirements and meets the LIHI criteria for Watershed Protection.

Criterion E – Threatened and Endangered Species Protection

A review of the Natural Heritage and Endangered Species Program (NHESP) GIS data layers show that no Estimated or Priority Habitat areas are mapped within the Project area or the downstream reach (See 4/30/2010 letter from MADFW in Appendix A).

Additionally, the USFWS's official species list includes the northern long-eared bat (Myotis septentrionalis) for Berkshire County in Massachusetts. This species has a Federal designation of threatened and a State designation of endangered within Massachusetts.

The northern long-eared bat is a migratory species that utilizes a variety of habitats during the year depending on the season. Between early November and April, this species hibernates in crevices in portions of caves and abandoned mineshafts that have high humidity, constant temperatures, and little airflow. Individuals tend to return to the same hibernaculum[23] from year to year although they sometimes use other hibernacula. Hibernacula are generally located within approximately 35 miles of summer foraging habitat. Between April and October, northern long eared bats roost and forage in forested areas. Preferred roost sites include clusters of large, live or dead, hardwood trees with cavities or peeling bark. Preferred foraging sites include wooded areas around vernal pools or small ponds or along streams. Thus, transitional zones between forested uplands and wetlands represent prime summer roosting and foraging habitat.

On January 14, 2016, the USFWS issued the final version of Long-Eared Bat (4D Rule)[24]. On April 25, 2016, the USFWS released its determination acknowledging that white-nose syndrome (WNS)[25] is the primary threat to this species rather than loss of critical habitat. The 4D Rule and subsequent statements focus on minimizing tree cutting near critical habitat and preventing further spread of WNS. During the 2007-2008 hibernation period, cases of WNS were reported in Berkshire County. Cases of WNS have not been reported at the Project.

---

[23] Places where hibernating animals shelter during the winter.

[24] https://www.federalregister.gov/documents/2016/01/14/2016-00617/endangered-and-threatened-wildlife-and-plants-4d-rule-for-the-northern-long-eared-bat

[25] (WNS) is an emerging disease in North American bats that, as of 2012, was associated with at least 5.7 million bat deaths.

No formal recovery plans or incidental take permits have been requested by resource agencies for the northern long-eared bat or any other threatened and endangered species at the Project. To date, no resource agency has raised any concerns that the ongoing operation of the Project is adversely affecting habitat, therefore, I recommend that this criterion is satisfied.

Criterion F – Cultural Resources

The Massachusetts Historical Commission (MHC) and the Dalton Historical Commission (DHC) were consulted during the FERC licensing process. In a December 15, 2009 letter, the MHC acknowledged the project and recommended consultation with the DHC. In a letter dated July 20, 2010, the DHC indicates that it is in full support of the project and that it believes the Byron Weston Defiance Mill building should be included in the Register of Historic Places (See Appendix A).

Article 27 of the FERC exemption requires a Wheel Turbine Relocation Plan (WTRP) be submitted to the MHC and DHC for the relocation and refurbishment of the McCormick Hercules wheel turbines (See Appendix A). On October 12, 2012, FERC approved the WTRP[26]. The WTRP states that within 180 days after commencement of Project operation, the refurbished turbine will be displayed outside the Crane Museum of Papermaking and that FERC will be notified of this action within 30 days.

The applicant states that the wheel turbines are currently in storage at the Byron Weston Mill and that per the WTRP, arrangements are being made to put the wheel turbines on display at the Crane Museum of Papermaking.

Since the Project commenced operation in October 3, 2013, the WTRP should have been completed circa March of 2014. My review of the FERC docket indicates that CCI has not notified FERC of the turbine relocation or been approved a time extension by FERC in completing the WTRP.

A call with Mr. David Boino, CCI's Manager of Engineering confirm my review. During my discussion with Mr. Boino, he stated that CCI plans completing the WTRP in the spring of 2017. Therefore given that CCI can compete the WTRP and notice FERC within 90 days after being granted LIHI certification I conclude this criterion regarding cultural resource protection, mitigation or enhancement is conditionally satisfied.

Criterion G – Recreation

The FERC exemption does not include recreation requirements. Due to the steep shoreline slopes, adjacent manufacturing facilities, small impoundment size, difficult accessibility, water quality issues, and presence of the run-of-river dam, the impoundment is not a favorable or safe location for recreation. Therefore, there is no public access to the impoundment between Dam No. 1 and Dam No. 2.

[26] https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13111396

Figure 4 - Impoundment Topography

Article 24 of the FLE requires that a Public Safety Plan be developed which includes "an evaluation of public safety concerns at the project site, including any designated recreation areas, and assess the need for the installation of safety devices or other safety measures.

The submitted plan must include a description of all public safety devices and signage, as well as a map showing the location of all public safety measures." On December 7, 2012[27], the FERC approved the Project's Public Safety Plan (PSP)[28].

Figure 5 - Reach Immediately Below Dam

The PSP indicates that the river channel is generally inaccessible to the public. However, one potential location of public access to the top of the river channel slope is at the end of Centennial Avenue just upstream of the left dam abutment.

The Appalachian Trail, a 2,158-mile long hiking path that follows the Appalachian Mountains from Georgia to Maine, passes through the Town of Dalton in the immediate vicinity of the project. The trail passes along Depot Street and Main Street. The impoundment created by the Byron Weston No. 2 Dam is visible from the trail. However, the dam, its spillway, the area immediately downstream of the dam and the tailrace discharge area are not visible from the trail due to the obstructed view created by private properties and vegetation.

My review of the FERC docket indicates that no compliance issues have arisen since issuance of the FLE. Since the Project complies with all FERC requirements related to recreational use, this LIHI criterion is satisfied.

[27] https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13136697
[28] https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13050036

Criterion H – Dam Removal

No state or federal agencies have recommended removal of the Project dam. Therefore, the project passes this criterion.

6.2 Recommendations of the Reviewer

Based on my review of information submitted by the applicant, the additional documentation noted herein, public comments submitted in writing and communications with resource agencies and other entities, I recommend that the Byron Weston Project be conditionally certified, with a certification term of five years.

Regarding the WTRP, the applicant states that the wheel turbines are currently in storage at the Byron Weston Mill and arrangements have been made to put the wheel turbines on display at the Crane Museum of Papermaking.

Since the Project commenced operation in October 3, 2013, the WTRP should have been completed circa March of 2014. My review of the FERC docket indicates that CCI has not notified FERC of the turbine relocation or been approved a time extension by FERC in completing the WTRP. A call with Mr. David Boino, CCI's Manager of Engineering confirms that CCI plans completing the WTRP in the spring of 2017.

I am recommending the following condition for inclusion in the granting of LIHI certification:

1. CCI needs to complete the WTRP and notice FERC and LIHI within 90 days after LIHI certification.

APPENDIX A

CORRESPONDENCE

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

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

Chad Cox, P.E.
GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood MA 02062

November 6, 2012

RE: Byron Weston Hydroelectric Project FERC #13583
Comments to Draft Run of River Operations Maintenance and Monitoring Plan

Dear Ms. Ekholm,

The Draft Run of River Operations Maintenance and Monitoring Plan for the Byron Weston Hydroelectric Project dated October 2012 has been reviewed by the MA Department of Environmental Protection and found satisfactory.

We have no comments to add. If there are any questions, please contact me at 508-767-2854.

Sincerely,

Robert Kubit, P.E.

Cc: Caleb Slater/MADFW
Melissa Grader/USFWS

TABLE 5: POST CONSTRUCTION WATER QUALITY STUDY RESULTS SUMMARY

Byron Weston Hydroelectric Project
Dalton, Massachusetts

Sensor ID:	Sensor 1			Sensor 2[3]			Sensor 3			Sensor 4			Class B Water Quality Benchmarks[5]
Study Parameter	Minimum	Maximum	Arithmetic Mean	Minimum	Maximum	Arithmetic Mean	Minimum	Maximum	Arithmetic Mean	Minimum	Maximum	Arithmetic Mean	
Flow Rate (CFS avg)[a]	14.7	284	48.7	15.5	43.6	25.5	14.7	284	48.7	14.7	284	52.5	NA
Water Temp (Deg F)[b]	41.0	72.4	55.3	59.4	71.9	66.5	40.3	71.0	54.4	41.0	68.3	53.5	≤83 Deg F
Water Barometric Pressure (in Hg)[b]	27.2	28.8	27.9	27.6	28.4	28.0	27.1	29.0	28.0	26.6	29.3	27.7	NA
DO (% Saturation)[b]	69.8	107	99.8	89.9	106	97.7	94.4	111	104	97.4	111	104	NA
DO (mg/L)[c]	8.40	13.2	10.6	8.10	9.90	9.00	9.10	14.1	11.3	11.0	14.1	11.4	≥5.0 mg/L
Precipitation (Inches)[d]	0.000	1.17	0.093	0.000	0.680	0.148	0.000	1.17	0.093	0.000	1.17	0.098	NA
Max Daily Air Temp (Deg F)[d]	41.0	92.0	67.3	67.0	92.0	82.8	41.0	92.0	67.3	41.0	85.0	65.0	NA
Min Daily Air Temp (Deg F)[d]	17.0	63.0	41.0	47.0	62.0	54.7	17.0	63.0	41.0	17.0	63.0	39.1	NA

Notes:

1. Calculations are derived from the Crane & Company Byron Weston Dam #2 Post Contruction Water Quality Study Data for FERC License Exemption Project 13583. The study was carried out at Low Flow High Temperature conditions from 9/4/2015 thorugh 11/5/2015 using four in-situ water quality measuring instruments (In-Situ Roll 9500) set to automatically record every 15 minutes.
2. The four sensors were positioned across the site as follows:
   - Sensor 1: Deployed at Toe of Dam #1 in Upstream of Impoundment for Dam #2
   - Sensor 2: Deployed at Deep Location in Impoundment for Dam #2
   - Sensor 3: Deployed at Toe of Dam #2 in Tailrace of Hydro
   - Sensor 4: Deployed Downstream of Dam #1
3. Sensor 2 malfunctioned on 9/15/2015, so data for this sensor is limited to the 9/4/2015 through 9/15/2015 portion of the study.
4. Data is from the following sources:
   - a All Water Sensors
   - b USGS Flow Data from station 1197000. East Branch Housatonic
   - c Converted from water sensor readings
   - d Weather information from station GHCND:USC00194131 in LENOX DALE, MA.
5. Water Quality Benchmarks are from 314 CMR 4 as presented for Class B, Warm Water Fisheries at: http://www.mass.gov/eea/docs/dep/service/regulations/314cmr04.pdf
6. CFS = Cubic feet per second; DO = Dissolved oxygen; NA = Not applicable/Not available

Massachusetts Category 5 Waters
"Waters requiring a TMDL"

NAME	SEGMENT ID	DESCRIPTION	SIZE	UNITS	IMPAIRMENT CAUSE	EPA TMDL NO.
French River	MA42-03	Headwaters, outlet Greenville Pond, Leicester to the outlet of Thayer Pond, Oxford (excluding approximately 0.6 miles through Rochdale Pond segment MA42048) (through former pond segments Texas Pond MA42058 and Thayers Pond MA42059).	3.8	MILES	Aquatic Plants (Macrophytes)	2357
					Mercury in Fish Tissue	
					Phosphorus (Total)	
					Turbidity	
French River	MA42-04	From dam just upstream of Clara Barton Road, Oxford, to dam at North Village, Webster/Dudley.	9.6	MILES	Mercury in Fish Tissue	
French River	MA42-05	Dam at North Village, Webster/Dudley to Webster WWTP outfall, Webster/Dudley.	2.4	MILES	(Debris/Floatables/Trash*)	
					(Other flow regime alterations*)	
					Aquatic Macroinvertebrate Bioassessments	
					Fecal Coliform	
French River	MA42-06	Webster WWTP outfall, Webster/Dudley to state line, Dudley, MA/Thompson,CT.	1	MILES	(Debris/Floatables/Trash*)	
					Aquatic Macroinvertebrate Bioassessments	
					Fecal Coliform	
					Other	
					Sediment Screening Value (Exceedence)	
					Taste and Odor	
					Turbidity	
Grindstone Brook	MA42-18	Headwaters outlet Henshaw Pond, Leicester to inlet Rochdale Pond, Leicester.	2.3	MILES	Escherichia coli	
Little River	MA42-13	Headwaters, outlet Pikes Pond, Charlton to inlet Buffumville Lake, Charlton (formerly part of segment MA42-09).	3.5	MILES	Aquatic Macroinvertebrate Bioassessments	
					Oxygen, Dissolved	
Sucker Brook	MA42-15	Headwaters, outlet Nipmuck Pond, Webster to inlet Club Pond, Webster	1.7	MILES	Aquatic Macroinvertebrate Bioassessments	
					Escherichia coli	
Housatonic						
East Branch Housatonic River	MA21-01	Outlet of Muddy Pond, Washington to the outlet of Center Pond, Dalton.	11.251	MILES	Fecal Coliform	
					PCB in Fish Tissue	
East Branch Housatonic River	MA21-02	Outlet of Center Pond, Dalton to confluence with the Housatonic River, Pittsfield.	8.019	MILES	Fecal Coliform	
					PCB in Fish Tissue	
Goodrich Pond	MA21042	Pittsfield	15.355	ACRES	PCB in Fish Tissue	
Housatonic River	MA21-04	Confluence of Southwest Branch Housatonic River and West Branch Housatonic River, Pittsfield to outlet of Woods Pond, Lee/Lenox (pond was formerly segment MA21120).	12.322	MILES	(Non-Native Aquatic Plants*)	
					Fecal Coliform	
					PCB in Fish Tissue	
					Polychlorinated biphenyls	

EAST BRANCH HOUSATONIC RIVER (SEGMENT MA21-02)
Location: Outlet of Center Pond, Dalton, to confluence with the Housatonic River, Pittsfield.
Segment Length: 8.0 miles.
Classification: Class B, Warm Water Fishery.

Based on the last evaluation of water quality conditions, this segment is listed in Category 5 of the 2004 Integrated List of Waters. This segment was assessed as impaired and requires TMDLs for unknown causes, unknown toxicity, priority organics, and pathogens (MassDEP 2005a).

WMA WATER WITHDRAWALS (APPENDIX J)
Crane & Co., Inc (10207002)
Pittsfield Generating Company (Altresco Pittsfield L.P) (9P10223601)
Berkshire Hills Country Club (10223602)

NPDES SURFACE WATER DISCHARGES (APPENDIX J)
Crane & Co., Inc. Byron Weston Mill (MAG250956)
Crane & Co., Inc. Pioneer Mill (MAG250955)
Crane & Co., Inc (MA0000671)
Pittsfield Development Authority (MA0040231) was General Electric Company (GE), Pittsfield (MA0003891) until June 2005
General Dynamics Defense Systems (MA0035718)

OTHER
General Electric Company, Pittsfield (http://www.epa.gov/region01/ge/).
It is important to note that the upper ½ mile and 1½ mile sections of the GE/EPA PCB Housatonic River cleanup project are located along the lower 2 miles of this segment. See EPA website above for more details. The upper ½ mile reach cleanup was completed in September 2002. Cleanup of the 1½ mile reach is ongoing.

USE ASSESSMENT
AQUATIC LIFE USE
Habitat and Flow
Crane & Co. maintains five dams for their mill along this segment of the East Branch Housatonic River.

Crane & Co. made repairs to the Center Pond dam in October 2006. Center Pond has been dewatered in order to carry out repair work (Noel 2006). Byron Weston Dam #2 was temporarily by-passed while repair work was carried out, but it is now back to normal level. The Old Berkshire Mill Dam (formerly dam #3) breach was completed in November 2000. The process of removing the dam began in 1999 as a collaboration between Crane & Company and the Department of Fish and Game's Riverways Program. The dam, an historic timber-crib structure and concrete dam, had stood on the East Branch Housatonic River for 200 years (Riverways 2000). Crane & Co. also owns and operates three additional dams that are located along this segment downstream from the Old Berkshire Mill Dam. From upstream to downstream the dams are: Pioneer Mill Dam, Baystate Mill Dam, and Government Mill Dam. There are no fish passage facilities at these three dams.

DWM also performed a habitat assessment on the East Branch Housatonic River at Station EB02A (B0502) on 10 Sept. 2002 (Appendix C). The sampling reach, described below, received an overall score of 156 out of 200 due to a lack of in-stream fish cover, channel alteration, riparian vegetative zone width. Aquatic macrophytes (mosses) were present in 20% of the reach. Green filamentous and mat algae covered 50% of the rock substrates (Appendix G). The dominant algal genera were *Vaucheria* sp. and *Melosira* sp.

The United State Geological Survey (USGS) maintains one streamflow monitoring gage on this segment of the East Branch Housatonic River. USGS Gage #01197000 on the East Branch Housatonic River at Coltsville, MA, is located on the right bank 250 ft downstream from Hubbard Avenue Bridge in Pittsfield. Data are available from 1936 to the present (prior to 1945 data were published as the Housatonic River at Coltsville). The drainage area at the gage is 57.6 mi^2 and the average annual discharge over the period of record is 107 cfs. According to USGS flows are regulated by power plants upstream and, since 1949, for

the diversion of water upstream from Cleveland Brook Reservoir for the municipal supply of Pittsfield (Socolow *et al.* 2004). The estimated 7-day, 10-year low flow (7Q10) is 12.1 cfs (USGS 1998).

Biology

DWM also conducted benthic macroinvertebrate sampling on the East Branch Housatonic River at Station EB02A upstream from the Hubbard Avenue Bridge in Pittsfield, MA, on 10 Sept. 2002 (Appendix C). RBP III analysis of the benthos at Station EB02A indicated a non-impacted community when compared to the upstream reference station. However, DWM biologists point out that biotic index, EPT/ Chironomidae Ratio, and Scraper/Filterer Ratio all indicated nutrient loading at this station.

DWM conducted fish population sampling upstream from the Hubbard Avenue Bridge in Pittsfield at Station 680 on 20 August 2002 (Appendix F). A total of 64 fish were collected including: 21 longnose dace, 20 rock bass, six fallfish, five creek chub, three white sucker, three brown trout (196-425mm), two pumpkinseed, two common shiner, and two blacknose dace. The assemblage in this reach was dominated by moderately pollution tolerant fluvial specialist/dependent species.

Toxicity

Ambient

The Crane and Company WWTF staff collected water from this segment of the East Branch Housatonic River approximately 1,350 feet upstream of the WWTF Outfall # 001 at the trestle next to the Bay State Mill where a pipeline enters the WWTF (Noel 2005). This collected river water is used as dilution water in the facility's whole effluent toxicity tests. Between May 1999 and January 2006 (n=25), survival of *C. dubia* exposed (7-day) to the river water ranged from 80 to 100% (TOXTD database).

Effluent

A total of 20 modified acute and chronic whole effluent toxicity tests were conducted on the Crane and Company effluent between May 1999 and January 2006 (n=27) using *C. dubia.* The effluent did not exhibit any acute toxicity (LC_{50}s were all >100% effluent). The C-NOEC results for the 26 valid tests ranged from 25 to 100% effluent with only two tests (May 1999 and July 2004) failing to meet the C-NOEC limit of 63% effluent (TOXTD database).

The effluent toxicity tests from GE Company in Pittsfield are conducted on composite samples (flow weighted) from various outfalls (Appendix J) that actually discharge into three different water bodies (Unkamet Brook, Silver Lake, and the East Branch Housatonic River). Since these tests represent combined outfalls they are not summarized here.

Chemistry-water

DWM sampled the water quality of the East Branch Housatonic River at two stations in 2002. Station 02A was located upstream from the Hubbard Ave. Bridge in Pittsfield and Station 02B was located ~600 feet downstream from Pomeroy Avenue in Pittsfield. *In-situ* sampling was conducted to measure dissolved oxygen, temperature, pH, and conductivity during pre-dawn hours. Grab samples were collected from Station 02A only and analyzed for total suspended solids, nitrate-nitrogen, ammonia-nitrogen, and total phosphorus (low-level).

HVA conducted monthly water quality sampling downstream from Hubbard Avenue in Pittsfield between June and October 2002; April and October 2003; and May and October 2004 (HVA 2002b, 2003c, and 2004b). HVA also sampled this site in 2001, but data from 2001 are not summarized below, since their QAPP was not approved until 2002. Parameters measured included dissolved oxygen, pH, temperature, alkalinity, total phosphorus, and total suspended solids. Dissolved oxygen data were not collected during worst-case, pre-dawn conditions.

USGS also collected discrete water samples at their gage on the East Branch Housatonic on 21 August 2003 near Hubbard Avenue (USGS 2006a).

All water quality data collected by DWM, HVA, and USGS in the river near Hubbard Avenue met criteria except for elevated levels of total phosphorous. The two total phosphorous measurements taken by DWM in 2002 were 0.1 and 0.2 mg/L. The 17 total phosphorus measurements recorded by HVA between 2002 and 2004 ranged from <0.01 to 0.574 and 3 measurements exceeded 0.05 mg/L. USGS reported

0.026 mg/L (USGS 2006a). All *in-situ* measurements taken by DWM in the river near Pomeroy Avenue met standards.

The *Aquatic Life Use* is assessed as support for the upper six mile reach of this segment of the East Branch Housatonic River based primarily on the non-impacted benthic community, the good survival of test organisms exposed to the river water, and the generally good water quality conditions. However, this use is identified with an Alert Status downstream from the Crane and Company WWTP discharge because of elevated phosphorous concentrations and some evidence of nutrient enrichment in the benthic community attributes. The *Aquatic Life Use* will not be not assessed for the lower two mile reach (downstream from GE site) until water quality monitoring is conducted post remediation of the PCB contaminated sediments.

FISH CONSUMPTION

In 1982 the Massachusetts Department of Public Health (MA DPH) issued a fish consumption advisory for the Housatonic River because of PCB contamination associated with the General Electric site. The MA DPH advisory recommends: "*The general public should not consume any fish, frogs, or turtles from Housatonic River in the towns of Dalton, Pittsfield, Lenox, Lee, Stockbridge, Great Barrington, and Sheffield".* Since it is the East Branch Housatonic River that flows through Dalton and past the GE plant in Pittsfield, the MA DPH advisory for the Housatonic River is assumed to cover this area of the East Branch of the Housatonic River. In 1995 MA DPH updated their advisory to include a recommendation that fish taken from feeder streams to the Housatonic River should be trimmed of fatty tissue prior to cooking.

Due to the MA DPH site-specific fish consumption advisory issued in 1982 (see previous segment), the *Fish Consumption Use* is assessed as impaired due to PCBs.

PRIMARY CONTACT RECREATION, SECONDARY CONTACT RECREATION AND AESTHETICS

HVA collected monthly bacteria samples at their Hubbard Avenue water quality station in 2002, 2003, and 2004 (HVA 2002b, 2003c, and 2004b).

DWM collected fecal coliform bacteria and *E. coli* samples from the East Branch Housatonic River approximately 600 feet downstream from Pomeroy Avenue in Pittsfield (Station 02B) between May and September 2002 (Appendix B).

Fecal coliform counts from sampling conducted by DWM and HVA ranged from 20 to 1400 cfu/100mL (n=25). Bacteria counts collected at DWM Station 02B (the farthest downstream) had a geometric mean of 234 cfu/100mL. Elevated bacteria, particularly during wet-weather sampling events, were documented by HVA in 2002 and 2003.

In 1999 HVA volunteers conducted a shoreline survey of the East Branch Housatonic River between the Center Pond Dam and the Government Mill Dam in Pittsfield. Improper disposal of pet waste into the storm drains was reported near Depot Street in Dalton (HVA initiated a Storm Drain Awareness Program in 2001). Isolated areas of trash were noted. However, after the removal of the Berkshire Mill Dam in 2001, HVA conducted a river cleanup and removed the trash. Numerous pipes were noted and their locations have been mapped and entered into HVA's Geographic Information System for future action. It is important to note that HVA and Berkshire Regional Planning Commission are working on several projects to measure the impact of storm drains on the East Branch Housatonic River (HVA 2004a). Overall this segment was generally free from odor, oil and grease, color and turbidity, floating matter, and nuisance organisms.

DWM biologists noted the water at Station EB02A was "rust" colored and had a paper effluent odor (Mitchell 2005). DWM biologists also noted slight turbidity to the water but no oils or objectionable deposits (MassDEP 2002b). DWM personnel also made visual observations at this station during water quality surveys. At Station 02A trash was noted on two occasions (5/21/02 and 7/21/02) while on eight other occasions no objectionable deposits were noted (MassDEP 2002a). On 21 May 2002 no indication of the extent of deposits was noted, but on 21 July 2002 it was noted that the trash/garbage was "light, (a) few bottles". With the exception of 24 September 2002 when white foam was noted, no scums were noted. A musky water odor and a "rotting vegetable" water odor were noted on two different occasions,

respectively. All other occasions no odor was noted. Water clarity was noted as clear on four occasions, slightly turbid on four other occasions and murky once. At Station 02B no objectionable deposits or scums were noted. A musky water odor was noted on one occasion, a septic water odor was noted twice, and sewage water odor was noted once. On the remaining six occasions no water odor was noted but of these occasions a sewer smell in the air was noted three times. Water clarity was generally noted as clear, and on only a few occasions it was rated as slightly turbid.

Similar to the upper East Branch Housatonic River segment, the *Primary Contact Recreational Use* is assessed as impaired because of elevated fecal coliform bacteria counts, noted particularly during wet weather. The *Secondary Contact* and *Aesthetics* uses are assessed as support based upon the acceptable bacteria counts and the generally acceptable aesthetic conditions noted by HVA volunteers and DWM personnel. However, these uses are identified with an Alert Status due to occasional septic/sewage odors and issues with turbidity.

EAST BRANCH HOUSATONIC RIVER (Segment MA21-02) Use Summary

Designated Uses		Status
Aquatic Life		SUPPORT* upper 6 miles NOT ASSESSED lower 2 miles
Fish Consumption		IMPAIRED Cause: PCBs Source: inappropriate waste disposal from General Electric Site
Primary Contact		IMPAIRED Cause: elevated fecal coliform bacteria Source: unknown Suspected sources: stormwater runoff
Secondary Contact		SUPPORT*
Aesthetics		SUPPORT*

*Alert status issues identified, see details in use assessment

RECOMMENDATIONS

Continued monitoring of the aquatic conditions (both chemical and biological) is recommended to monitor the status of the resident biotic communities.

Develop a monitoring plan and conduct bacteria sampling to evaluate effectiveness of point (Phase II stormwater permits) and non-point source pollution control activities in Dalton and Pittsfield and to assess the status of the *Primary* and *Secondary Contact Recreational* uses. Conduct bacteria source tracking as needed to identify undocumented sources.

It is currently being investigated by EPA as part of their Ecological Risk Assessment whether or not the biota in the East Branch Housatonic River upstream from the Crane & Co., Inc. dams (which pose a barrier to fish migration) are contaminated by PCBs. The MA DPH should review the results of this investigation and adjust the fish consumption advisory as needed.

Commonwealth of Massachusetts

Division of Fisheries & Wildlife

MassWildlife

Wayne F. MacCallum, *Director*

January 29, 2010

Chad Cox, P.E.
GZA GeoEnvironmental
One Edgewater Drive
Norwood, MA 02062

Dr. Mr. Cox,

The Massachusetts Division of Fisheries and Wildlife (Division) is the agency responsible for the protection and management of the fish and wildlife resources of the Commonwealth. As such we monitor operations at hydroelectric projects within the Commonwealth. The Division has the following Comments in response to the Initial Consultation Package (ICP) for the proposed Byron Weston No. 2 Hydroelectric Project, located on the East Branch of the Housatonic River in Dalton, MA. The ICP was delivered with a cover letter dated November 19, 2009 and was presented at a joint stakeholder meeting at the project location on December 2, 2009.

PROJECT DESCRIPTION
Crane proposes to reconstruct the Byron Weston No. 2 Project, which had originally begun operation in the 1880's, when the original run-of-river project was converted from hydromechanical to hydroelectrical generation. Byron Weston Dam No. 2, constructed in 1887, is located adjacent to the Defiance Mill. There is a single 6-foot-diameter penstock that branches into two smaller penstocks that conveyed flows to dual turbines. The turbines remain in place but are inoperable. The footings for the generators remain atop the turbines but the generators have been removed. Crane proposes to install new equipment with a nameplate capacity of 176 kW.
The proposed Byron Weston Hydroelectric Project will include: (1) an existing 200-foot-long, 23-foot-high stone-and-masonry-gravity dam; (2) a 6- foot-diameter penstock; (3) a proposed 176-kW turbine/generator, and modernized turbines, switchgears, and other power generating equipment, located within the Defiance Mill; and (4) appurtenant facilities. The project will be connected to an interstate grid. It will not occupy any tribal or federal lands

COMMENTS
General
The Division does not license or regulate hydroelectric projects directly, unless their operation affects threatened or endangered species. At this time the Byron Weston site is not mapped as Priority or Estimated Habitat and the Natural Heritage and Endangered Species Program (NHESP) database does not contain any state-listed species records in the immediate vicinity of this site. This evaluation is based on the most recent information available in the NHESP database, which is constantly being expanded and updated through ongoing research and inventory. Should your site plans change, or new rare species information become available, this evaluation may be reconsidered.

The Division understands that Crane and Company will now be applying for an Exemption from Licensing from the FERC. The Division will provide comments throughout the FERC process.

Environmental Setting
The text of this section states that there are 4 dams downstream of Byron Weston No. 2 on the East Branch of the Housatonic River, however the included table lists only 3.

Fish and Wildlife

Crane and Co. should contact the Division to get the latest fish community information for the project area. Given the configuration of the project, with the tailrace only 35 feet downstream of the project dam, the Division does not propose a minimum bypass flow at this time.

Diadromous Fish Passage

Fishery resource agencies are actively involved in diadromous fish restoration efforts within the watershed. These efforts are based on management goals contained in the following published fishery plans:

1. Interstate Fishery Management Plan for American Eel. April 2000. Atlantic States Marine Fisheries Commission.
2. Fishery Management Plan for the American Shad and River Herring. 1985 (amended in 1998). Atlantic States Marine Fisheries Commission.
3. Diadromous Fisheries Plan for the Upper Housatonic River Basin. 2000. Connecticut Department of Environmental Protection.

These plans call for improved fish passage and other measures to enhance populations of migratory fish. Accomplishing the stated fishery management goals requires providing fish passage via methods such as installing fishways along the Housatonic River.

According to the Connecticut Department of Environmental Protection's (CT DEP) Diadromous Fisheries Plan for the Upper Housatonic River Basin (2000), the Housatonic River from Derby Dam in the towns of Derby and Shelton, upstream to the base of Bulls Bridge Dam in the Town of Kent, has been targeted for anadromous fish restoration. The catadromous American eel is to be restored up to the base of the Falls Village Dam in the towns of Salisbury and Canaan, Connecticut. The new license issued for the Housatonic River Project (FERC No. 2576) requires fish passage facilities at the Stevenson, Shepaug, and Bulls Bridge dams.

Presently there are no plans to restore diadromous fish to the Massachusetts portion of the Housatonic River. However, once the CT DEP's restoration plan is fully implemented, American eel would have access to the base of the Risingdale Dam in Great Barrington, Massachusetts (although no upstream eel passage facilities are required at the Housatonic River Project's Falls Village facility, it is assumed eels will be able to ascend the Great Falls at the Falls Village Dam).

Therefore there is a possibility that passage for American eel will be required at this project at some point in the future. The Division will not at this time ask FERC to require eel passage but we will petition FERC and the applicant at such time that eels have been restored to this portion of the Housatonic watershed.

Water Quality

The applicant should contact the Massachusetts Department of Environmental Protection to begin the process of obtaining a 401 water quality certificate which is required for any FERC licensed hydro-project in MA.

Recreation

The applicant should allow public access to project lands, where appropriate, for fishing and boating. The applicant should investigate the need for a canoe take out above the dam as well as a portage route and put in below the dam.

Sincerely,

Caleb Slater, Ph.D.
Anadromous Fish Project Leader

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

REF: FERC No. 13583
Crane & Company
Byron Weston No. 2 Hydroelectric Project
Comments On Initial Consultation Package
Study Requests

February 1, 2010

Chad Cox, P.E.
GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Dear Mr. Cox:

This responds to your cover letter, dated November 19, 2009, transmitting the Initial Consultation Package (ICP) for the Byron Weston No. 2 Hydropower Project, located on the East Branch Housatonic River in Berkshire County, Massachusetts. We have reviewed the ICP and offer the following comments.

BACKGROUND

In June of 2009, Crane & Company (Crane) filed a Declaration of Intention with the Federal Energy Regulatory Commission (FERC) regarding the proposed redevelopment of Byron Weston Dams 1 and 2. In that filing, Crane stated that it believed the project would not fall under FERC's jurisdiction. FERC noticed Crane's filing on July 10, 2008, and on August 11, 2008, the Department of the Interior (Interior) submitted a Notice of Intervention and Protest in the proceeding. Interior's position was that the proposed project is subject to FERC's jurisdiction. On March 31, 2009, FERC issued an Order Finding Licensing Required.

On November 19, 2009, Crane's consultant (GZA GeoEnvironmental, Inc.) submitted a combined Environmental Hydropower Notification Form (HPNF) and ICP. The HPNF is required by the Massachusetts Energy Facilities Siting Board (EFSB). GZA also notified stakeholders that a pre-licensing meeting/site visit would be held on December 2, 2009. That meeting, which is required by the EFSB, would also serve as the joint agency meeting required by FERC to initiate the first stage consultation in permitting. While staff from the U.S. Fish and Wildlife Service (Service) were not able to attend that meeting, this letter transmits our

comments on the ICP. For your information, the Service, as a federal agency, does not have a direct role in the HPNF process.

PROPOSAL

The project would consist of the existing Byron Weston No. 2 Dam, a 720-foot-long impoundment approximately one acre in size, an intake, a penstock, and a powerhouse containing one Kaplan turbine with an installed capacity of 200 kW. The project would operate run-of-river, with the turbine generating at flows between 32 cfs and 120 cfs. Project operation would be monitored and controlled by a headpond sensor and programmable logic control system. Power generated by the project would be used on-site to partially offset Crane's existing power demands.

COMMENTS

General
The ICP is formatted as an HPNF application. While this formatting may suffice for the purposes of first stage consultation, any draft exemption application developed by Crane should conform to 18 CFR §4.107.

By cover letter dated January 14, 2010, GZA informed the Service that Crane intends to file for an exemption from licensing. Pursuant to 18 CFR 4.301(b), we are hereby providing Crane with an estimate of the total costs we anticipate will be incurred to set mandatory terms and conditions for the proposed project. Based on recently permitted projects of similar size/scope, we estimate it will cost $4,000 to set terms and conditions for this project.

Page 4.e.iii
It is unclear how the monthly flow rate and percent exceedance graph was generated; the data do not appear to match either the monthly or annual flow duration curves. For example, the graph indicates that in September, flow at the site would average 50 cfs with a percent exceedance of about 57%, but the September flow duration curve (4.e.v) shows that a flow of 50 cfs is only exceeded 20 percent of the time for that month.

III.A. Exhibit E
Environmental Setting (Page 5.a.i)
The narrative states that there are four dams on the East Branch of the Housatonic River downstream of the Byron Weston No. 2 Dam, but the table identifies only three dams.

Fish and Wildlife
- The ICP provides a qualitative listing of fish and wildlife species observed in the vicinity of the project area. The Applicant should request the most recent fisheries survey and/or stocking data from the Massachusetts Division of Fisheries and Wildlife (MA DFW) and include it in the draft application.

- GZA states that, because the outlet from the hydropower system is located almost directly downstream of the dam, Crane is not proposing to provide a conservation flow. Given the short distance (35 feet) between the dam and the tailrace discharge, it is likely that outflow from the tailrace would backwater to the base of the dam; therefore, the Service does not plan on requiring a bypass flow at this time.

- Please note that the scientific name for brown bullhead is now *Ameiurus nebulosus*.

Fish Passage
Currently, there are no anadromous fish species present in the vicinity of the project. However, there is an active migratory fish restoration program on the Housatonic River in Connecticut. According to the Connecticut Department of Environmental Protection's (CT DEP) Diadromous Fisheries Plan for the Upper Housatonic River Basin (2000), the Housatonic River from Derby Dam in the Towns of Derby and Shelton, upstream to the base of Bulls Bridge Dam in the Town of Kent, has been targeted for anadromous fish restoration. The catadromous American eel is to be restored up to the base of the Falls Village Dam in the Towns of Salisbury and Canaan, Connecticut. The new license issued for the Housatonic River Project (FERC No. 2576) requires fish passage facilities at the Stevenson, Shepaug, and Bulls Bridge Dams.

Presently, there are no plans to restore anadromous fish to the Massachusetts portion of the Housatonic River. However, once the CT DEP's restoration plan is fully implemented, the catadromous American eel would have access to the base of the Risingdale Dam in Great Barrington, Massachusetts (although no upstream eel passage facilities are required at the Housatonic River Project's Falls Village facility, it is assumed eels will be able to ascend the Great Falls at the Falls Village Dam).

While currently the Risingdale Dam (the most downstream barrier on the Housatonic River in Massachusetts) is an impediment to eel passage, the FERC permits for the next two dams (Willow Mill Project, FERC No. 2985; and the Glendale Project, FERC No. 2801) do contain provisions for future eel passage. Above Willow Mill, there are five more (non-FERC) dams that would need eel passage before it would be required at Byron Weston Dam No. 2. However, since FERC exemptions are issued in perpetuity and eel passage may be required at some future date, the Service will include a future fish passage provision in any terms and conditions it prescribes for the project.

Water Quality and Quantity
This section also should include an explanation of how the project will meet state anti-degradation standards (314 CMR 4.04) in all project waters (i.e., the headpond and tailwater).

The ICP contains no actual water quality data, and does not identify that the section of river where the project would be located is classified as Class B Warm Water Fishery by the Massachusetts Department of Environmental Protection (MA DEP). The ICP does refer to MA DEP's 2002 Water Quality Assessment Report for the Housatonic River; while that report indicates that water chemistry (dissolved oxygen, pH, temperature, alkalinity, total phosphorus,

and total suspended solids) data collected met standards, the two sampling sites those data were based on are both in Pittsfield, over two miles downstream of the project area.

Currently, all inflow to the Byron Weston Dam No. 2 impoundment passes over the dam. Under Crane's proposal, spill at the dam would only occur at flows less than 32 cfs or greater than 120 cfs. According to the Annual Flow Duration Curve provided in the ICP, those conditions occur approximately 20% of the time. Spill over a dam can provide significant reaeration. With water being routed to the Kaplan turbine (which provides little or no reaeration), the project could act to lower dissolved oxygen (DO) levels in the river downstream of the Byron Weston No. 2 Dam.

No site-specific surveys have been conducted to determine whether waters within the project area meet state standards. This information gap needs to be filled so that resource agencies can evaluate properly the potential impact of project operations on water quality.

ADDITIONAL INFORMATION

- The application should include the dimensions of the intake (wetted area) so that we may determine the intake velocity of the project (and thus, the likelihood of fish impingement and entrainment).
- The Applicant should request the most recent fisheries survey and/or stocking data from the MA DFW and include it in the draft application. If no recent data exist, the Applicant should conduct a fisheries survey within the impoundment and tailrace area prior to any modifications.

RECOMMENDED STUDIES

We recommend that Crane perform a water quality monitoring survey in order to verify that state water quality standards are currently being met and to gather baseline data (e.g., temperature, DO, etc.) that will be used later to evaluate any post-project changes to water quality parameters. The full study request is included in Attachment A.

OTHER ACTIONS

The Applicant should visit our website (www.fws.gov/newengland/EndangeredSpec-Consultation_Project_Review.htm) for information on the presence of federally-listed endangered or threatened species within the project area.

PRELIMINARY TERMS AND CONDITIONS

Pursuant to 18 CFR 4.106(b), any case-specific exemption from licensing granted for a small hydroelectric power project requires inclusion in the exemption of all terms and conditions that are prescribed by state and federal fish and wildlife agencies to prevent loss of, or damage to, fish and wildlife resources, and to otherwise carry out the purposes of the Fish and Wildlife Coordination Act.

Consistent with this office's responsibilities, the U.S. Fish and Wildlife Service hereby submits its preliminary terms and conditions for the proposed project. These terms and conditions may be modified based on supplemental information provided by the Applicant and/or FERC during the exemption from licensing process.

1. The Exemptee shall operate the project in an instantaneous run-of-river mode, whereby inflow to the project will equal outflow from the project at all times and water levels above the dam are not drawn down for the purpose of generating power. Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the Exemptee, or for short periods upon mutual agreement between the Exemptee, the U.S. Fish and Wildlife Service, and the Massachusetts Division of Fisheries and Wildlife.

2. The Exemptee shall install trashracks that meet the following criteria: (1) have an approach velocity ≤ 2.0 fps (as measured six inches in front of the racks); (2) have clear spacing of one inch or less; and (3) extend full depth. The trashracks shall be installed and operational concurrent with project start-up. The racks shall be required to be kept free of debris and maintained to design specifications.

3. The Exemptee shall conduct a post-operation water quality monitoring survey. The survey protocol shall be identical to the pre-operation survey, and shall be developed in consultation with, and require approval by, the U.S. Fish and Wildlife Service. Data shall be collected over a minimum of three (3) years, and shall be initiated the first low-flow season after project start-up. Results of the post-operation survey will be compared to the pre-operation data. If results indicate that the project is causing depletion of dissolved oxygen, mitigation measures may be required (e.g., releasing flow over the dam for reaeration).

4. The Exemptee shall, within three (3) months of the date of issuance of an exemption from licensing, prepare and file for approval by the U.S. Fish and Wildlife Service, a plan for maintaining and monitoring run-of-river operation at the project. The plan shall include a description of the mechanisms and structures that will be used, the level of manual and automatic operation, the methods to be used for recording data on run-of-river operation, an implementation schedule, and a plan for maintaining the data for inspection by the U.S. Fish and Wildlife Service, the Federal Energy Regulatory Commission, and the Massachusetts Division of Fisheries and Wildlife.

5. The Exemptee shall implement a refill procedure whereby, during impoundment refilling after drawdowns for maintenance or emergency purposes, 90% of inflow is passed downstream and the headpond is refilled on the remaining 10% of inflow to the project. This refill procedure may be modified on a case-by-case basis with the prior approval of both the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

6. The Exemptee shall be responsible for constructing, operating, maintaining and evaluating upstream and downstream fish passage facilities at this project when notified by the U.S. Fish and Wildlife Service and/or the Massachusetts Division of Fisheries and Wildlife that such fishways are needed. All plans and schedules associated with the design, construction, and evaluation of any prescribed fishways shall be developed by the Exemptee in consultation

with, and require approval by, the U.S. Fish and Wildlife Service. The fishways shall be operated and maintained in accordance with the schedule identified by the agencies.

7. The Exemptee shall notify the U.S. Fish and Wildlife Service in writing when the project commences operation. Such notice shall be sent within 30 days of start-up to Supervisor, New England Field Office, 70 Commercial Street, Suite 300, Concord, New Hampshire 03301. The Exemptee shall furnish the U.S. Fish and Wildlife Service with a set of as-built drawings concurrent with filing said plans with the Federal Energy Regulatory Commission.

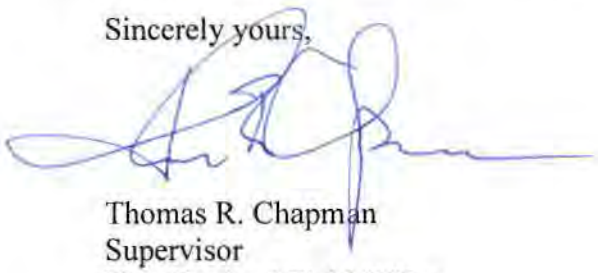
8. The Exemptee shall allow the U.S. Fish and Wildlife Service to inspect the project area at any time while the project operates under an exemption from licensing to monitor compliance with their terms and conditions.

9. The U.S. Fish and Wildlife Service reserves the right to add to and alter terms and conditions for this exemption as appropriate to carry out its responsibilities with respect to fish and wildlife resources. The Exemptee shall, within thirty (30) days of receipt, file with the Federal Energy Regulatory Commission any additional terms and conditions imposed by the U.S. Fish and Wildlife Service.

10. The Exemptee shall incorporate the aforementioned terms and conditions in any conveyance—by lease, sale or otherwise—of its interests so as to legally assure compliance with said conditions for as long as the project operates under an exemption from licensing.

Thank you for this opportunity to comment. If you have any questions regarding these comments, please contact Melissa Grader of this office at (413) 548-8002, extension 124.

Sincerely yours,



Thomas R. Chapman
Supervisor
New England Field Office

Attachment

cc: FERC, Secretary
James Noel
Crane & Company
30 South Street
Dalton, MA 01226
MA DEP, Bob Kubit
MA DFW, Caleb Slater
EPA, Ralph Abele
Reading File
ES: MGrader:2-1-10:(603)223-2541

ATTACHMENT A

Study Request 1: Water Quality Survey

(1) Goals and Objectives

The goal of this study is to determine whether state water quality standards are being met within the project area under the current operational protocol.

The objective of the study will be to collect water temperature and dissolved oxygen (DO) data during the low flow/high water temperature season and compare those measurements with state threshold criteria for Class B surface waters.

(2) Relevant Resource Management Goals

The U.S. Fish and Wildlife Service (Service) seeks the accomplishment of a number of resource goals and objectives through the permitting process for the project. General goals include the following:

1. Ensure that protection, mitigation and enhancement measures are commensurate with project effects and help meet regional fish and wildlife objectives for the basin.
2. Conserve, protect, and enhance the habitats for fish, wildlife, and plants that will be affected by the project.

Specific to aquatic resources, the Service's goals are:

1. Protect, enhance, or restore, diverse high quality aquatic and riparian habitats for plants, animals, food webs, and communities in the watershed and mitigate for loss or degradation of these habitats.
2. Provide an instream flow regime that meets the life history requirements of resident fish and wildlife (including invertebrates such as freshwater mussels) throughout the area impacted by project operations.
3. Minimize potential negative project operation effects on water quality and aquatic habitat.

Our study requests are intended to facilitate the collection of information necessary to conduct effects analyses and to develop reasonable and prudent conservation measures, and protection, mitigation, and enhancement measures pursuant to the Endangered Species Act of 1973, as amended (16 U.S.C. §1531 *et seq.*); the Fish and Wildlife Coordination Act, as amended (16 U.S.C. §661 *et seq.*); and the Federal Power Act (16 U.S.C. §791a, *et seq.*).

(3) Background and Existing Information

The ICP qualitatively references existing water quality information, with no actual quantitative data provided. Further, those data were collected over two miles (and several dams) downstream of the proposed project, in Pittsfield.

No site-specific surveys have been conducted to determine whether waters within the project area meet state standards. This information gap needs to be filled so that resource agencies can evaluate properly the potential impact of project operations on water quality.

(4) Project Nexus

Currently, all inflow passes over the dam. Under Crane's proposal, spill at the dam would only occur at flows less than 32 cfs or greater than 120 cfs. According to the Annual Flow Duration Curve provided in the ICP, those conditions occur approximately 20% of the time. Spill over a dam can provide significant reaeration. With water being routed to the Kaplan turbine (which provides little or no reaeration), the project could act to lower DO levels in the river downstream of the Byron Weston No. 2 Dam.

The Service requests that the Applicant conduct a water quality survey of the impoundment and tailrace reach in order to determine whether state water quality standards are being met under current conditions. These data can then be used as a baseline to compare with post-project water quality data, to determine if project operations are negatively affecting DO levels at the site.

(5) Proposed methodology

The Service requests a water quality survey be conducted at the project. The methodology should be similar to that used in the licensing of the Willow Mill Project (FERC No. 2985).[1]

In general, water temperature and DO measurements should be collected from a minimum of three locations: upstream of the impoundment, at a deep location within the impoundment, and in the tailrace. Data collection should occur during a period of low flow and high temperature. Preliminarily, we are recommending at least three 72-hour sampling periods, to occur from July through September. Results should include date, time of sampling, water temperature, DO concentration, and any pertinent environmental conditions.

(6) Level of effort and cost

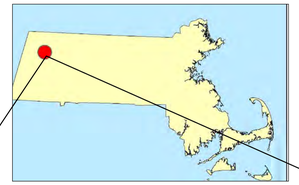
The expected level of effort and anticipated costs will be comparable to that experienced on similar FERC projects of this size.

---

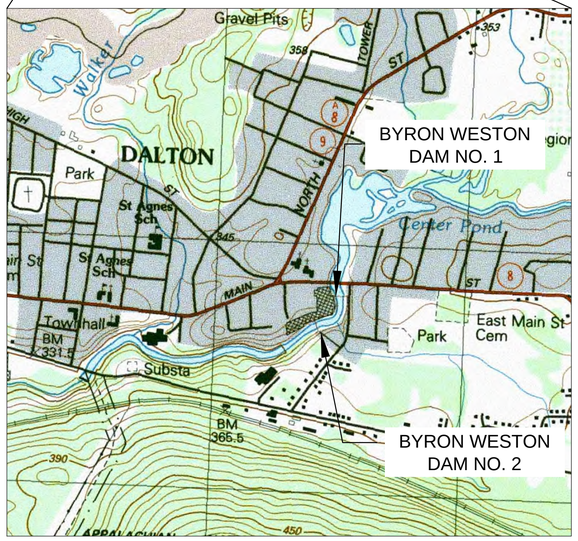
[1] Letter from MeadWestvaco to FERC, dated January 23, 2007, page 21.

BYRON WESTON HYDROELECTRIC PROJECT
FERC P-13583

CRANE & CO.
BYRON WESTON DAM NO. 2
EAST BRANCH OF THE HOUSATONIC RIVER
DALTON, MA



PROJECT LOCATION
DALTON, MA

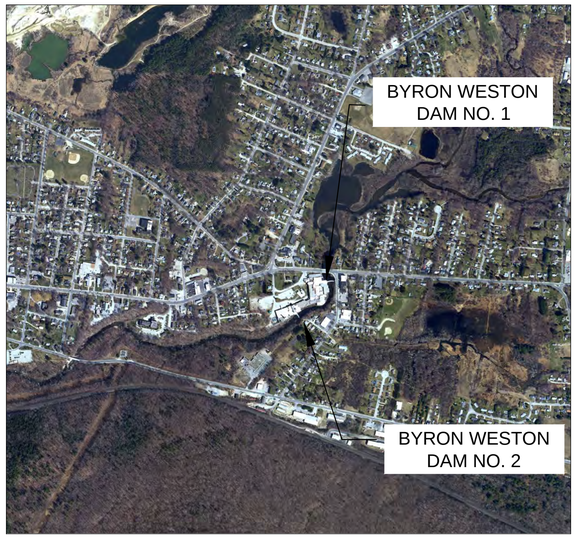


USGS TOPOGRAPHIC MAP

SCALE APPROXIMATELY: 1 INCH = 1000 FEET

0 500' 1000' 2000'

SOURCE: SCANNED USGS TOPOGRAPHIC QUADRANGLES SCANNED BY THE MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS, MASSGIS. DISTRIBUTED JUNE 2001

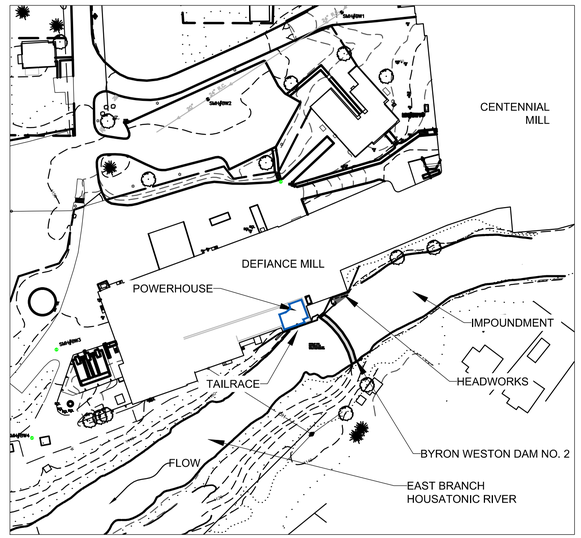


ORTHOPHOTO

SCALE APPROXIMATELY: 1 INCH = 1000 FEET

0 500' 1000' 2000'

SOURCE: SCANNED ORTHOPHOTO SCANNED BY THE MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS, MASSGIS. DISTRIBUTED 2005



PROJECT LOCATION PLAN

SCALE APPROXIMATELY: 1 INCH = 100 FEET

0 50' 100' 200'

SCHEMATIC PLAN BASED ON SURVEY BY HILL ENGINEERS, ARCHITECTS, PLANNERS NOVEMBER 3, 2009

INDEX OF DRAWINGS

Critical Energy Infrastructure Information (CEII) material under 18 CFR §388.133(c)

OWNER & PROJECT PROPONENT
CRANE & COMPANY
30 SOUTH STREET
DALTON, MASSACHUSETTS 01226

FUNDING ASSISTANCE
MASSACHUSETTS CLEAN ENERGY CENTER
55 SUMMER STREET, 9TH FLOOR
BOSTON, MASSACHUSETTS 02110

ENGINEER
GZA GEOENVIRONEMENTAL, INC.
249 VANDERBILT AVE
NORWOOD, MASSACHUSETTS 02062

REV. NO.	DESCRIPTION	BY	DATE
0	DRAFT EXEMPTION APP	CWC	8/9/2010
1	DRAFT EXEMPTION APP	CWC	1/28/201
2	RECORD DRAWING	CWC	4/29/14

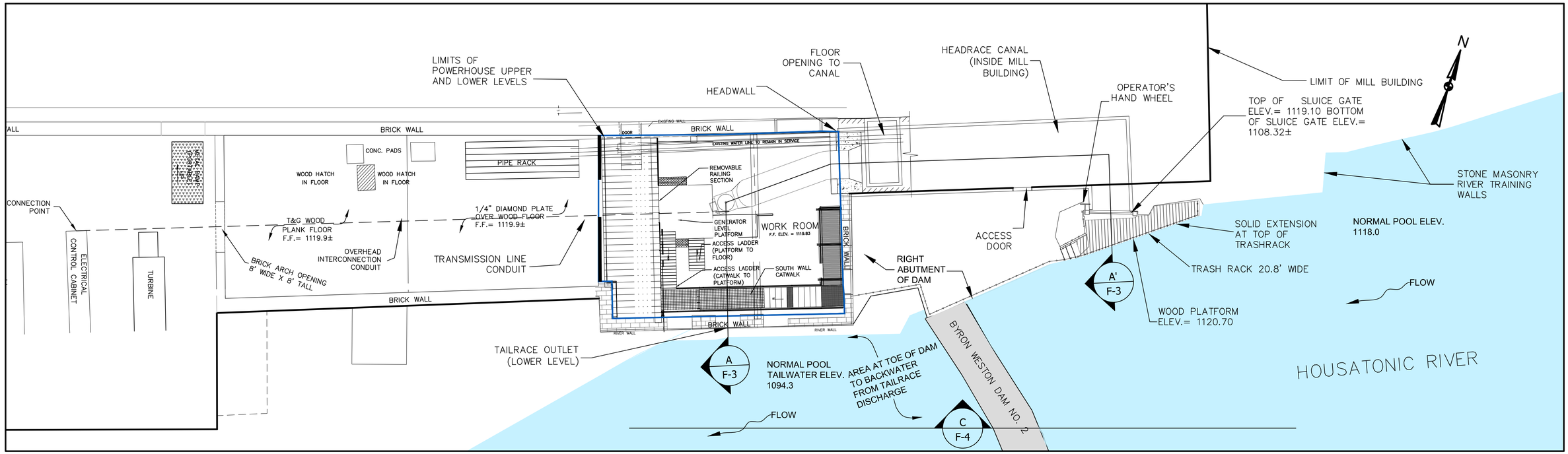
GZA GeoEnvironmental, Inc.
Engineers and Scientists
ONE EDGEWATER DRIVE
NORWOOD, MASSACHUSETTS 02062
(781) 278-3700

PROJ MGR: KDE REVIEWED BY: CWC
DESIGNED BY: CNF OPERATOR: CNF

BYRON WESTON HYDROELECTRIC PROJECT
DALTON, MASSACHUSETTS
CRANE & CO.

TITLE SHEET, LOCUS MAPS, & INDEX OF DRAWINGS

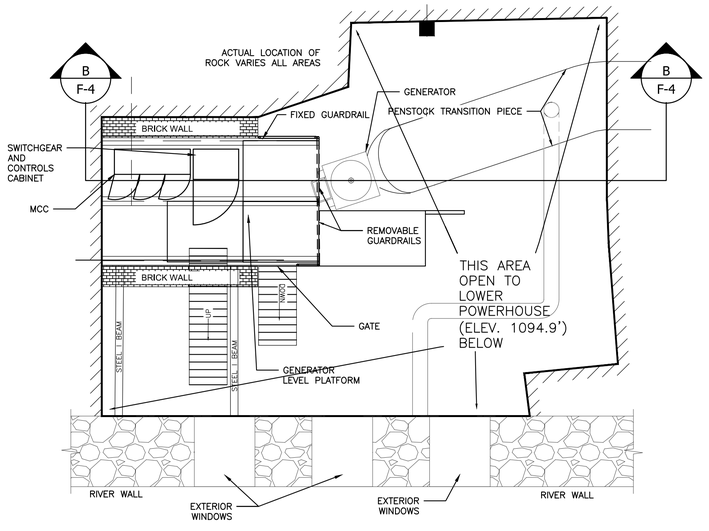
Approximate Scale:	Date:	Project No.:	Drawing No.:
See Drawing	04-29-2014	P-13583	F-1



PLAN OVERVIEW (AT MILL GROUND FLOOR ELEVATION)

1 INCH = 8 FT

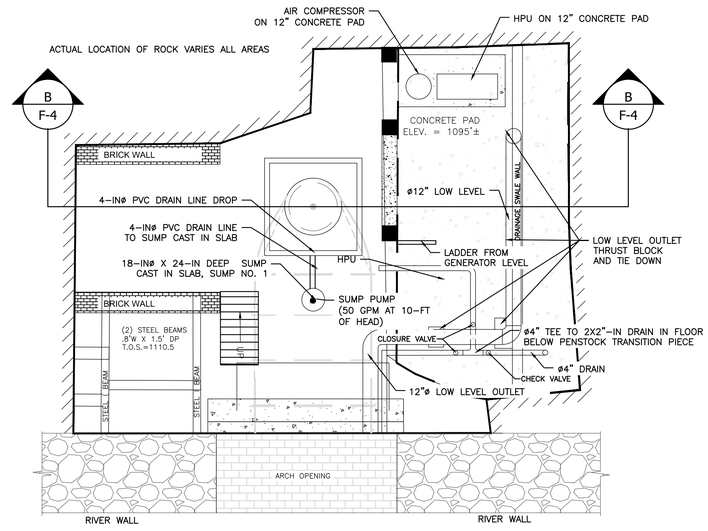
0 4 FT 8 FT 16 FT



UPPER POWERHOUSE – GENERATOR LEVEL (FLOOR ELEV. 1105.3')

SCALE: 1 INCH = 5 FEET

0 2.5' 5' 10'



LOWER POWERHOUSE – TURBINE LEVEL (FLOOR ELEV. 1092.9')

SCALE: 1 INCH = 5 FEET

0 2.5' 5' 10'

Critical Energy Infrastructure Information (CEII) material under 18 CFR §388.133(c)

NOTES:
1) FIGURES BASED UPON GZA RECORD DRAWINGS DATED DECEMBER 4, 2013
2) VERTICAL DATUM BASED UPON NAVD 1988
3)TRASHRACK DETAILS SHOWN ON F-3

REV. NO.	DESCRIPTION	BY	DATE
0	DRAFT EXEMPTION APP	CWC	8/9/2010
1	DRAFT EXEMPTION APP	CWC	1/28/2011
2	RECORD DRAWING	CWC	4/29/2014

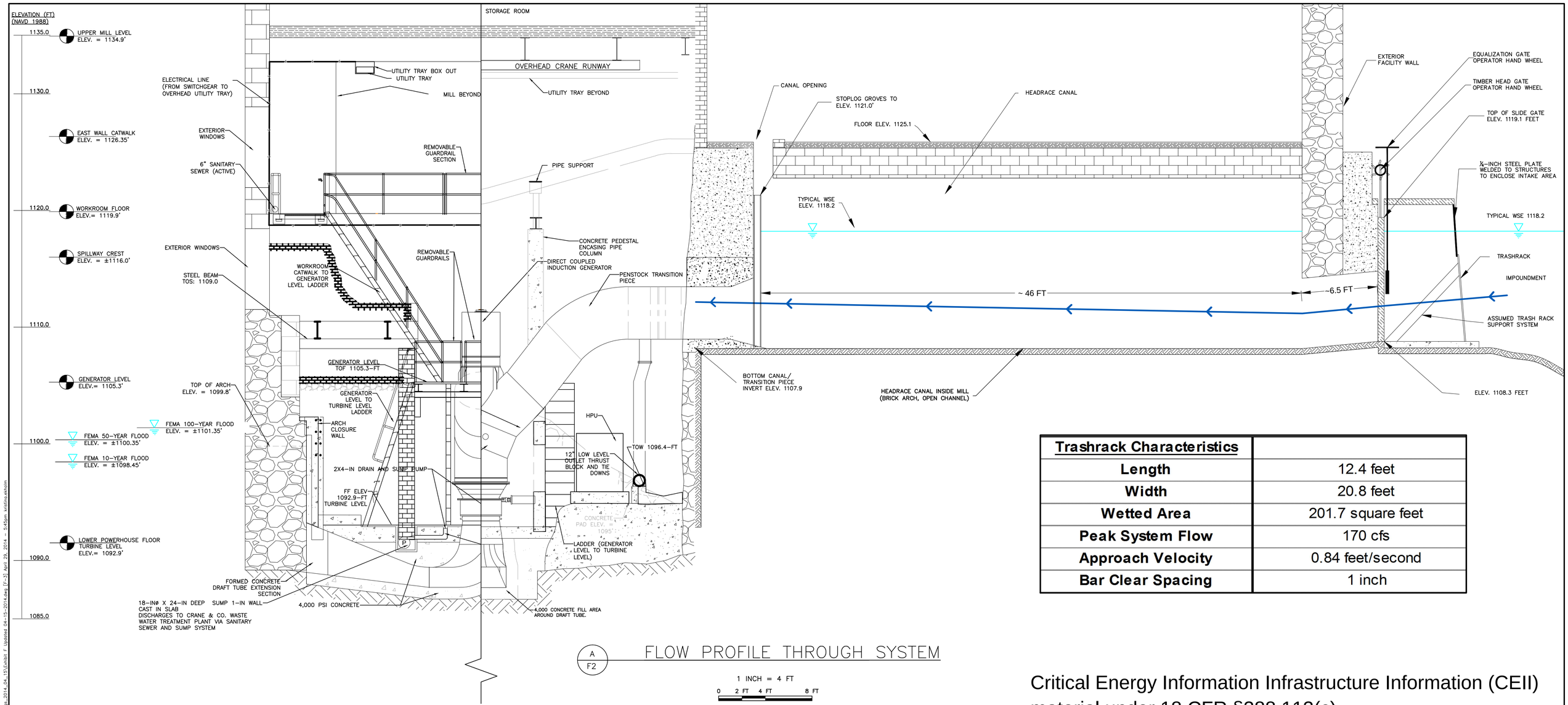
GZA GeoEnvironmental, Inc.
Engineers and Scientists
249 VANDERBILT AVENUE
NORWOOD, MASSACHUSETTS 02062
(781) 278-3700

PROJ MGR: KDE REVIEWED BY: CWC
DESIGNED BY: CNF OPERATOR: CNF

BYRON WESTON HYDROELECTRIC PROJECT
DALTON, MASSACHUSETTS
CRANE & CO.

POWERHOUSE AREA PLAN

Approximate Scale:	Date:	Project No.:	Drawing No.:
See Drawing	04-29-2014	P-13583	F-2



A/F2 FLOW PROFILE THROUGH SYSTEM

1 INCH = 4 FT

0 2 FT 4 FT 8 FT

Trashrack Characteristics	
Length	12.4 feet
Width	20.8 feet
Wetted Area	201.7 square feet
Peak System Flow	170 cfs
Approach Velocity	0.84 feet/second
Bar Clear Spacing	1 inch

Turbine Characteristics	
Manufacturer	Canadian Hydro Components, LTD
Type	Double Regulated Kaplan
General Configuration	Vertical
Runner Diameter	900 mm
Number of Blades	4
Turbine Operation Speed	514 RPM
Peak Flow	170 cfs
Peak Turbine Power	255 kW

Generator Characteristics	
Manufacturer	Potencia / Tatung
Type	Induction
Drive Mechanism	Direct Couple
General Configuration	Vertical
Nameplate Capacity	250 kW
Peak Generator Output	237 kW
Generator Operation Speed	514 RPM
Voltage	600 V

Critical Energy Information Infrastructure Information (CEII) material under 18 CFR §388.113(c)

REV. NO.	DESCRIPTION	BY	DATE
0	DRAFT EXEMPTION APP	CWC	8/9/2010
1	DRAFT EXEMPTION APP	CWC	1/28/2011
2	EXEMPTION APP DEFICIENCIES	CWC	6/17/2011
3	RECORD DRAWING	CWC	4/29/2014

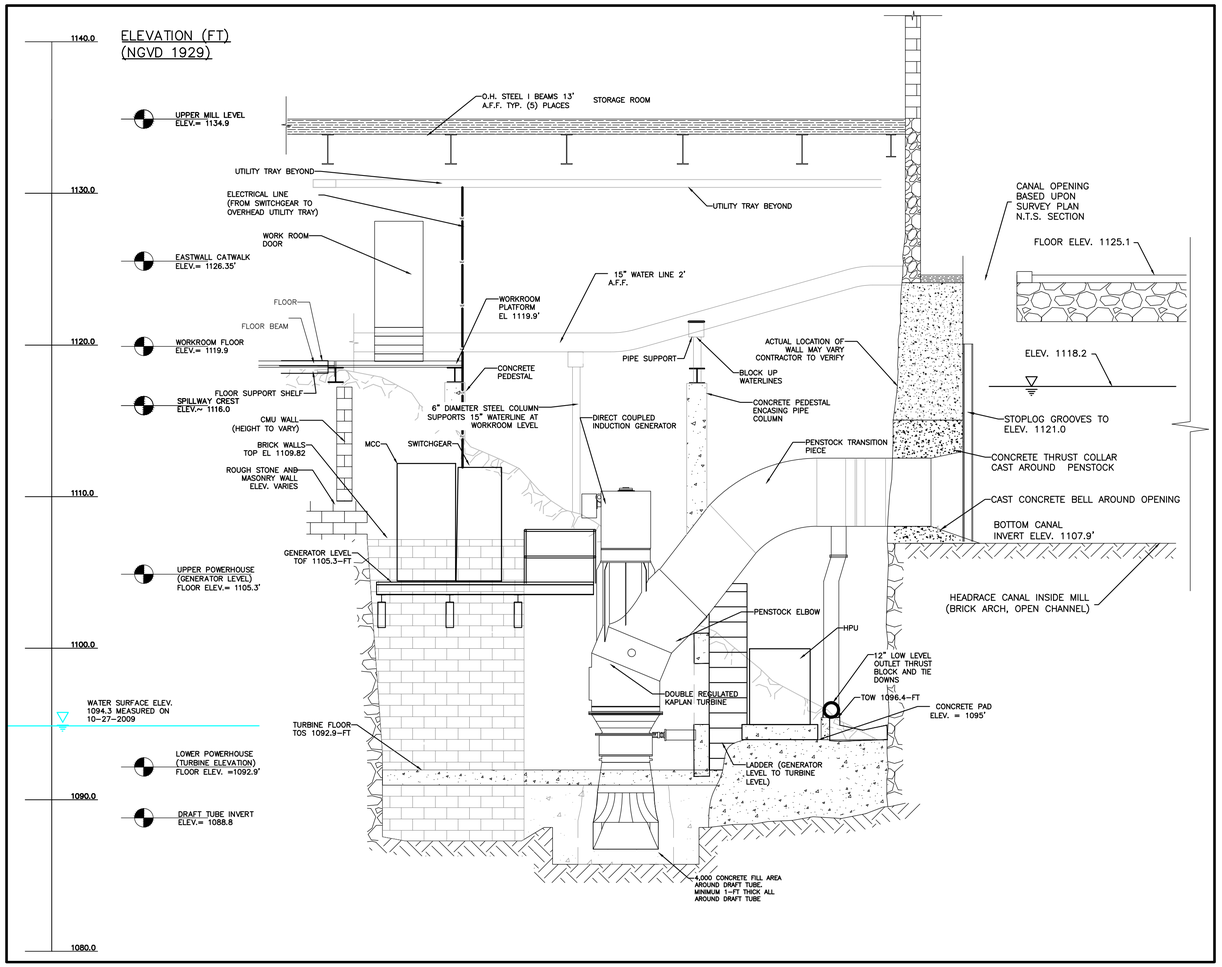
GZA GeoEnvironmental, Inc.
Engineers and Scientists
249 VANDERBILT AVENUE
NORWOOD, MASSACHUSETTS 02062
(781) 278-3700

PROJ MGR: KDE REVIEWED BY: CWC
DESIGNED BY: CNF OPERATOR: CNF

BYRON WESTON HYDROELECTRIC PROJECT
DALTON, MASSACHUSETTS
CRANE & COMPANY

FLOW PROFILE THROUGH SYSTEM

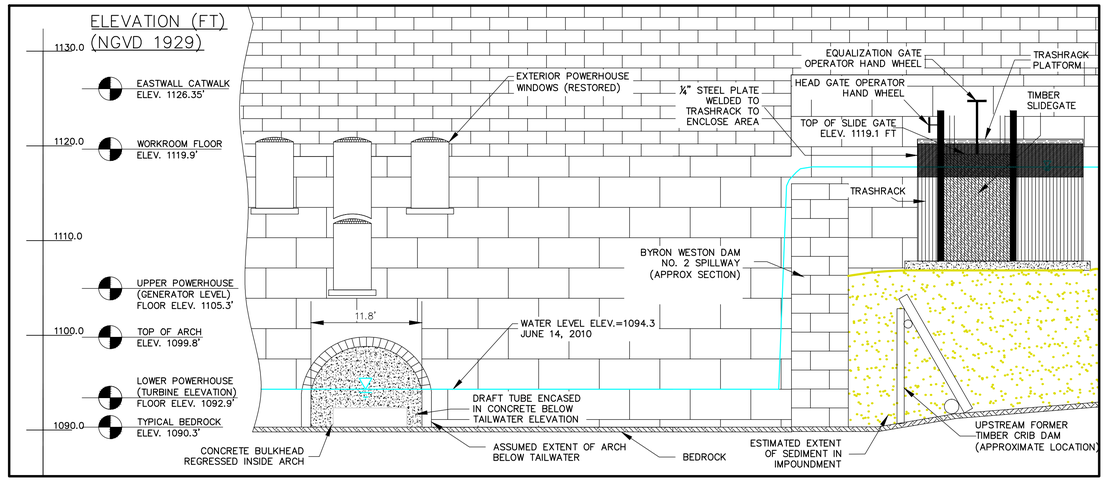
Approximate Scale:	Date:	Project No.:	Drawing No.:
See Drawing	04-29-2014	P-13583	F-3



SECTION VIEW INSIDE OF POWERHOUSE AREA (B / F3)

SCALE: 1 INCH = 5 FEET

0 2.5' 5' 10'



POWERHOUSE EXTERIOR ELEVATION AT TAILRACE (C / F3)

SCALE: 1 INCH = 8 FEET

0 4 FT 8 FT 16 FT

Critical Energy Infrastructure Information (CEII) material under 18 CFR §388.133(c)

REV. NO.	DESCRIPTION	BY	DATE
0	DRAFT EXEMPTION APP	CWC	8/9/2010
1	DRAFT EXEMPTION APP	CWC	1/28/2011
2	EXEMPTION APP DEFICIENCIES	CWC	6/17/2011
3	RECORD DRAWING	CWC	4/29/2014

GZA GeoEnvironmental, Inc.
Engineers and Scientists
249 VANDERBILT AVENUE
NORWOOD, MASSACHUSETTS 02062
(781) 278-3700

PROJ MGR: KDE REVIEWED BY: CWC
DESIGNED BY: CNF OPERATOR: CNF

BYRON WESTON HYDROELECTRIC PROJECT
DALTON, MASSACHUSETTS
CRANE & COMPANY

POWERHOUSE SECTIONS

Approximate Scale:	Date:	Project No.:	Drawing No.:
See Drawing	04-29-2014	P-13583	F-4

P-13583-4

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 2 – Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

From:

Dalton
Conservation Commission

To: Applicant

Crane & Company
Name

30 South Street
Mailing Address

Dalton | MA | 01226
City/Town | State | Zip Code

Property Owner (if different from applicant):

Name

Mailing Address

City/Town | State | Zip Code

1. Title and Date (or Revised Date if applicable) of Final Plans and Other Documents:

Request for Determination of Applicability — Title | April 20, 2011 — Date

Title | Date

Title | Date

2. Date Request Filed:

April 25, 2011

B. Determination

Pursuant to the authority of M.G.L. c. 131, § 40, the Conservation Commission considered your Request for Determination of Applicability, with its supporting documentation, and made the following Determination.

Project Description (if applicable):

Install a solid metal plate that connects the trashrack to the top of the platform. The metal plate will be utilized to exclude fish and debris from entering the intake. The wooden plate will also be utilized to assist in clearing debris from the trashrack by providing a smooth transition from trashrack to platform.

Project Location:

800 Main Street — Street Address | Dalton — City/Town

110 — Assessors Map/Plat Number | 202 — Parcel/Lot Number

B. Determination (cont.)

The following Determination(s) is/are applicable to the proposed site and/or project relative to the Wetlands Protection Act and regulations:

Positive Determination
Note: No work within the jurisdiction of the Wetlands Protection Act may proceed until a final Order of Conditions (issued following submittal of a Notice of Intent or Abbreviated Notice of Intent) or Order of Resource Area Delineation (issued following submittal of Simplified Review ANRAD) has been received from the issuing authority (i.e., Conservation Commission or the Department of Environmental Protection).

☐ 1. The area described on the referenced plan(s) is an area subject to protection under the Act. Removing, filling, dredging, or altering of the area requires the filing of a Notice of Intent.

☐ 2a. The boundary delineations of the following resource areas described on the referenced plan(s) are confirmed as accurate. Therefore, the resource area boundaries confirmed in this Determination are binding as to all decisions rendered pursuant to the Wetlands Protection Act and its regulations regarding such boundaries for as long as this Determination is valid.

☐ 2b. The boundaries of resource areas listed below are not confirmed by this Determination, regardless of whether such boundaries are contained on the plans attached to this Determination or to the Request for Determination.

☐ 3. The work described on referenced plan(s) and document(s) is within an area subject to protection under the Act and will remove, fill, dredge, or alter that area. Therefore, said work requires the filing of a Notice of Intent.

☐ 4. The work described on referenced plan(s) and document(s) is within the Buffer Zone and will alter an Area subject to protection under the Act. Therefore, said work requires the filing of a Notice of Intent or ANRAD Simplified Review (if work is limited to the Buffer Zone).

☐ 5. The area and/or work described on referenced plan(s) and document(s) is subject to review and approval by:

Name of Municipality

Pursuant to the following municipal wetland ordinance or bylaw:

Name | Ordinance or Bylaw Citation

B. Determination (cont.)

☐ 6. The following area and/or work, if any, is subject to a municipal ordinance or bylaw but not subject to the Massachusetts Wetlands Protection Act:

☐ 7. If a Notice of Intent is filed for the work in the Riverfront Area described on referenced plan(s) and document(s), which includes all or part of the work described in the Request, the applicant must consider the following alternatives. (Refer to the wetland regulations at 10.58(4)c. for more information about the scope of alternatives requirements).

- ☐ Alternatives limited to the lot on which the project is located.
- ☐ Alternatives limited to the lot on which the project is located, the subdivided lots, and any adjacent lots formerly or presently owned by the same owner.
- ☐ Alternatives limited to the original parcel on which the project is located, the subdivided parcels, any adjacent parcels, and any other land which can reasonably be obtained within the municipality.
- ☐ Alternatives extend to any sites which can reasonably be obtained within the appropriate region of the state.

Negative Determination

Note: No further action under the Wetlands Protection Act is required by the applicant. However, if the Department is requested to issue a Superseding Determination of Applicability, work may not proceed on this project unless the Department fails to act on such request within 35 days of the date the request is post-marked for certified mail or hand delivered to the Department. Work may then proceed at the owner's risk only upon notice to the Department and to the Conservation Commission. Requirements for requests for Superseding Determinations are listed at the end of this document.

☐ 1. The area described in the Request is not an area subject to protection under the Act or the Buffer Zone.

☒ 2. The work described in the Request is within an area subject to protection under the Act, but will not remove, fill, dredge, or alter that area. Therefore, said work does not require the filing of a Notice of Intent.

☐ 3. The work described in the Request is within the Buffer Zone, as defined in the regulations, but will not alter an Area subject to protection under the Act. Therefore, said work does not require the filing of a Notice of Intent, subject to the following conditions (if any).

☐ 4. The work described in the Request is not within an Area subject to protection under the Act (including the Buffer Zone). Therefore, said work does not require the filing of a Notice of Intent, unless and until said work alters an Area subject to protection under the Act.

WPA Form 2 – Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Determination (cont.)

☐ 5. The area described in the Request is subject to protection under the Act. Since the work described therein meets the requirements for the following exemption, as specified in the Act and the regulations, no Notice of Intent is required:

Exempt Activity (site applicable statutory/regulatory provisions)

☐ 6. The area and/or work described in the Request is not subject to review and approval by:

Name of Municipality

Pursuant to a municipal wetlands ordinance or bylaw.

Name | Ordinance or Bylaw Citation

C. Authorization

This Determination is issued to the applicant and delivered as follows:

☐ by hand delivery on

Date

☒ by certified mail, return receipt requested on

June 7, 2011

Date

This Determination is valid for three years from the date of issuance (except Determinations for Vegetation Management Plans which are valid for the duration of the Plan). This Determination does not relieve the applicant from complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.

This Determination must be signed by a majority of the Conservation Commission. A copy must be sent to the appropriate DEP Regional Office (see http://www.mass.gov/dep/about/region.htm#your.htm) and the property owner (if different from the applicant).

Signatures:

Esther C Balardini

Edward Gro

Valerie A. Gero

T Baker

Domenic F Sacco

June 7, 2011

Date

D. Appeals

The applicant, owner, any person aggrieved by this Determination, any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate Department of Environmental Protection Regional Office (see http://www.mass.gov/dep/about/region.findyour.htm) to issue a Superseding Determination of Applicability. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and Fee Transmittal Form (see Request for Departmental Action Fee Transmittal Form) as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Determination. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant if he/she is not the appellant. The request shall state clearly and concisely the objections to the Determination which is being appealed. To the extent that the Determination is based on a municipal ordinance or bylaw and not on the Massachusetts Wetlands Protection Act or regulations, the Department of Environmental Protection has no appellate jurisdiction.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

Request for Departmental Action Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Request Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

1. Person or party making request (if appropriate, name the citizen group's representative):

Name

Mailing Address

City/Town | State | Zip Code

Phone Number | Fax Number (if applicable)

Project Location

Mailing Address

City/Town | State | Zip Code

2. Applicant (as shown on Notice of Intent (Form 3), Abbreviated Notice of Resource Area Delineation (Form 4A); or Request for Determination of Applicability (Form 1)):

Name

Mailing Address

City/Town | State | Zip Code

Phone Number | Fax Number (if applicable)

3. DEP File Number:

B. Instructions

1. When the Departmental action request is for (check one):

☐ Superseding Order of Conditions ($100 for individual single family homes with associated structures; $200 for all other projects)

☐ Superseding Determination of Applicability ($100)

☐ Superseding Order of Resource Area Delineation ($100)

Send this form and check or money order for the appropriate amount, payable to the *Commonwealth of Massachusetts* to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

B. Instructions (cont.)

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office (see http://www.mass.gov/dep/about/region/findyour.htm).

4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Taunton
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 02/05/2016

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague, Warwick
	Dwarf wedgemussel	Endangered	Mill River	Whately
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hatfield, Amherst and Northampton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 02/05/2016

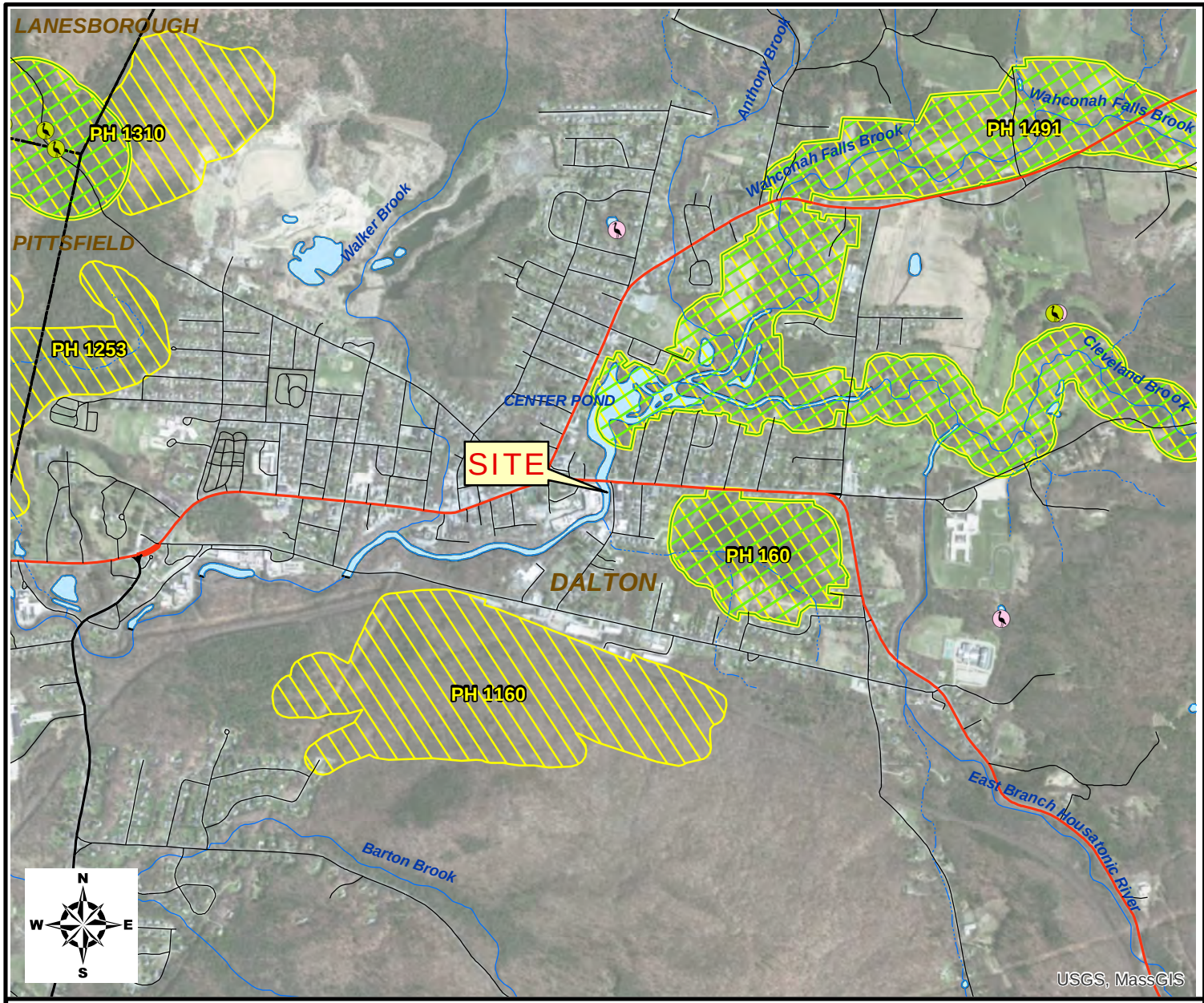
FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

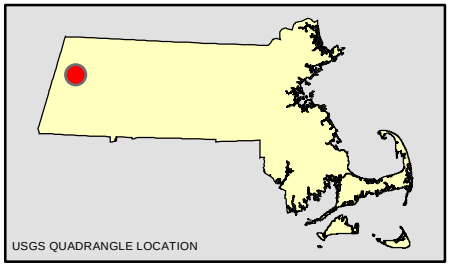
COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Suffolk	Piping Plover	Threatened	Coastal Beaches	Revere, Winthrop
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

[1]Migratory only, scattered along the coast in small numbers

-Eastern cougar and gray wolf are considered extirpated in Massachusetts.
-Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
-Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

Updated 02/05/2016





LEGEND

- NHESP 2008 Estimated Habitats of Rare Wildlife: Use with MA Wetlands Protection Act (310 CMR 10.12)
- NHESP 2008 Priority Habitats of State-Listed Rare Species: Use with MA Wetlands Protection Act (310 CMR 10.12)
- NHESP Vernal Pools: Certified, Potential

Hydrography

- Lake, Pond, Wide River, Impoundment
- Reservoir (with PWSID)

Rivers and Streams

- Stream
- Intermittent Stream
- Shoreline

MassDOT (formerly MHD-OTP) Roads

- Limited Access Highway
- Multi-Lane Highway, Unlimited Access
- Other Numbered Highway
- Major Road - Connector
- Minor Street or Road

SOURCE:

Priority and Estimated Habitats have been delineated by the Natural Heritage and Endangered Species Program of the Division of Fisheries and Wildlife. These layers are used for screening Projects and Activities that may impact state-listed rare species and their habitats. Priority and Estimated Habitat maps have been delineated based on the Best Scientific Evidence Available and according to the regulations of the Massachusetts Endangered Species Act (321 CMR 10.12) using documented records of rare species and various spatial layers.

The NHESP data was supplied by MassGIS in March 2009, July 2013 and May 2015, the MassDOT Roads data was supplied by MassGIS in June 2014 and the Hydrography & Rivers and Streams data was supplied by MassGIS in March 2013.

The Color Ortho Imagery was acquired for the U. S. Geological Survey in April 2008 & April 2009 by Fugro Earthdata, Inc. Ground control points were collected by Dewberry and Davis LLC. and by the Mass Highway Survey Section and was distributed February 20, 2009 & May 28, 2010 (last updated April 28, 2015).

0 1,000 2,000 4,000

SCALE IN FEET

PRIORITY HABITAT AND ESTIMATED HABITAT
NATURAL HERITAGE & ENDANGERED SPECIES PROGRAM

BYRON WESTON HYDROELECTRIC PROJECT
DALTON, MASSACHUSETTS

GZA GeoEnvironmental, Inc
Engineers and Scientists
www.gza.com

JOB NO. 01.0019349.81

PROJ. MGR.: DJS
DESIGNED BY.: MF
REVIEWED BY.: CDC
OPERATOR.: EMD
DATE: 12-27-2016

FIGURE NO. 1

Commonwealth of Massachusetts

Division of Fisheries & Wildlife

MassWildlife

Wayne F. MacCallum, *Director*

April 30, 2010

Chad Cox
GZA GeoEnvironmental
1 Edgewater Drive
Norwood MA 02062

RE: Project Location: Byron Weston Dam No. 2
Town: DALTON
NHESP Tracking No.: 08-25116

To Whom It May Concern:

Thank you for contacting the Natural Heritage and Endangered Species Program ("NHESP") of the MA Division of Fisheries & Wildlife for information regarding state-listed rare species in the vicinity of the above referenced site. Although this project site is not currently located within Priority Habitat as indicated in the *Massachusetts Natural Heritage Atlas* (13th Edition), the NHESP has received information about the presence of two state-listed dragonflies in the vicinity of the subject site. As a result, this project site, or a portion thereof, may be mapped as Priority Habitat in a future edition of the Massachusetts Natural Heritage Atlas.

The following state-listed rare species have been found in the vicinity of the site:

Scientific name	Common Name	Taxonomic Group	State Status
Boyeria grafiana	Ocellated Darner	Dragonfly	Special Concern
Stylurus scudderi	Zebra Clubtail	Dragonfly	Special Concern

The species listed above are protected under the Massachusetts Endangered Species Act (MESA) (M.G.L. c. 131A) and its implementing regulations (321 CMR 10.00). State-listed wildlife are also protected under the state's Wetlands Protection Act (WPA) (M.G.L. c. 131, s. 40) and its implementing regulations (310 CMR 10.00). Fact sheets for most state-listed rare species can be found on our website (www.nhesp.org).

This evaluation is based on the most recent information available in the NHESP database, which is constantly being expanded and updated through ongoing research and inventory. If you have any questions regarding this letter please contact Emily Holt, Endangered Species Review Assistant, at (508) 389-6361.

Sincerely,

Thomas W. French, Ph.D.
Assistant Director

Natural Heritage & Endangered Species Program

www.mass.gov/nhesp

Massachusetts Division of Fisheries & Wildlife

Ocellated Darner
Boyeria grafiana

State Status: **Special Concern**
Federal Status: **None**

DESCRIPTION: The Ocellated Darner is a large, semi-aquatic insect of the order Odonata, suborder Anisoptera (the dragonflies), and family Aeshnidae (the darners). Like all adult dragonflies, the Ocellated Darner has a long, slender abdomen, four wings with dense venation, and a large head with huge eyes and powerful, chewing mouth parts. The Darners are among the largest of the dragonflies, and are further characterized by exceptionally large eyes that wrap around the head and meet along a seam on the top of the head. The Ocellated Darner is dull brown overall with two yellow or greenish spots on the sides of the thorax (winged and legged segment behind the head) and green or greenish-yellow stripes on the top of the thorax. The abdomen is marked with small, dull green to yellow lateral markings. The sexes are similar in appearance, though the pale markings tend to be somewhat brighter and more distinct on males. Both males and females have long, ovate terminal appendages (reproductive structures). The Ocellated Darner is one of two species of spotted darners (*Boyeria*) in North America. Both are readily separated from the other groups of darners by the two pale spots on each side of the thorax.

Ocellated Darners range from about 2.4 to 2.6 inches (60-66 mm) in overall length, with a wingspan averaging approximately 3.4 inches (84 - 88 mm).

The nymphs are long and slender, ranging up to 1.5 inches (38 mm) in length when fully developed. They are dark in coloration with a pale spot on the top of the seventh abdominal segment. They can be identified using various characteristics, as per the keys of Walker (1958), Soltesz (1996), and Needham et al. (2000).

Photo: Blair Nikula

SIMILAR SPECIES: The Ocellated Darner is very similar in appearance to the closely related, but more common and widespread, Fawn Darner (*B. vinosa*). The two can be reliably differentiated only in the hand, using a combination of characteristics. Ocellated Darners average darker and grayer overall than the paler brown Fawn Darner, with the thoracic markings tending to be more pale green to greenish-yellow (vs. yellow in Fawn Darner) and more oval in shape. Fawn Darners have small, dark patches at the base of the wings, and the wings often have a faint amber wash, both characteristics that are typically lacking in Ocellated Darners. However, all of these characteristics are variable and separation of these two species can be difficult.

HABITAT: Ocellated Darners nymphs inhabit clear, shallow, rocky, swift-flowing streams and large, rocky, poorly vegetated lakes. Adults also inhabit nearby uplands, often forests with mixed coniferous and

deciduous trees. In Massachusetts, Ocellated Darners have been found only in shaded, clear, cold, rocky streams and rivers.

LIFE-HISTORY/BEHAVIOR: The males patrol up and down the shoreline, searching for females. They fly low over the water (generally within a foot of the surface), poking in and out of shoreline indentations and projections, circling around protruding rocks and vegetation. Their flight is swift and very erratic, making them difficult to catch. Unlike most odonates, Ocellated Darners are crepuscular and most active late in the day, often flying until well after sunset. They seem to prefer shaded rather than sunlit areas, and are often active on overcast days. Males have been observed patrolling early in the morning in Massachusetts. Unlike many darners, they are rarely seen away from water and apparently do not take part in the feeding swarms typical of most other species in the family. Ocellated Darners have a late flight season, with most records occurring from August to mid-September.

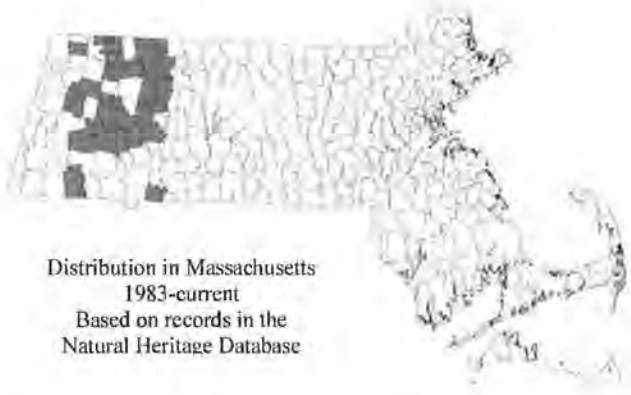
When not flying, the adults rest by hanging vertically from vegetation in woodlands adjacent to their breeding habitats.

Very little has been published on the life history of Ocellated Darners. However, the closely related Fawn Darner (*B. vinosa*) is better known and presumably the two species share similar life histories. The nymphs are aquatic and seem to spend most of their time clinging upside-down to the underside of rocks and submerged sticks and can often be located by turning over these objects. Darner nymphs are voracious predators and typically are among the dominant predators in their aquatic habitats. Although nothing has been published on the development time of Ocellated Darner nymphs, the nymphs of other species in the family spend anywhere from one to four years developing.

When ready to eclose (transform from nymph to adult), the nymphs crawl out of the water onto exposed rocks, emergent vegetation, or shoreline vegetation. After pulling free from their nymphal skin (exuviae), the teneral (the period when the exoskeleton has yet to harden and the flight muscles have not fully developed) adult dragonflies fly off to nearby upland areas where they spend several days feeding and maturing. Adult Darners feed on a variety of aerial insect prey, which they capture in flight with their legs. The legs are lined with spines which allow the dragonfly to securely grasp their prey.

When ready to breed, the males return to their aquatic habitats and take up their shoreline patrols, looking to mate with females. Females are generally not seen at these male-dominated wetlands until the brief period when they are ready to mate and lay eggs. When a male encounters a female, he attempts to grasp her in the back of her head with claspers located on the end of his abdomen. If the female is receptive, she allows the male to grasp her, then curls the tip of her abdomen upward to connect with the male's sexual organs located on the underside of his second abdominal segment, thus forming the familiar heart-shaped "wheel" typical of all Odonata: the male above and the female below. In this position, the pair flies off to mate, generally hidden high in nearby trees where they are less vulnerable to predators.

Females have been observed in Massachusetts dipping their abdomen into the water and mud along river banks, presumably laying eggs. Like other darners, female Ocellated Darners have a long, thin ovipositor projecting from the underside of the end of the abdomen. They use this ovipositor to slice into emergent vegetation and rotting, submerged logs where they lay their eggs. It is not known how long the eggs take to develop into nymphs.



Distribution in Massachusetts
1983-current
Based on records in the
Natural Heritage Database

RANGE: Ocellated Darners range through eastern North America from Minnesota, Ontario and Nova Scotia, south to Georgia and Mississippi. The species is fairly common and widespread in Canada and northern New England, but is rather rare and local in the south, where

it is confined to higher elevations, primarily in the Appalachians.

POPULATION STATUS IN MASSACHUSETTS: Ocellated Darners are listed as a Species of Special Concern in Massachusetts. As with all species listed in Massachusetts, individuals of the species are protected from take (picking, collecting, killing, sale, etc…) and sale under the Massachusetts Endangered Species Act. Most reports to date come from the Green, Deerfield, and Westfield river systems (all tributaries of the Connecticut River). An historical record from Wareham in Plymouth County seems questionable and requires confirmation.

The late flight season and inconspicuous habits of Ocellated Darners have likely resulted in populations of the species being overlooked. There are a number of streams and lakes in western Massachusetts that seem to have suitable habitat and further field work will likely reveal additional sites, particularly in Berkshire County.

MANAGEMENT RECOMMENDATIONS: As for many rare species, the exact needs for management of Ocellated Darners are not known. As with most odonate species, water quality is of primary concern to the well-being of Ocellated Darners. Although the known Massachusetts sites seem to be fairly well-protected, many of these rivers are paralleled by roadways for much of their length, and salt and other road contaminant run-off is of concern. Siltation from construction or erosion may also cause problems. Low-level recreational use from fisherman and canoeists probably has little impact on odonate populations, but should be monitored. The upland borders of these river systems are also crucial to the well-being of odonate populations as they are critical for feeding, resting, and maturation. Development of these areas should be discouraged, and the preservation of remaining undeveloped uplands should be a priority.

REFERENCES:

Dunkle, S.W. 2000. Dragonflies Through Binoculars. Oxford University Press.

Needham, J.G., M.J. Westfall, Jr., and M.L. May. 2000. Dragonflies of North America. Scientific Publishers.

Nikula, B., J.L. Ryan, and M.R. Burne. 2007. A FieldGuide to the Dragonflies and Damselflies of Massachusetts. Massachusetts Natural Heritage and Endangered Species Program.

Soltesz, K. 1996. Identification Keys to Northeastern Anisoptera Larvae. Center for Conservation and Biodiversity, University of Connecticut.

Walker, E.M. 1958. The Odonata of Canada and Alaska, Vol. II. University of Toronto Press.

OCELLATED DARNER FLIGHT PERIOD:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Updated 2015

Natural Heritage
& Endangered Species
Program
Massachusetts Division of Fisheries & Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
tel: (508) 389-6360, fax: (508) 389-7891
www.nhesp.org

Zebra Clubtail

Stylurus scudderi

State Status: **None**
Federal Status: **None**

DESCRIPTION: The Zebra Clubtail (*Stylurus scudderi*) is a large insect belonging to the order Odonata, sub-order Anisoptera (the dragonflies), and family Gomphidae (clubtails). Clubtails are a distinctive group of dragonflies that generally inhabit flowing waters, though they can be found at a variety of habitats, including ponds and lakes. Clubtails also have the distinction of being the only group of dragonflies in Massachusetts to have widely separated eyes. The name clubtail refers to a swelling in the distal segments of these dragonflies' abdomens, creating a form not unlike a club that varies in width from species to species. The Zebra Clubtail possesses a rather wide club, nearly as wide as the thorax (section behind the head), which includes the seventh, eighth, and ninth segments (dragonflies and damselflies have ten abdominal segments). The Zebra Clubtail is a very striking insect with black and yellow patterning (which prompted its naming) and bright green eyes. The face is green with black cross stripes. The dark brown thorax has two large buff white stripes on each side. The black abdomen is marked with pale yellow rings. Abdominal segments eight and nine have a large yellowish spot located laterally on each side, while segment seven has a smaller spot in the same location. The three pairs of powerful legs are jet black and lined with spines which aid in catching the small aerial insects these insects feed on. Zebra Clubtails perch horizontally on rocks, logs, vegetation or the ground with their wings held horizontal, like those of an airplane.

Adult Zebra Clubtails range from 2 to 2.3 inches (52 to 59 mm) in length. Although male and female Zebra Clubtails appear similar in their coloration, the female is slightly larger with a reduced "club."

SIMILAR SPECIES: Although many of the clubtails are similar in appearance, the Zebra Clubtail is a large and distinctively marked species. A combination of factors, including its ringed abdomen, green eyes, terminal abdominal appendages (males), hamules (males) and vulvar lamina (females), help to easily distinguish this species from all other dragonflies in Massachusetts (Needham *et al.* 1999). The nymphs can be distinguished by characteristics of the abdominal segments and palpal lobes as shown in the keys in Walker (1958) and Soltesz (1996).

HABITAT: Zebra Clubtails inhabit medium-sized forested streams which usually have some intermittent rapids. These streams are generally sandy-bottomed with slow to moderate flow. Elsewhere within its range, the Zebra Clubtail has occasionally been found on large lakes.

LIFE-HISTORY/BEHAVIOR: The Zebra Clubtail is a late flying species. Emergence in Massachusetts probably occurs in early July. Following maturation, which may take a week, Zebra Clubtails can be seen at breeding habitat from mid-July through early September.

Dragonflies are an understudied group of insects. As a result there has been little published on their habits and general life histories. This is true for the Zebra Clubtail, for which there is a paucity of published material. However, information that has been published on other related species is most likely applicable.

During their complete life cycle, dragonflies go through two distinct stages, a nymph stage where they are wholly aquatic, and an aerial adult stage. Zebra Clubtail nymphs spend much of their time buried in the sand at the bottom of their stream habitat where they wait to ambush almost any animal that is a suitable size.

ZEBRA CLUBTAIL FLIGHT PERIOD

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form as these donations comprise a significant portion of our operating budget.

Dragonfly and damselfly nymphs are unique in their mode of prey capture. They have a hinged labium (lower lip) which can be extended rapidly to secure their prey. The victim can then be moved back to the mandibles to be eaten. The wide variety of prey includes aquatic insects, small fish, and tadpoles. While in the nymph stage, the dragonflies will molt up to 10 times, growing each time. When the nymph reaches a certain size, they enter the last developmental stage. Although it is not known how long it takes for Zebra Clubtail nymphs to fully develop, in similarly sized dragonflies it takes about a year.

The final stage of development in dragonflies is emergence from the nymph to the flying adult. The nymph of the Zebra Clubtail generally emerges on the bank of the stream no more than 3 feet above the surface of the water. Although most dragonflies emerge during the early morning, or at night, the Zebra Clubtail has often been found emerging during the middle part of the day. Most dragonflies do not emerge at this time, apparently because predation may be highest during these hours. Upon reaching a secure location, the adult pushes out of the nymphal skin. During the first few hours following emergence, the adult dragonfly is very soft and thus vulnerable to predators. To avoid predation, the newly emerged adults will disperse into surrounding woodlands where they will spend a week or more. This time of wandering is spent maturing and feeding. Dragonflies are aerial predators that feed on small flying insects such as flies and mosquitoes. When not feeding, Zebra Clubtails spend most of their time resting, sitting horizontally on the surfaces of leaves.

Zebra Clubtails breed in late summer, mostly from mid-July through August, though sometimes continuing into September. Male Zebra Clubtails patrol the stream, flying low and quickly over the surface of the water in search of females. They frequently land on the bank, logs, rocks and occasionally shoreline vegetation. When a female is found, the males grabs her and secures her with his terminal abdominal appendages which fit into special grooves in back of her eyes. The female swings the tip of her abdomen, where her reproductive organs are located, towards the male's hamules, located on the under side of the second abdominal segment, forming the "wheel position" with the male on top and the female below. When a male Zebra Clubtail secures a female, the pair leaves the stream and flies up into forest, usually to the tops of the trees, to mate. Oviposition occurs after mating has been completed. Female Zebra Clubtails oviposit alone by rapidly flying over the surface of the water and dipping the tip of her abdomen into the water every few feet. Her flight is very erratic, which may help protect her from potential predators during this time of vulnerability.

RANGE: The Zebra Clubtail is found throughout much of the eastern United States. It ranges from Nova Scotia west to Ontario and south to Georgia, Tennessee and Michigan. The Zebra Clubtail has been found in every New England state, though it appears to be absent from the southeast coastal plain.

POPULATION STATUS IN MASSACHUSETTS: The Zebra Clubtail is not listed as a rare species in Massachusetts. It was formerly listed as a Special of Special Concern.

Distribution in Massachusetts
1983-current
Based on records in Natural Heritage Database

MANAGEMENT RECOMMENDATIONS: As for many dragonfly species, the exact management needs of Zebra Clubtails are not known. Water quality certainly is a primary concern. Potential threats to the water quality of the rivers in which this species lives include industrial pollution from businesses located along the river, salt and other road contaminant run-off, and siltation from construction or erosion. The disruption of natural flooding regimes by dams and water diversion projects also may have a negative impact on odonate populations. Extensive use of the river by power boats and jet skis is a serious concern, particularly during the mid- to late-summer emergence period of Zebra Clubtails. Many species of clubtails and other riverine odonates undergo emergence near the water on exposed rocks or vegetation, or exposed sections of the river bank, where they are imperiled by the wakes of high speed watercraft. Low-level recreational use from fisherman and canoeists probably has little impact on odonate populations, but should be monitored. The upland borders of these river systems are also crucial to the well-being of odonate populations as they are critical for feeding, resting, and maturation. Development of these areas should be discouraged and preservation of the remaining undeveloped upland bordering the river should be a top priority.

REFERENCES:

Dunkle, S. W. 2000. Dragonflies Through Binoculars. Oxford University Press.

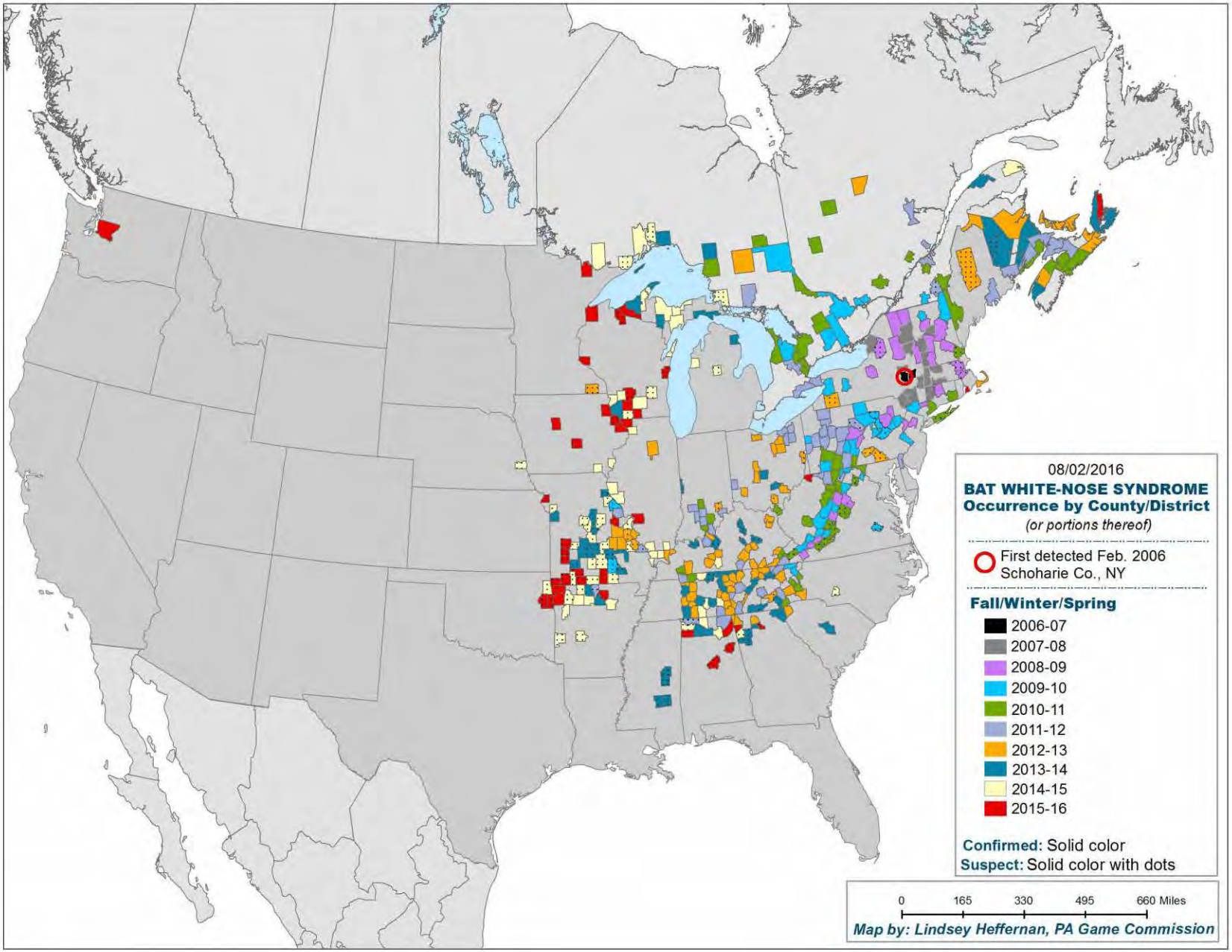
Needham, J. G., M. J. Westfall, Jr., and M. L. May. 2000. Dragonflies of North America. Scientific Publishers.

Nikula, B., J. L. Ryan, and M. R. Burne. 2007. A Field Guide to the Dragonflies and Damselflies of Massachusetts, 2nd ed. Massachusetts Natural Heritage and Endangered Species Program.

Soltesz, K. 1996. Identification Keys to Northeastern Anisoptera Larvae. Center for Conservation and Biodiversity, University of Connecticut.

Walker, E. M. 1958. The Odonata of Canada and Alaska, Vol. II. University of Toronto Press.

Updated March 2012



Source: https://www.whitenosesyndrome.org/resources/map

Northern Long-Eared Bat

Myotis septentrionalis

The northern long-eared bat is federally listed as a threatened species under the Endangered Species Act. ***Endangered*** species are animals and plants that are in danger of becoming extinct. ***Threatened*** species are animals and plants that are likely to become endangered in the foreseeable future. Identifying, protecting and restoring endangered and threatened species is the primary objective of the U.S. Fish and Wildlife Service's Endangered Species Program.

Photo by Steve Taylor, University of Illinois

This northern long-eared bat, observed during an Illinois mine survey, shows visible symptoms of white-nose syndrome.

What is the northern long-eared bat?

Appearance: The northern long-eared bat is a medium-sized bat with a body length of 3 to 3.7 inches and a wingspan of 9 to 10 inches. Their fur color can be medium to dark brown on the back and tawny to pale-brown on the underside. As its name suggests, this bat is distinguished by its long ears, particularly as compared to other bats in its genus, *Myotis*.

Winter Habitat: Northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. They use areas in various sized caves or mines with constant temperatures, high humidity, and no air currents. Within hibernacula, surveyors find them hibernating most often in small crevices or cracks, often with only the nose and ears visible.

Summer Habitat: During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). Males and non-reproductive females may also roost in cooler places, like caves and mines. Northern long-eared bats seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. They rarely roost in human structures like barns and sheds.

Reproduction: Breeding begins in late summer or early fall when males begin to swarm near hibernacula. After copulation, females store sperm during hibernation until spring. In spring, females emerge from their hibernacula, ovulate and the stored sperm fertilizes an egg. This strategy is called delayed fertilization.

After fertilization, pregnant bats migrate to summer areas where they roost in small colonies and give birth to a single pup. Maternity colonies of females and young generally have 30 to 60 bats at the beginning of the summer, although larger maternity colonies have also been observed. Numbers of bats in roosts typically decrease from the time of pregnancy to post-lactation. Most bats within a maternity colony give birth around the same time, which may occur from late May or early June to late July, depending where the colony is located within the species' range. Young bats start flying by 18 to 21 days after birth. Maximum lifespan for the northern long-eared bat is estimated to be up to 18.5 years.

Feeding Habits: Like most bats, northern long-eared bats emerge at dusk to feed. They primarily fly through the understory of forested areas feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation or by gleaning motionless insects from vegetation.

Range: The northern long-eared bat's range includes much of the eastern and north central United States, and all Canadian provinces from the Atlantic Ocean west to the southern Yukon Territory and eastern British Columbia. The species' range includes 37 States and the District of Columbia: Alabama, Arkansas, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming.

Why is the northern long-eared bat in trouble?

White-nose Syndrome: No other threat is as severe and immediate as

this. If this disease had not emerged, it is unlikely that northern long-eared bat populations would be experiencing such dramatic declines. Since symptoms were first observed in New York in 2006, white-nose syndrome has spread rapidly from the Northeast to the Midwest and Southeast; an area that includes the core of the northern long-eared bat's range, where it was most common before this disease. Numbers of northern long-eared bats (from hibernacula counts) have declined by up to 99 percent in the Northeast. Although there is uncertainty about the rate that white-nose syndrome will spread throughout the species' range, it is expected to continue to spread throughout the United States in the foreseeable future.

Other Sources of Mortality:
Although no significant population declines have been observed due to the sources of mortality listed below, they may now be important factors affecting this bat's viability until we find ways to address WNS.

Impacts to Hibernacula: Gates or other structures intended to exclude people from caves and mines not only restrict bat flight and movement, but also change airflow and microclimates. A change of even a few degrees can make a cave unsuitable for hibernating bats. Also, cave-dwelling bats are vulnerable to human disturbance while hibernating. Arousal during hibernation causes bats to use up their energy stores, which may lead to bats not surviving through winter.

Loss or Degradation of Summer Habitat: Highway construction, commercial development, surface mining, and wind facility construction permanently remove habitat and are activities prevalent in many areas of this bat's range. Many forest management activities benefit bats by keeping areas forested rather than converted to other uses. But, depending on type and timing, some forest management activities can cause mortality and temporarily remove or degrade roosting and foraging habitat.

Wind Farm Operation: Wind turbines kill bats, and, depending on the species, in very large numbers. Mortality from windmills has been documented for northern long-eared bats, although a small number have been found to date. However, there are many wind projects within a large portion of the bat's range and many more are planned.

What Is Being Done to Help the Northern Long-Eared Bat?

Disease Management: Actions have been taken to try to reduce or slow the spread of white-nose syndrome through human transmission of the fungus into caves (e.g. cave and mine closures and advisories; national decontamination protocols). A national plan was prepared by the Service and other state and federal agencies that details actions needed to investigate and manage white-nose syndrome. Many state and federal agencies, universities and non-governmental organizations are researching this disease to try to control its spread and address its affect. See www.whitenosesyndrome.org/ for more.

Addressing Wind Turbine Mortality: The Service and others are working to minimize bat mortality from wind turbines on several fronts. We fund and conduct research to determine why bats are susceptible to turbines, how to operate turbines to minimize mortality and where important bird and bat migration routes are located. The Service, state natural resource agencies, and the wind energy industry are developing a Midwest Wind Energy Habitat Conservation Plan, which will provide wind farms a mechanism to continue operating legally while minimizing and mitigating listed bat mortality.

Listing: The northern long-eared bat is listed as a threatened species under the federal Endangered Species Act. Listing a species affords it the protections of the Act and also increases the priority of the species for funds, grants, and recovery opportunities.

Hibernacula Protection: Many federal and state natural resource agencies and conservation organizations have protected caves and mines that are important hibernacula for cave-dwelling bats.

What Can I Do?

Do Not Disturb Hibernating Bats: To protect bats and their habitats, comply with all cave and mine closures, advisories, and regulations. In areas without a cave and mine closure policy, follow approved decontamination protocols (see http://whitenosesyndrome.org/topics/decontamination). Under no circumstances should clothing, footwear, or equipment that was used in a white-nose syndrome affected state or region be used in unaffected states or regions.

Leave Dead and Dying Trees Standing: Like most eastern bats, the northern long-eared bat roosts in trees during summer. Where possible and not a safety hazard, leave dead or dying trees on your property. Northern long-eared bats and many other animals use these trees.

Install a Bat Box: Dead and dying trees are usually not left standing, so trees suitable for roosting may be in short supply and bat boxes may provide additional roost sites. Bat boxes are especially needed from April to August when females look for safe and quiet places to give birth and raise their pups.

Support Sustainability: Support efforts in your community, county and state to ensure that sustainability is a development goal. Only through sustainable living will we provide rare and declining species, like the northern long-eared bat, the habitat and resources they need to survive alongside us.

Spread the Word: Understanding the important ecological role that bats play is a key to conserving the northern long-eared and other bats. Helping people learn more about the northern long-eared bat and other endangered species can lead to more effective recovery efforts. For more information, visit www.fws.gov/midwest/nleb and www.whitenosesyndrome.org

Join and Volunteer: Join a conservation group; many have local chapters. Volunteer at a local nature center, zoo, or national wildlife refuge. Many state natural resource agencies benefit greatly from citizen involvement in monitoring wildlife. Check your state agency websites and get involved in citizen science efforts in your area.

Natural Heritage
& Endangered Species
Program
Massachusetts Division of Fisheries & Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
tel: (508) 389-6360, fax: (508) 389-7891
www.nhesp.org

Northern Long-eared Bat

Myotis septentrionalis

State Status: **Endangered**
Federal Status: **Threatened**

Photo: Tammy Ciesla, MassWildlife

Description: The Northern Long-eared Bat is a small bat with large ears, which when pushed forward extend at least 4 mm past its nose. Its fur and wing membranes are light brown, giving it an overall somewhat uniform brown appearance. The hairs on its back are bicolored, with a dark base and lighter tip. The Northern Long-eared Bat averages 50-95 mm in total length, with a tail of 35-42 mm. In weight, it averages 5-8 g. This bat is typically found roosting in trees and feeding in forested habitats, but may occasionally be found in human habitations.

Similar Species: The best diagnostic character to distinguish the Long-eared Bat from other species in Massachusetts is its long ears. The Little Brown Myotis and rare Indiana Myotis are similar in appearance, but have shorter ears which typically do not extend beyond their nose when pushed forward. The Little Brown Myotis also has glossier fur and a shorter tail relative to its body length. The Indiana Myotis has a keeled calcar (a ridge of cartilage between the foot and the tail), which the Northern Long-eared Bat lacks. Other features of interest in identification include the bat's hairless interfemoral membrane (the skin stretching between the legs and tail) and lack of a black face mask (which is characteristic of Small-footed Myotis).

Distribution in Massachusetts
1987 - 2012
Based on records in the
Natural Heritage Database

Habitat in Massachusetts: In the warmer months, colonies of Northern Long-eared Bats may be found roosting and foraging in forested areas. Preferred roosts are in clustered stands of large trees, especially in live or dead hardwoods with large, tall cavities. These bats are found in other tree roosts as well, and occasionally in human-made structures. Northern Long-eared Bats forage under the forest canopy in structurally complex habitats, often above small ponds, vernal pools or streams, along gravel paths or roads, and at the forest edge. The bats are widespread in Massachusetts, and have been found in 11 of 14 counties. In winter, Northern Long-eared Bats hibernate in natural caves and abandoned mines, preferring habitats where the humidity is so high that water droplets sometimes cover their fur. Winter hibernacula (hibernation sites) have been reported in Berkshire, Franklin, Hampden, Middlesex, and Worcester counties.

Range: The Northern Long-eared Bat is found across forested parts of the eastern United States and Canada, west to British Columbia, Wyoming, and Montana, and south into Florida. It was historically common in New England, the Canadian Maritimes, Quebec and Ontario, and uncommon in the western extremes of its range.

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for **'endangered wildlife conservation'** on your state income tax form as these donations comprise a significant portion of our operating budget.

Life Cycle/Behavior: In the summer months, Northern Long-eared Bats emerge at dusk from daytime roosts for the first in a series of feeding flights. Their long tails and large wing membranes allow the bats to fly slowly and navigate through cluttered environments. These special adaptations also enable them to glean prey from foliage, in addition to catching insects on the fly. These bats locate resting insects through a combination of passive listening and the emission of high frequency echolocation calls.

Between August and October, the body weight of Northern Long-eared Bats increases by up to 45%, as they store fat for winter. In late summer, the bats begin to "swarm" around the entrances of caves, and are thought to be testing the air of possible hibernacula. This is the time when mating occurs, with females storing the sperm within their bodies until spring. By early November, the bats enter hibernation sites. Their metabolisms slow and they enter torpor, but will rouse occasionally throughout the winter to drink water. Northern Long-eared Bats share caves with a number of other species, but tend to hibernate singly or in small groups in deep cracks or crevices. They return to the same hibernacula in multiple years, but may not hibernate in the same location every year. Little data are available on migration, but the bats are known to travel up to 56 km from foraging sites to winter hibernacula.

Females bear and rear single young from mid-May through July. The longevity record for the Northern Long-eared Bat is 18 years.

Population status in Massachusetts, including Threats: The Northern Long-eared Bat is listed as Endangered under the Massachusetts Endangered Species Act. All listed species are protected from killing, collecting, possessing, or sale and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. In addition, listed animals are specifically protected from activities that disrupt nesting, breeding, feeding, or migration.

Once a common species in the northern United States, populations of the Northern Long-eared Bat have been devastated by the spread of White-nose Syndrome. Populations in infected hibernacula in the Northeast have suffered catastrophic losses of 90-100%. White-nose Syndrome is caused by *Geomyces destructans*, a species new to science, but closely related to fungi that naturally grow in caves. The fungus grows over bats while they hibernate, causing them to rouse from dormancy frequently, lose valuable stored fat, and fail to survive the winter. The fungus is believed to be passed from cave to cave primarily by the movements of breeding male bats, but human transport is also thought to be responsible for the infection of some hibernacula.

Management Recommendations: The U.S. Fish & Wildlife Service is working in concert with government and non-profit groups to understand the spread of the fungus and potential for stopping its spread, as well as exploring opportunities for captive breeding of the most vulnerable species. Access to suitable, undisturbed hibernacula is essential to the survival of the Northern Long-eared Bat, and protection of known sites is paramount. Human disturbance of hibernacula can be discouraged or prevented with the use of gated entrances, in order to avoid arousal of hibernating bats and the spread of fungal spores.

References:

Caceres, M.C., and R.M. Barclay. 2000. Myotis septentrionalis. *Mammalian Species* 634: 1-4.

French, T.W., J.E. Cardoza, and G.S. Jones. *Homeowner's Guide to Bats*. Massachusetts Department of Fisheries & Wildlife: Westborough, MA.

Hamilton, Jr., W.J., and J.O. Whitaker, Jr. 1979. *Mammals of the Eastern United States*, Second Edition. Cornell University Press: Ithaca, NY.

U.S. Fish & Wildlife Service. 2012. "White-nose Syndrome." http://whitenosesyndrome.org/

Updated 2012
Map Updated 2012

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form as these donations comprise a significant portion of our operating budget.

The Commonwealth of Massachusetts
William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

December 15, 2009

Secretary Kimberly D. Bose
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

RE: Byron Weston No. 2 Crane & Company Hydroelectric Projects, Dalton, MA.
FERC No. 13583. MHC #RC.47433. EFSB 09-H2.

Dear Secretary Bose:

Staff of the Massachusetts Historical Commission, the office of the Massachusetts State Historic Preservation Officer, have received the preliminary information submitted for the project referenced above.

Because the project requires approval and permitting by FERC, the MHC will coordinate the state historical review under MGL c. 9, ss. 26-27C (950 CMR 71) with the Section 106 review (see 950 CMR 71.04(2)).

The project planners are welcome to visit the MHC's offices to conduct research to identify the historic properties within their project area to assist FERC in its determinations.

The MHC recommends that FERC contact the Dalton Historical Commission to seek their views on the project and to determine if the Dalton Historical Commission wishes to be a consulting party during the Section 106 review in accordance with 36 CFR 800.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800). Please contact me if you have any immediate questions.

Sincerely,

Edward L. Bell
Technical Services Division
Massachusetts Historical Commission

xc:
Crane & Company
GZA Environmental Inc.
Mass. Energy Facilities Siting Board
Dalton Historical Commission

220 Morrissey Boulevard, Boston, Massachusetts 02125
(617) 727-8470 • Fax: (617) 727-5128
www.sec.state.ma.us/mhc

Dalton Historical Commission
462 Main Street
Dalton,Mass. 01226

July 20,2010

GZA
GeoEnvoirmental,inc.
1 Edgewater Drive
Norwood,Mass. 02062

Attention,Chad Cox
Associate Principal

Dear Sir:

First I must say how remiss I have been in sending off this letter to you regaarding Crane@Co. only a personal matter could have kept me from answering sooner.

I want to inform you and your company that the Dalton Historical Commission are in full compliance with the Hydro-electric Project that Crane@Co. proposes.

This project will not only be good for the Town of Dalton but the area of Berkshire County as a whole.

The Housatonic River that once gave so much energy to all the mills,will once again be a vital energy source,it is a win-win situation.

As for the Weston Mill being on the Register of Historic Places,it most assuredly should! The Dalton Historical Commission will try to help Crane@Co. in this matter if they so desire.

Again,I will say that the Dalton Historical Commission is in full agreement that the Hydroelectric Project should come to complete fruition,

Respectfully,

Gail A. Pinna
Vice Chair/Secretary
Dalton Historical Commission

c.c. James Noel
Crane and Company

GZA
GeoEnvironmental, Inc.

Engineers and
Scientists

August 28, 2012
File No: 19349.50

Ms. Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N. E.
Washington, D.C. 20426

Re: Byron Weston Hydroelectric Project
FERC Project No. 13583-001
Wheel Relocation Plan

Ms. Bose:

On behalf of the project exemptee, Crane & Company (Crane), GZA GeoEnvironmental, Inc. (GZA) is hereby formally filing (via e-file) the Wheel Relocation Plan for the Byron Weston Hydroelectric Project. A Wheel Relocation Plan is required under Article 27 of the Exemption from Licensing. The Wheel Relocation Plan includes comment letters provided by the Massachusetts Historic Commission and the Dalton Historic Commission.

Thank you in advance for your assistance with the Byron Weston Hydroelectric Project.

Yours very truly,

GZA GEOENVIRONMENTAL, INC.

Kristina Ekholm, P.E.
Assistant Project Manager

Chad Cox, P.E.
Associate Principal

Attachment: Wheel Relocation Plan

cc: FERC Washington (via e-file)
James Noel (Crane)

J:\19,000-20,999\19349\19349-50.KDE\Wheel Relocation Plan\Cover Letter.Docx

One Edgewater Drive
Norwood,
Massachusetts 02062
Phone: 781-278-3700
Fax: 781-278-5701
http://www.gza.com

Byron Weston Hydroelectric Project
Crane & Company
FERC No. 13583-001

WHEEL TURBINE RELOCATION PLAN

FINAL

Existing Decommissioned Hydropower Turbine

Owner: Crane & Co.
Location: Dalton, MA

TABLE OF CONTENTS

APPENDICES:

I. INTRODUCTION

A. PURPOSE

The Byron Weston Dam No. 2 is an existing dam located on the East Branch of the Housatonic River in Dalton, MA. The dam and the adjacent mill structure on the right bank are owned by Crane and Co. (Crane). Crane has been granted a Small Hydroelectric Power Project Exemption from the Federal Energy Regulatory Commission (FERC, FERC No. 13583-001) and now intends to proceed with the construction of the project.

Article 27 of the terms of the exemption requires the development of a Wheel Turbine Relocation Plan. Article 27 reads as follows:

> Within six months of the issuance date of the exemption, the exemptee shall file with the Commission, for approval, a Wheel Turbine Relocation Plan that describes the refurbishment and relocation of one of the McCormick Hercules wheel turbines being removed from the Byron Weston Defiance Mill building. The plan shall:
>
> > (1) describe the procedures for removing and handling the turbine, including photo-documentation of the turbine prior to removal from its existing location;
> > (2) describe the methods for refurbishing the turbine;
> > (3) identify where the turbine will be relocated and describe the interpretive information that will be provided with the public display; and
> > (4) provide an implementation schedule.
>
> The plan shall be developed in consultation with the Massachusetts Historical Commission and the Dalton Historical Commission. The exemptee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the exemptee does not adopt a recommendation, the filing shall include the exemptee's reasons, based on project-specific information. The Commission reserves the right to make changes to the plan. Removal of the McCormick Hercules wheel turbines from the Byron Weston Defiance Mill building shall not begin until the exemptee is notified by the Commission that the plan is approved. Upon Commission approval, the exemptee shall implement the plan, including any changes required by the Commission.

B. SITE DESCRIPTION

The Byron Weston Project will use the water power potential of the existing 30- foot-high, 90-foot-long, stone-masonry Byron Weston Dam No. 2 equipped with a 23- foot-high, 75-foot-long spillway. The dam creates a 0.94-acre impoundment with a normal water surface elevation of 1,116.7 feet North Atlantic Vertical Datum (NAVD 1988). In addition to the dam and impoundment, the project will include an existing intake structure equipped with existing trashracks and an existing headgate. The water will pass through the headgate to an existing 6.5-foot-long, 6-foot-diameter penstock connected to an existing 50-foot-long, 9.5-foot-wide headrace canal. The headrace canal will convey flow to a new 15-foot-long, 4.4-foot-diameter penstock leading to a new 250- kilowatt turbine-generating unit within the existing Byron

Weston Defiance Mill building. Water will then be discharged into the East Branch of the Housatonic River through a new draft tube within the existing tailrace approximately 35 feet downstream of the dam.

C. SITE HISTORY

The Byron Weston Dam No. 2 was constructed, in its present form, in 1887. The river at this site was originally harnessed to generate hydro-mechanical power for use in papermaking in the adjacent Defiance Mill. In the early 20th century, the hydropower works at the Byron Weston Dam No. 2 were converted to electrical generation, which continued until sometime after 1942. Most of the original equipment in the powerhouse area was removed after hydropower generation ceased sometime after 1942, however, the two original McCormick Hercules turbines are still present in their original locations at the bottom level of the powerhouse. Both turbines have been exposed to the river since their original installation, are inoperable, and in poor condition.

Mr. Byron Weston entered the field of paper manufacturing in Dalton in 1863 when he bought the Defiance Mill (Byron Weston Mill No.1). The mill was enlarged and improved and for years it was run to produce linen record and ledger. In 1875 the Mill located just downstream of the Defiance Mill was burned. In 1876, Mr. Byron Weston purchased the site and erected the Centennial Mill. With the two mills in operation, Mr. Byron Weston developed a large business thenceforth known under his name. Both facilities were purchased by Crane & Co., which owned downstream mills, in the 1950's.

A drawing dated April 1896 and attached in **Appendix A** shows details of the Hercules wheels that had been installed at the Defiance Mill. Currently available information does not indicate which company manufactured the turbines. Possible manufactures include Holyoke Machine Company, McCormick Turbine, or J&W Jolly McCormick. The turbines appear to be vertical McCormick slide (cylinder) gate controlled machines with 33-inch diameter runners.

Photos 1 and 2 in **Appendix B** show the pressure cases for the turbines that remain in place at the Defiance Mill. Photos 3 and 4 depict one of the actual turbines which are inside the pressure cases. The equipment configuration shown in the photos taken at the Defiance Mill appears to be nearly identical to the configuration shown in the drawing of the Defiance Mill equipment. It is believed that the equipment initially was used to produce hydro-mechanical power but was later converted to electrical generation. While it is unclear exactly when the generators were installed, it is believed that electricity from hydropower system may have been used to power the private electric light system installed in 1886. A 1942 internal letter on the methods of providing power generation capacity to the mill indicates that the maximum power output was 200 KW of AC electrical power. The letter also stated that "the water power at the Defiance Mill is of special value in that it provides at all times a small source of AC current for driving the power house auxiliaries…". A copy of the letter and its transcript is included in **Appendix C**. It is believed that hydropower generation (either hydromechanical or hydroelectrical) has occurred intermittently at the facility since the late 1880's, ceasing completely sometime after 1942.

D. PROPOSED PROJECT

To construct the proposed new hydroelectric project in the location of the existing powerhouse, most of the existing structure (floors, columns, etc.) and equipment must be removed. This includes the two original McCormick Hercules turbines. The exterior building envelop (brick and stone masonry) of the powerhouse will remain in place and all new construction will occur inside its footprint. Following clearing of the powerhouse area, the interior of the powerhouse will be refurbished and altered to accommodate the proposed modern generation equipment. The new powerhouse configuration will be constructed to include a lower turbine level floor, an intermediate, generator level floor, and an upper workroom level floor. Primary structures (floors and columns) will be constructed of reinforced concrete. No changes are expected to be visible from the exterior of the building, excepting repairs to the existing windows, and the change of one window to a door to access the right dam abutment and provide egress from the workroom. No changes will be made to the Byron Weston Dam No. 2 .

The two existing hydropower turbines (including the pressure cases) will be removed as part of Phase I project construction activities. Crane and Company desires to preserve a portion of the history of the site through the salvage and display of one of the turbines.

II. TURBINE REMOVAL, HANDLING, AND DOCUMENTION

A. TURBINE REMOVAL AND HANDLING

The two existing hydropower turbines will be removed from the powerhouse as part of Phase I of the Project. The Contractor shall be required to remove one of the turbines substantially intact, including the runner and cylinder gate. The Contractor shall be allowed to cut the pressure case in half and remove the top and bottom plates to permit access to the turbine and removal of the heavy equipment from the powerhouse pit area (and to facilitate future display).

The Contractor shall be directed to exercise appropriate care in handling the turbine which is to be displayed.

B. TEMPORARY STORAGE

Once removed from the powerhouse area, the turbine to be displayed will be stored in the mill until such time as it is ready for cleaning and display. The turbine shall not be removed from the mill building until Crane has been notified by the Commission that this plan has been approved.

C. DOCUMENTATION

The location and configuration of the two existing turbines shall be photodocumented by Crane during all stages of Phase I work until removal is complete. Photos will be taken at the beginning of the work, again after adjacent structures have been removed, again after the pressure cases have been removed, and finally after the turbine runners are removed. Photos will be taken from various angles to document the configuration of the machines. Ancillary

equipment (shaft bearings, etc.) which is still present will also be photographed. Color photographs will be taken with a digital camera at high resolution (2 Meg or greater). A photodocumentation book with annotated photos printed on acid-free paper will be made, with one copy delivered to the Massachusetts Historical Commission (MHC) and one to the Dalton Historical Commission. A copy of this Final Wheel Relocation plan will be provided to MHC at the time that the photo documentation is provided (to address MHC comments on the plan provided during the comment period for the draft). Compact discs with electronic versions (.pdf format) will also be provided.

III. TURBINE REFURBISHING

The turbine to be displayed will be first cleaned with water. The cylinder gate will be removed. The half pressure case, cylinder gate, and runner wheel will be sandblasted. The cylinder gate will be remounted on the turbine wheel.

IV. TURBINE DISPLAY

A. TURBINE DISPLAY

After cleaning, the turbine will be relocated and positioned for display. In consideration of the terms of Article 27 of the Order Granting Exemption, the Licensee does not believe the powerhouse to be an appropriate location for display of the turbine. The Powerhouse is within an operational industrial building and not accessible to the public. Therefore the turbine will be displayed outside the Crane Museum of Papermaking in Dalton.

The Crane Museum of Papermaking is approximately one mile west of the powerhouse and is located at 40 Pioneer Street in Dalton. The museum is housed in what was the Rag Room of Crane's 1844 Old Stone Mill. The museum, first opened in the autumn of 1930, is on the National Register of Historic Places. The one-story building is situated on the banks of the Housatonic River downstream of the Byron Weston Hydroelectric Project site. A map showing the location of the museum in relation to the Project site is included in **Appendix D**.

The turbine will be displayed inside half of its pressure case. The actual turbine would not be visible within a fully enclosed pressure case. The cylinder gate will be set in a half open position to display its operation and allow for viewing of the runner.

B. INTERPRETIVE DISPLAY

An interpretive display will be provided adjacent to the turbine at the Crane Museum of Papermaking. It will consist of a plaque which describes the kind of turbine, date of installation, location of installation, date of removal, and reason for removal.

V. IMPLEMENTATION SCHEDULE

The turbine to be displayed will be removed from the powerhouse during Phase I of the project and it is anticipated this will be completed prior to the end of December 2012. Cleaning and refurbishing of the turbines is anticipated to be complete within 90 days of the Licensee providing notification of the commencement of project operation. Installation for display of the turbine outside the Crane Museum of Papermaking will be completed within 180 days of the Licensee providing notification of the commencement of project operation.

Appendix A

Turbine Drawing

1 STAPLE WEIGHT No 36 STAPLE 12" LONG
3 THIN WEIGHTS No 37
1 SHEAVE No 33A - 1 SHEAVE STAND No 38
16 FT. CHAIN.

1 STAPLE WEIGHT No 36 STAPLE 12" LONG
3 THIN WEIGHTS No 37
1 SHEAVE No 33A. 1 SHEAVE STAND No 38
16 FT OF CHAIN.

SEE DETAIL DRAWING OF GATE HOISTING

TOP OF DAM 80.35

FRICTION GEAR 60" DIA. 14 POWER

SHAFT 10:6⅝" LONG

SHAFT 13'0" LONG

SHAFT 7'0" LONG

SHAFT 10'6" LONG

SHAFT 8'6" LONG 4⅛" DIA.

SHAFT 11'6" LONG 1⅞" DIA.

C. CLAMP PULLEY 76" DIA 33" C.F.

150 REVS

TWO 15" STEEL I BEAMS 60 LBS PER FOOT 23'0½" LONG

TWO STEEL I BEAMS 12" 40 LBS PER FOOT 18'6" LONG

CASE 16' HIGH.

CASE 8'0" DIA.

LINE OF PINION SHAFT.

TAIL WATER 57.80

MAKE SPARE PINION OF WHEEL SHAFT WITH GEAR COUPLINGS TO BE DRILLED SO AS TO INTERCHANGE.

THIS HALF BORED .923" TO WIRE JULY '01. BORE OF HALF IN SPARE SHAFT REMAINS AS PLAN.

THIS HALF BORED 1.016" TO WIRE, JULY '01.

PLAN OF TWO 33" L. H. HERCULES WHEELS FOR THE BYRON WESTON COMPANY. DEFIANCE MILL.

APRIL, 1896.

SCALE ¾" = 1 FT.

TR. 2940

Appendix B

Photos

Photo 1. Top of Pressure Casing for Turbine No. 1

Photo 2. Top of Pressure Casing for Turbine No. 2

Photo 3 Turbine Within Pressure Case

Photo 4 Turbine Within Pressure Case

Appendix C

Power Generation Documentation

January 20, 1942

Byron Weston Company
Dalton, Massachusetts

Gentlemen;

The purpose of this study is to determine methods and costs of providing power generating capacity to insure full mill operation should a breakdown occur to any of our present generator units.

The present generators have the following capacities:

1. Main unit	develops	1400 KW AC
2. House unit	develops	200 KW AC and 75 KW DC
3. Allis unit	develops	750 KW AC
Total		2350 KW AC and 75 KW DC

The Main and House units have been installed since 1933, and are both designed for steam at 400 lbs. pressure and 150° superheat. These two high pressure units have a combined capacity of 1600 KW AC and 75 KW DC. The average load which is safely carried on these two machines is 1500 KW AC and 75 KW DC. With this average load, fluctuations in the mill load result in peak demands of over 1600 KW AC. When the average mill load exceeds 1500 KW AC it is necessary to run the Allis.

The Allis machine was installed in 1910, and was operated continuously for 10 years. Since that time it has been used as a stand by unit. It is designed for 150 lbs. steam. Its steam consumption per KW is 70% higher than the 400 lb. units, and it is used only when the mill power load exceeds the capacity of the 400 lb. machines. Steam for the Allis has to be reduced in pressure and temperature in a reducing valve from the boiler pressure of 415 lbs. [illegible] lbs.

Water power is not considered in this report, as it is available only a few months per year. In recent years we have obtained water power not more than three months in a year- partly in the Spring, partly in the Fall. We estimate the water power produced to be 200 KW for 12 hr. which replaces 200 tons of coal, saving about $1300 per year. The water power at the Defiance Mill, is of especial value in that it provides at all times a small source of AC current for driving the power house auxiliaries, which are necessary to start the boilers.

TRANSCRIPTION OF 1942 ORIGINAL LETTER

January 20, 1942

Byron Weston Company
Dalton, Massachusetts

Gentleman:

The purpose of this study is to determine methods and costs of providing power generation capacity to insure full mill operation should a breakdown occur to any of our present generator units

1	Main unit develops	1400 KW AC
2	House unit develops	200 KW AC and 75 KW DC
3	Allis unit develops	750 KW AC

Total 2350 KW AC and 75 KW DC

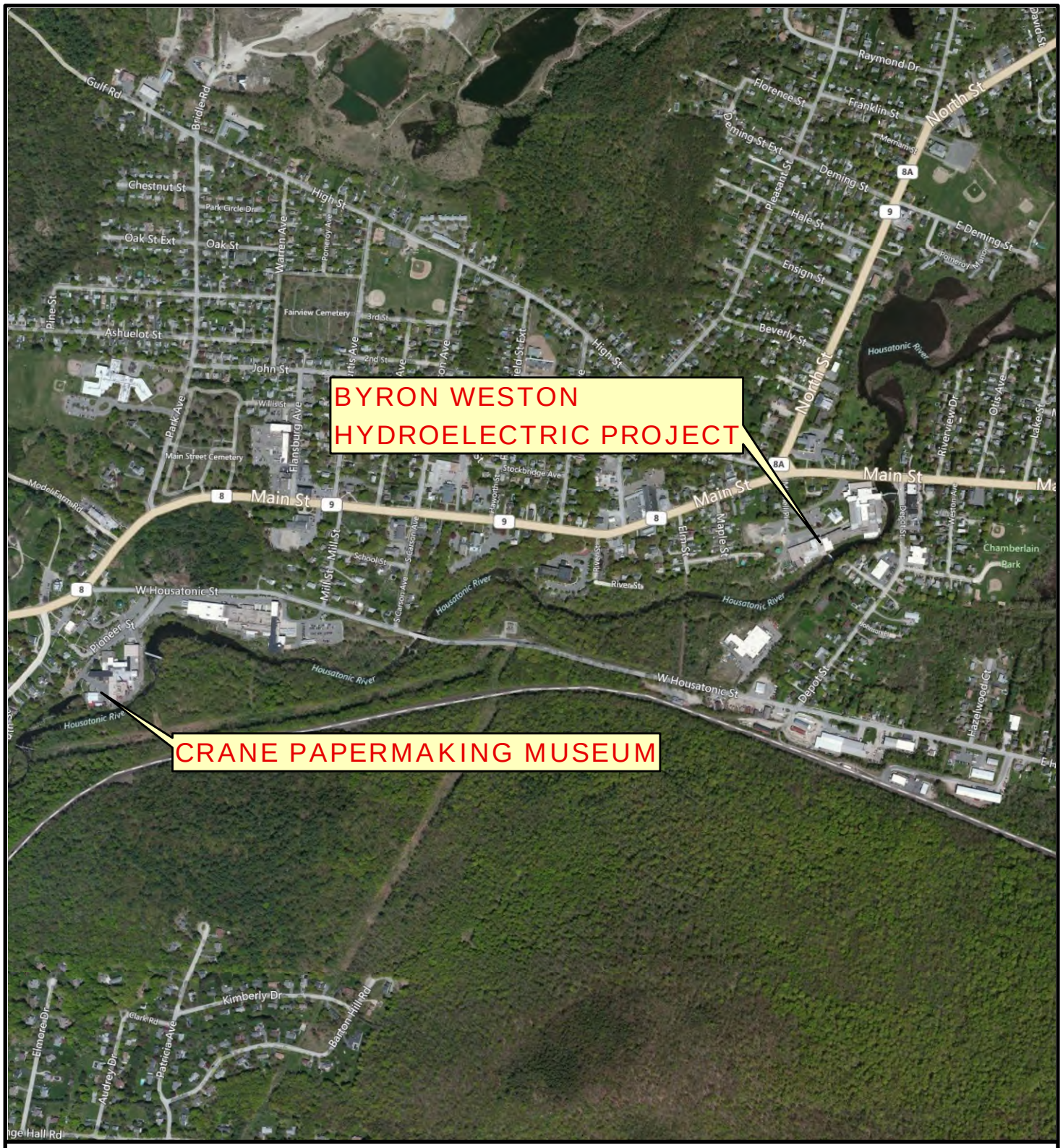
The Main and House units have been installed since 1933 and are both designed for steam at 400 lbs. pressure and 150° superheat. These two high pressure units have a combined capacity of 1600 KW AC and 75 KW DC. The average load which is safely carried by these two machines is 1500 KW AC and 75 KW DC. With this average load fluctuation on the mill load result in peak demands of over 1600 KW AC. When the average mill load exceeds 1500 KW AC it is necessary to run the Allis.

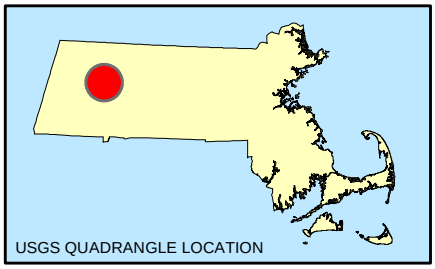
The Allis machine was installed in 1910, and was operated continuously for 10 years. Since that time it has been used as a stand by unit. It is design for 150 lbs of steam. Its steam consumption per KW is 70% higher than the 400 lbs units and it is used only when the mill power load exceeds the capacity of the 400 lb machines. Steam for the Allis has to be reduced in pressure and temperature in a reducing valve form the boiler pressure of 418 lbs pressure to

Water power is not considered in this report, as it is available only a few months per year. In recent years we have obtained water power not more than three months in a year partly in the Spring, partly in the Fall. We estimate the water power produced to be 200 KW for 12 weeks which replaces 200 tons of coal, saving about $1300 per year. The water power at the Defiance Mill is of especial value in that it provides at all times a small source of AC current for driving the power house auxiliaries which are necessary to start the boilers.

Appendix D

Location of Crane Museum of Papermaking





SOURCE : SCANNED USGS TOPOGRAPHIC QUADRANGLES
SCANNED BY THE MASSACHUSETTS EXECUTIVE OFFICE OF
ENVIRONMENTAL AFFAIRS, MASSGIS. DISTRIBUTED JUNE, 2001.

Data Supplied by : MASSGIS

0 500 1,000 2,000 3,000 Feet

N W E S

GZA	PROJ. MGR.: KDE DESIGNED BY: KDE REVIEWED BY: CWC OPERATOR: KDE DATE: 07-27-2012	LOCUS	JOB NO. 19349.50
		CRANE & COMPANY DALTON, MASSACHUSETTS	FIGURE NO. D-1

Appendix E

Proof of Service and Comments

GZA
GeoEnvironmental, Inc.

Engineers and Scientists

July 27, 2012
File No. 19349.50

Dalton Historical Commission
462 Main Street
Dalton, MA 01226

Re: Request for Comments
Wheel Turbine Relocation Plan
Byron Weston Hydroelectric Project (FERC P-13583-001)

One Edgewater Drive
Norwood,
Massachusetts 02062
Phone: 781-278-3700
Fax: 781-278-5701
http://www.gza.com

Dear Sir/Madam:

The purpose of this letter is to request comments regarding Crane & Company's (Crane's) Wheel Turbine Relocation Plan from the Dalton Historic Commission (Commission). Crane has been issued an Exemption from Licensing from the Federal Energy Regulatory Commission (FERC) for the Byron Weston Hydroelectric Project. The Article 27 of the terms of the exemption requires the development of a Wheel Turbine Relocation Plan. The plan describes the refurbishment and relocation of one of the McCormick Hercules wheel turbines being removed from the Byron Weston Defiance Mill building.

GZA has provided a copy of the Wheel Turbine Relocation Plan for the Commission's review. We would appreciate your comments regarding the Wheel Turbine Relocation Plan within 30 days (by August 27, 2012).

We would be happy to further discuss the project, if necessary. Should the need arise, please contact Chad Cox at (781) 278-5787.

Very truly yours,

GZA GEOENVIRONMENTAL, INC

Kristina Ekholm, PE
Assistant Project Manager

Chad W. Cox, PE
Principal

cc: James Noel (Crane and Company)
FERC (via e-file)

J:\19,000-20,999\19349\19349-50.KDE\Wheel Relocation Plan\DHC Letter.docx

Kristina Ekholm

From: Patricia Brady
Sent: Monday, July 30, 2012 9:49 AM
To: Kristina Ekholm
Subject: FW: UPS Delivery Notification, Tracking Number 1Z0492850197675618

From: UPS Quantum View [mailto:auto-notify@ups.com]
Sent: Monday, July 30, 2012 9:42 AM
To: Patricia Brady
Subject: UPS Delivery Notification, Tracking Number 1Z0492850197675618

Discover more about UPS:
Visit www.ups.com
Sign Up For Additional E-Mail From UPS
Read Compass Online

***Do not reply to this e-mail. UPS and GZA GEOENVIRONMENTAL will not receive your reply.

At the request of GZA GEOENVIRONMENTAL, this notice is to confirm that the following shipment has been delivered.

Important Delivery Information

Message from GZA GEOENVIRONMENTAL:
19349.50_kde

Tracking Number: 1Z0492850197675618
Delivery Date / Time: 30-July-2012 / 9:16 AM

Delivery Location: OFFICE
Signed by: HOLLINGWORTH

Shipment Detail

Ship To:
Dalton Historical Commission
462 MAIN ST
DALTON
MA
01226
US

Number of Packages: 1
UPS Service: NEXT DAY AIR
Shipment Type: Letter
Reference Number 1: 19349.50

Dalton Historical Commission

Town Hall
462 Main Street
Dalton, Massachusetts 01226

Tristram Dalton

Gail A. Pinna
462 Main St.
Dalton,Mass. 01226

GZA GeoEnviornmental,Inc
One Edgewater Drive
Norwood,Mass. 02062

Attention:
Chad W. Cox PE
Principal

Dear Sir,

In regards to the latest draft frpm GZA this one being WHEEL TURBINE RELOCATION PLAN. The Historical Commission agree that the Crane Museum is the most suitable site.

The Crane Museum is on the National Historic Register and is open from June till October,free of charge to the public. The Museum not only houses visual history of Crane & Co. but has expert docent's on hand to take visitors through the company's history from 1801 to the present day.

The Turbine will be a much valued attraction and the placing of the Turbine here at the museum will be a welcomed addition in this part of the history of Dalton

Respectfully,
Gail A. Pinna
vice Chair/Secretary

c.c. James Noel
Crane & Co..

GZA
GeoEnvironmental, Inc.

Engineers and Scientists

July 27, 2012
File No. 19349.50

Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, Massachusetts 02125

Re: Request for Comments
Wheel Turbine Relocation Plan
Byron Weston Hydroelectric Project (FERC P-13583-001)

Dear Sir/Madam:

The purpose of this letter is to request comments regarding Crane & Company's (Crane's) Wheel Turbine Relocation Plan from the Massachusetts Historic Commission (Commission). Crane has been issued an Exemption from Licensing from the Federal Energy Regulatory Commission (FERC) for the Byron Weston Hydroelectric Project. The Article 27 of the terms of the exemption requires the development of a Wheel Turbine Relocation Plan. The plan describes the refurbishment and relocation of one of the McCormick Hercules wheel turbines being removed from the Byron Weston Defiance Mill building.

GZA has provided a copy of the Wheel Turbine Relocation Plan for the Commission's review. We would appreciate your comments regarding the Wheel Turbine Relocation Plan within 30 days (by August 27, 2012). A site locus map is included in Appendix D of the Plan.

We would be happy to further discuss the project, if necessary. Should the need arise, please contact Chad Cox at (781) 278-5787.

Very truly yours,

GZA GEOENVIRONMENTAL, INC

Kristina Ekholm, PE
Assistant Project Manager

Chad W. Cox, PE
Principal

cc: James Noel (Crane and Company)
FERC (via e-file)

J:\19,000-20,999\19349\19349-50.KDE\Wheel Relocation Plan\MHC Letter.docx

One Edgewater Drive
Norwood,
Massachusetts 02062
Phone: 781-278-3700
Fax: 781-278-5701
http://www.gza.com

GZA
GeoEnvironmental, Inc.

Engineers and Scientists

July 27, 2012
File No. 19349.50

Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, Massachusetts 02125

Re: Request for Comments
Wheel Turbine Relocation Plan
Byron Weston Hydroelectric Project (FERC P-13583-001)

One Edgewater Drive
Norwood,
Massachusetts 02062
Phone: 781-278-3700
Fax: 781-278-5701
http://www.gza.com

Dear Sir/Madam:

The purpose of this letter is to request comments regarding Crane & Company's (Crane's) Wheel Turbine Relocation Plan from the Massachusetts Historic Commission (Commission). Crane has been issued an Exemption from Licensing from the Federal Energy Regulatory Commission (FERC) for the Byron Weston Hydroelectric Project. The Article 27 of the terms of the exemption requires the development of a Wheel Turbine Relocation Plan. The plan describes the refurbishment and relocation of one of the McCormick Hercules wheel turbines being removed from the Byron Weston Defiance Mill building.

GZA has provided a copy of the Wheel Turbine Relocation Plan for the Commission's review. We would appreciate your comments regarding the Wheel Turbine Relocation Plan within 30 days (by August 27, 2012). A site locus map is included in Appendix D of the Plan.

We would be happy to further discuss the project, if necessary. Should the need arise, please contact Chad Cox at (781) 278-5787.

Very truly yours,

GZA GEOENVIRONMENTAL, INC

Kristina Ekholm, PE
Assistant Project Manager

Chad W. Cox, PE
Principal

cc: James Noel (Crane and Company)
FERC (via e-file)

I:\19,000-20,999\19349\19349-50.KDE\Wheel Relocation Plan\MHC Letter.docx

The Commonwealth of Massachusetts
William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

August 27, 2012

Secretary Kimberly D. Bose
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

RE: Byron Weston No. 2 Crane & Company Hydroelectric Projects, Wheel Turbine Relocation Plan, Dalton, MA. GZA #19349.5. MHC #RC.47433. **FERC No. 13583-001.**

Dear Secretary Bose:

Staff of the Massachusetts Historical Commission, the office of the Massachusetts State Historic Preservation Officer, have received draft Wheel Turbine Relocation Plan submitted for the project referenced above, received by the MHC on July 27, 2012, and a copy of the comments of the Dalton Historical Commission received by the MHC on August 20, 2012.

The MHC requests that a paper copy of the final relocation plan be provided with the photodocumentation (described on page 4).

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800). Please contact me if you have any immediate questions.

Sincerely,

Edward L. Bell
Deputy State Historic Preservation Officer
Massachusetts Historical Commission

xc:
Crane & Company
Chad W. Cox, GZA Environmental Inc.-Norwood
Dalton Historical Commission

Dalton Historical Commission

Town Hall
462 Main Street
Dalton, Massachusetts 01226

Tristram Dalton

Gail A. Pinna
462 Main St.
Dalton,Mass. 01226

GZA GeoEnviornmental,Inc
One Edgewater Drive
Norwood,Mass. 02062

Attention:
Chad W. Cox PE
Principal

Dear Sir,

In regards to the latest draft frpm GZA this one being WHEEL TURBINE RELOCATION PLAN. The Historical Commission agree that the Crane Museum is the most suitable site.

The Crane Museum is on the National Historic Register and is open from June till October,free of charge to the public. The Museum not only houses visual history of Crane & Co. but has expert docent's on hand to take visitors through the company's history from 1801 to the present day.

The Turbine will be a much valued attraction and the placing of the Turbine here at the museum will be a welcomed addition in this part of the history of Dalton

Respectfully,
Gail A. Pinna
vice Chair/Secretary

c.c. James Noel
Crane & Co..

APPENDIX B

FERC DOCKET[29]

[29] Click on the hyperlink in the table to view the referenced FERC documents in FERC's library. You need to be connected to the web. The initial click will return the file's properties (author, recipient, etc.). Clicking on the [File List] tab will return a document list. Clicking on a document name will open the document for viewing.

Click To Go To FERC elibrary. (Must Be Connected To Web.)			Click To Clear Out Records	Click To ReFilter	VERSION	7/23/2014		Program Functionality Ends On [Friday Dec 01, 2017]
Date	FERC ID	Category	**Subject**		**Class**	**Type**	**Availability**	**Info**
2/18/2016	P-13583-000	Issuance	Project Safety-Related Submission to NYRO of NEW YORK REGIONAL OFFICE under P-13583-MA, Brown Weston, Dam Safety Inspection Report		FERC Report/Study	Dam Safety Inspection Report/Operation Report	Public	https://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14430292
2/18/2016	P-13583-000	Issuance	Project Safety-Related Submission to NYRO of NEW YORK REGIONAL OFFICE under P-13583-MA, Brown Weston, Dam Safety Inspection Report		FERC Report/Study	Dam Safety Inspection Report/Operation Report	CEII	https://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14430293
1/27/2016	P-13583-000	Issuance	Letter to James Beaudin re the dam safety inspection follow-up for the Byron Weston No 2 Project under P-13583.		FERC Correspondence With Applicant	General Correspondence	CEII	https://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14427317
3/31/2015	Multiple	Submittal	Massachusetts Division of Fisheries and Wildlife submits the name change in service list for the Turners Falls Project et al under P-1889 et al.		Report/Form	Project Operations Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14321406
11/11/2014	P-13583-000	Submittal	Crane and Company's CD containing the Exhibit F for the Bryon Weston Hydroelectric Project under P-13583.		Report/Form	Project Operations Compliance Report	CEII	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14270476
11/11/2014	P-13583-004	Submittal	Crane and Company submitsAs-Built Exhibit F drawings for the Bryon Weston Hydroelectric Project under P-13583.		Report/Form	Project Operations Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14270461
11/11/2014	P-13583-004	Submittal	Crane and Company submits As-Built Exhibit F drawings for the Bryon Weston Hydroelectric Project under P-13583.		Report/Form	Project Operations Compliance Report	CEII	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14270462
10/2/2014	P-13583-004	Issuance	Order Approving As-Built Exhibits A And F re Crane and Company under P-13583.		Order/Opinion	Delegated Order	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14257069
6/17/2014	P-13583-004	Submittal	As-Built Exhibit A and Exhibit F, Report of GZA GeoEnvironmental, Inc. under P-13583.		Applicant Correspondence	Supplemental/Additional Information	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14226736
12/7/2012	P-13583-000	Issuance	Letter order accepting Crane and Company's 8/21/12 filing of a Public Safety Plan for the Byron Weston Hydroelectric Project under P-13583.		Order/Opinion	Delegated Order	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14075223
10/12/2012	P-13583-000	Submittal	Crane & Company's CD containing their revised Exhibit F Drawings for the Byron Weston Hydroelectric Project under P-13583.		Report/Form	Project Operations Compliance Report	CEII	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14060492
10/12/2012	P-13583-001	Submittal	GZA Geoenvironmental Inc submits the Exhibit F Drawings re Byron Hydro Project under P-13583.		Report/Form	Project Operations Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14060477
10/12/2012	P-13583-001	Submittal	GZA Geoenvironmental Inc submits the Exhibit F Drawings in aperture card and electronic file format re Byron Weston Hydro Project under P-13583.		Applicant Correspondence	Supplemental/Additional Information	CEII	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14060478
10/12/2012	P-13583-003	Issuance	Order approving Wheel Turbine Relocation Plan pursuant to Article 27 re Crane and Company under P-13583.		Order/Opinion	Delegated Order	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14059302
10/11/2012	P-13583-001	Submittal	Crane and Company's CD containing Exhibit G shapefiles for the Byron Weston Hydroelectric Project under P-13583. (File not loadable - idx)		Report/Form	Project Operations Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14060509
10/11/2012	P-13583-001	Submittal	Crane and Company submits the Exhibit G shapefiles for the Byron Weston Hydroelectric Project under P-13583.		Report/Form	Project Operations Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14060476

Date	FERC ID	Category	Subject	Class	Type	Availability	Info
10/9/2012	P-13583-001	Submittal	Weekly Report for Run of River Operations Maintenance and Monitoring Plan. Report / Form of GZA GeoEnvironmental, Inc. under P-13583 et., al.	Report/Form	Other Utility Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14057746
9/28/2012	P-13583-001	Issuance	Letter order granting Crane and Company's 9/27/12 request for extension of time until 11/19/12 to file revised aperture cards of the approved Exhibit F drawings for the Byron Weston Hydroelectric Project under P-13583.	Order/Opinion	Delegated Order	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14055908
9/27/2012	P-13583-001	Submittal	Exhibit F drawings in Tif format of GZA GeoEnvironmental, Inc. under P-13583.	Exhibit	Exhibit	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14054589
9/27/2012	P-13583-001	Submittal	Exhibit F drawings in Tif format of GZA GeoEnvironmental, Inc. under P-13583.	Exhibit	Exhibit	CEII	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14054590
9/25/2012	P-13583-002	Submittal	Revised Exhibit G drawings in tiff format. Report of GZA GeoEnvironmental, Inc. under P-13583,	Report/Form	Project Operations Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14054084
9/20/2012	P-13583-001	Submittal	Owners Dam Safety Plan and Inflow Design Flood and Hazard Classification Study. Project Safety-Related Submission to NYRO of GZA GeoEnvironmental, Inc. under P-13583-001.	Report/Form	Project Safety Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14052816
9/13/2012	P-13583-001	Submittal	Crane Currency submits the Exhibit G Drawings in aperture format re Byron Weston Hydro Project under P-13583.	Report/Form	Project Operations Compliance Report	CEII	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14054285
9/13/2012	P-13583-001	Submittal	Crane Currency submits the Exhibit G Drawings re Byron Weston Hydro Project under P-13583.	Report/Form	Project Operations Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14052110
8/28/2012	P-13583-003	Submittal	WHEEL TURBINE RELOCATION PLAN of GZA GeoEnvironmental, Inc. under P-13583.	Report/Form	Project Operations Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14047806
8/27/2012	P-13583-001	Submittal	Comments of Massachusetts Historical Commission re the draft Wheel Turbine Relocation Plan for the Byron Weston No 2 Crane & Company Hydroelectric Project under P-13583.	Other Submittal	Government Agency Submittal	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14049318
8/27/2012	P-13583-002	Issuance	Order approving Exhibit G drawings re Crane and Company under P-13583.	Order/Opinion	Delegated Order	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14047230
8/21/2012	P-13583-001	Submittal	Crane & Company submits their Public Safety Plan for the Byron Weston Hydroelectric Project in Accordance with Article 24 under P-13583.	Report/Form	Project Safety Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14046209
8/13/2012	P-13583-001	Issuance	Letter requesting Crane and Company to correct deficiencies and re-file the exhibits in aperture card and electronic file formats within 45 days re the Byron Weston Hydroelectric Project under P-13583.	FERC Correspondence With Applicant	Compliance Directives	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14044640
8/2/2012	P-13583-001	Submittal	GZA Geoenvironmental, Inc submits the Exhibit F Drawings for the Byron Western Hydroelectric Project under P-13583.	Report/Form	Project Operations Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14043119
8/2/2012	P-13583-001	Submittal	GZA Geoenvironmental, Inc submits the Exhibit F Drawings for the Byron Western Hydroelectric Project under P-13583.	Report/Form	Project Operations Compliance Report	CEII	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14043120
8/2/2012	P-13583-001	Submittal	GZA Geoenvironmental, Inc's CD containing the Exhibit F Drawings for the Byron Western Hydroelectric Project under P-13583.	Report/Form	Project Operations Compliance Report	CEII	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14043141
7/30/2012	P-13583-001	Submittal	Project Safety-Related Submission of the Construction Quality Control and Inspection Program (QCIP) for Crane and Company's Byron Weston Hydroelectric Project, to NYRO under P-13583-001.	Report/Form	Project Safety Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14041369

Date	FERC ID	Category	Subject	Class	Type	Availability	Info
7/27/2012	P-13583-001	Submittal	Draft Wheel Turbine Relocation Plan for Dalton Historic Commission and Massachusetts Historic Commission Review under P-13583. Report/Form of GZA GeoEnvironmental, Inc.	Comments/Protest	Comment on Filing	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14041151
7/20/2012	P-13583-001	Submittal	Phase II Plans and Specifications, Project Safety-Related Submission to NYRO of GZA GeoEnvironmental, Inc. under P-13583.	Report/Form	Project Safety Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14039684
7/20/2012	P-13583-001	Submittal	Phase II Plans and Specifications, Project Safety-Related Submission to NYRO of GZA GeoEnvironmental, Inc. under P-13583.	Report/Form	Project Safety Compliance Report	CEII	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14039685
7/20/2012	P-13583-001	Submittal	Revised Exhibit G Drawings of GZA GeoEnvironmental, Inc. under P-13583.	Exhibit	Exhibit	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14039548
7/19/2012	P-13583-001	Submittal	Construction Cofferdam/ Water Control Plan Project Safety-Related Submission to NYRO of GZA GeoEnvironmental, Inc. under P-13583-001.	Report/Form	Project Safety Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14039338
7/19/2012	P-13583-001	Submittal	Letter Submitting DEP Comments on Sediment and Erosion Control Plan. Project Safety-Related Submission to NYRO of GZA GeoEnvironmental, Inc. under P-13583-001.	Report/Form	Project Safety Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14039339
7/18/2012	P-13583-000	Issuance	Letter order approving Byron Weston No 2 4/20/12 filing of the Phase I plans and specifications to begin by July 2012 re Byron Hydro Project under P-13583.	Order/Opinion	Delegated Order	CEII	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14042060
7/12/2012	P-13583-001	Issuance	Order granting extension of time re Crane and Company under P-13583.	Order/Opinion	Delegated Order	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14037597
6/29/2012	P-13583-001	Submittal	Request for Extension of Time. Project Safety-Related Submission to NYRO of GZA GeoEnvironmental, Inc. under P-13583.	Applicant Correspondence	Request for Delay of Action/Extension of Time	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14035181
6/28/2012	P-13583-001	Submittal	Sediment and Erosion Control Plan as Required Under Article 18 of Exemption of GZA GeoEnvironmental, Inc. under P-13583.	Report/Form	Project Safety Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14034659
6/28/2012	P-13583-001	Submittal	Temporary Construction Emergency Action Plan as required under Article 19 of GZA GeoEnvironmental, Inc. under P-13583.	Report/Form	Emergency Action Plan	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14034716
6/8/2012	P-13583-001	Submittal	Submittal of Phase I Plans and Specification Under P-13583.	Report/Form	Project Safety Compliance Report	CEII	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14029293
6/8/2012	P-13583-001	Submittal	Submittal of Phase I Plans and Specification Under P-13583.	Report/Form	Project Safety Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14029294
6/8/2012	P-13583-001	Submittal	Request for Extension of Time to Comply with Conditions of Exemption under P-13583.	Applicant Correspondence	Request for Delay of Action/Extension of Time	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14029164
3/14/2012	P-13583-001	Submittal	Crane and Company submits a name change for the Byron Weston Hydroelectric Project under P-13583.	Pleading/Motion	Procedural Motion	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14005918
3/14/2012	P-13583-001	Submittal	Crane and Company, Inc submits updated contact information for the Byron Weston Hydroelectric Project under P-13583.	Pleading/Motion	Procedural Motion	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14011401
3/7/2012	P-13583-001	Issuance	Letter to Crane and Company providing guidelines to help maintain compliance with exemption requirements re the Byron Weston Hydro Project under P-13583.	FERC Correspondence With Applicant	General Correspondence	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=14003820

Date	FERC ID	Category	Subject	Class	Type	Availability	Info
2/29/2012	P-13583-001	Issuance	Notice of availabilty of Environmental Assessment re Crane and Company's Byron Weston Hydroelectric Project under P-13583.	FERC Report/Study	Environmental Assessment (EA) and Environmental Impact Statement	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13999582
2/29/2012	P-13583-001	Issuance	Order granting exemption from licensing (5MW or less) re Crane and Company's Byron Weston Hydroelectric Project under P-13583.	Order/Opinion	Delegated Order	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13999644
1/24/2012	P-13583-000	Issuance	Memo dated 1/24/11 from Office of Energy Project re the dam safety review for exemption of the Byron Weston Project under P-13583.	FERC Memo	Internal Transmittal Memo	Privileged	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13990748
1/18/2012	P-13583-000	Issuance	Memo dated from New York Regional Office re the review of project safety for exemption application of the Byron Weston Project under P-13583.	FERC Memo	Internal Transmittal Memo	Privileged	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13995540
1/18/2012	P-13583-000	Issuance	Memo dated 1/18/12 from New York Regional Office re review of project safety for exemption application for the Byron Weston Project under P-13583.	FERC Memo	Internal Transmittal Memo	Privileged	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13995542
10/17/2011	P-13583-001	Issuance	Letter to State Historic Preservation Officer re the determination of no effect under Section 106 of the Byron Weston Hydroelectric Project under P-13583.	FERC Correspondence With Government Agencies	FERC Correspondence With Government Agencies	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13963645
9/29/2011	P-13583-001	Submittal	The U.S. Department of the Interior Submits Comments, Recommendations, Terms and Conditions, and Prescriptions under P-13583, Application Ready for Environmental Analysis, Byron Weston Hydroelectric Project, Berkshire County, MA	Comments/Protest	Comment on Filing	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13958910
9/23/2011	P-13583-001	Submittal	Water Quality Certificate from Massachusetts Department of Environmental Protection under P-13583.	Report/Form	Environmental and Recreational Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13957720
9/2/2011	P-13583-001	Submittal	Comment of Massachusetts Division of Fisheries and Wildlife Final Terms and Conditions under P-13583.	Comments/Protest	Comment on Filing	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13952725
9/1/2011	P-13583-001	Issuance	Letter informing Crane & Company that its exemption application for the Byron Weston Hydroelectric Project has been accepted by the Commission for filing as of 3/9/11 under P-13583.	FERC Correspondence With Applicant	General Correspondence	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13952408
9/1/2011	P-13583-001	Issuance	Notice of application accepted for filing with the Commission, intent to waive scoping, soliciting motions to intervene and protests, etc re Crane & Company under P-13583.	Notice	Formal Notice	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13952426
8/17/2011	P-13583-001	Submittal	Response to Deficiency of Application of GZA GeoEnvironmental, Inc. under P-13583.	Applicant Correspondence	Deficiency Letter/Data Response	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13948234
7/8/2011	P-13583-001	Issuance	Letter order granting Crane & Company's 6/30/11 filing requesting a 45 day extension of time to correct a deficiency identified in the Byron Weston Hydroelectric Project exemption application filed on 3/9/11 under P-13583.	Order/Opinion	Delegated Order	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13935850
7/5/2011	P-13583-000	Submittal	Third Preliminary Permit Update Report of Crane & Company, Inc. under P-13583.	Report/Form	Progress Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13934426
6/30/2011	P-13583-001	Submittal	Request for time extension by Crane & Co., Inc. to provide additional information under P-13583.	Applicant Correspondence	Request for Delay of Action/Extension of Time	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13933484
6/22/2011	P-13583-001	Submittal	Crane and Company submits FERC's Deficiency of Application for Exemption from Licensing and Request for Additional Information under P-13583.	Application/Petition/Request	Application To Amend License or Exemption	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13932881
6/22/2011	P-13583-001	Submittal	Supplemental Information under P-13583.	Pleading/Motion	Answer/Response to a Pleading/Motion	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13930771

Date	FERC ID	Category	Subject	Class	Type	Availability	Info
5/26/2011	P-13583-001	Issuance	Letter informing Crane & Company that their exemption application is deficient for the Byron Weston Hydroelectric Project under P-13583.	FERC Correspondence With Applicant	Deficiency Letter	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13923233
5/20/2011	P-13583-001	Issuance	Letter inviting Wampanoag Tribe of Gay Head et al to participate in the exemption from licensing proceeding & requesting a response by 6/23/11 re the Byron Weston Hydroelectric Project under P-13583.	Informational Correspondence	Informational Correspondence (Miscellaneous Issuances)	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13921787
5/18/2011	P-13583-001	Submittal	Supplemental Information / Request of GZA GeoEnvironmental, Inc. under P-13583. Response to National Park Service Request for supplmental information.	Applicant Correspondence	Supplemental/Additional Information	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13921236
5/18/2011	P-13583-001	Submittal	GZA GeoEnvironmental, Inc. 401 Water Quality Certification for FERCs Reference under P-13583.	Report/Form	Project Operations Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13921239
5/11/2011	P-13583-001	Submittal	MA Division of Fisheries and Wildlife Revised Terms and Conditions under P-13583.	Applicant Correspondence	Supplemental/Additional Information	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13919341
5/6/2011	P-13583-000	Submittal	Comments of the Fish and Wildlife Service on the Notice of Application Tendered for Filing, Soliciting Additional Study Requests re the exemption application under P-13583.	Other Submittal	Government Agency Submittal	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13919834
5/5/2011	P-13583-001	Submittal	Comments on Application for Exemption of National Park Service, Northeast Region under P-13583.	Comments/Protest	Comment on Filing	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13917842
4/4/2011	P-13583-001	Submittal	Comment of MA Division of Fisheries and Wildlife TERMS AND CONDITIONS under P-13583.	Comments/Protest	Comment on Filing	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13906503
3/31/2011	P-13583-001	Submittal	Affidavit of Publication re Notice of application tendered for filing with the Commission and soliciting additional study request re Crane and Company under P-13583.	Application/Petition/Request	License/Relicense Application	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13927202
3/18/2011	P-13583-001	Issuance	Notice of application tendered for filing with the Commission and soliciting additional study requests re Crane & Company under P-13583.	Notice	Formal Notice	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13901428
3/8/2011	P-13583-001	Submittal	Exemption from Licensing Application of GZA GeoEnvironmental, Inc. under P-13583.	Application/Petition/Request	Application To Amend License or Exemption	CEII	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13898694
3/8/2011	P-13583-001	Submittal	Exemption from Licensing Application of GZA GeoEnvironmental, Inc. under P-13583.	Application/Petition/Request	Application To Amend License or Exemption	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13898695
3/3/2011	P-13583-000	Submittal	Fish and Wildlife Service submits comments re the Pre-Operation Water Quality Report for the Byron Weston Dam under P-13583.	Other Submittal	Government Agency Submittal	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13898431
1/11/2011	P-13583-000	Issuance	Letter to Crane & Company providing Staff Comments on Draft Exemption Application under P-13583.	FERC Correspondence With Applicant	General Correspondence	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13880290
1/7/2011	P-13583-000	Submittal	Crane & Company submits their Six Months Preliminary Permit Report for the Byron Weston Hydro Project under P-13583.	Report/Form	Preliminary Permit Progress Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13879497
1/5/2011	P-13583-000	Submittal	Comments of Massachusetts Division of Fisheries and Wildlife re the proposed Byron Weston No. 2 Hydropower Project under P-13583.	Other Submittal	Government Agency Submittal	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13878399
12/29/2010	P-13583-000	Submittal	United States Department of the Interior submits comments on Draft Application for Exemption of a Small Hydroelectric Project under P-13583.	Other Submittal	Government Agency Submittal	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13879809

Date	FERC ID	Category	Subject	Class	Type	Availability	Info
12/10/2010	P-13583-000	Submittal	Letter notifying FERC of its maintenance clear-up plans for Crane & Co's proposed Bryron West Hydroelctric Project under P-13583.	Report/Form	Preliminary Permit Progress Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13872968
10/27/2010	P-13583-000	Submittal	Supplemental Information of GZA GeoEnvironmental, Inc. under P-13583.	Applicant Correspondence	Supplemental/Additional Information	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13860312
10/20/2010	P-13583-000	Submittal	Crane & Co's application for exemption of a small hydroelectric project from licensing re Bryron West Hydroelctric Project under P-13583.	Application/Petition/Request	Exemption From License - Conduit/5MW	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13858080
10/15/2010	P-13583-000	Submittal	Application for an Exemption From Licensing for the Byron Weston Hydroelectric Project of GZA GeoEnvironmental, Inc. under P-13583.	Application/Petition/Request	Application To Amend License or Exemption	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13856810
7/30/2010	P-13583-000	Submittal	Crane & Company submits the Project Design Flow for the Byron Weston Dam No 2 Hydroelectric Project under P-13583.	Report/Form	Project Operations Compliance Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13837833
6/23/2010	P-13583-000	Submittal	GZA GeoEnvironmental, Inc. Six Month Progress Report under P-13583.	Report/Form	Progress Report	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13827263
5/27/2010	P-13583-000	Submittal	GZA Environmental, Inc submits revised Water Quality Study Plan re the Byron Weston No 2 Hydroelectric Project under P-13583.	Report/Form	Annual Water Quality/Minimum Flow	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13821898
4/28/2010	P-13583-000	Submittal	Correspondence from US Department of the Interior to GZA GeoEnvironmental, Ins re the Byron Weston Dam 2 Project under P-13583.	Other Submittal	Government Agency Submittal	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13812408
4/6/2010	P-13583-000	Submittal	GZA Geoenvironmental, Inc submits audio recording of joint meeting to fulfill the consultation requirements of Section 4.38 of the FPA re the Byron Weston No 2 Hydroelectric Project under P-13583.	Applicant Correspondence	Supplemental/Additional Information	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13808427
3/11/2010	P-13583-000	Issuance	Letter order granting Crane & Company's 3/1/10 filing requesting a waiver of Commission's regulations for the proposed Byron Weston No 2 Hydroelectric Project under P-13583.	Order/Opinion	Delegated Order	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13799696
2/24/2010	P-13583-000	Submittal	Crane & Co's CD to their submittal of a request for waiver for Section 4.38(b) (3)(vii)(3) Timeline and Approval Requirements re Byron Weston No. 2 Hydroelectric Project under P-13583.Availability: Public	Application/Petition/Request	Waiver Request For Hydro Regulation or Terms/Conditions		http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13797851
2/24/2010	P-13583-000	Submittal	Crane & Co submits a request for waiver for Section 4.38(b) (3)(vii)(3) Timeline and Approval Requirements re Byron Weston No. 2 Hydroelectric Project under P-13583.	Application/Petition/Request	Waiver Request For Hydro Regulation or Terms/Conditions	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13797605
2/16/2010	P-13583-000	Submittal	Crane and Company reports to its stakeholders that they will placing a public notice re a joint meeting in the Berkshire Eagle under P-13583.	Applicant Correspondence	General Correspondence	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13795988
2/3/2010	P-13583-000	Submittal	Comment of Massachusetts Division of Fisheries & Wildlife Comments on Crane and Co. ICP under P-13583.	Other Submittal	Government Agency Submittal	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13790560
2/1/2010	P-13583-000	Submittal	The US Fish and Wildlife Service responds to Crane & Company et al letter dated 11/19/09 providing comments on the Initial Consultation Package for the Byron Weston No 2 Hydropower Project under P-13583.	Other Submittal	Government Agency Submittal	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13792186
1/29/2010	P-13583-000	Issuance	Order issuing preliminary permit and granting priority to file license application re Crane & Company under P-13583.	Order/Opinion	Delegated Order	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13789431
1/29/2010	P-13583-000	Issuance	Letter to Crane & Co to determine the status & offer guidance re preparation of license application and to inform of FERC's Policy Statement on Consultation with Indian Tribes re Byron Weston Dam No. 2 Project under P-13583.	FERC Correspondence With Applicant	General Correspondence	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13789435

Date	FERC ID	Category	Subject	Class	Type	Availability	Info
1/14/2010	P-13583-000	Submittal	GZA GeoEnvironmental, Inc submits letter re FERC initial consultations with regards to the Byron Weston No 2 Hydroelectric Project under P-13583.	Applicant Correspondence	General Correspondence	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13788086
12/15/2009	P-13583-000	Submittal	Comments of The Commonwealth of Massachusetts re the Byron Weston No 2 Crane & Company Hydroelectric Project under P-13583.	Other Submittal	Congressional Submittal	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13780208
12/8/2009	P-13583-000	Submittal	Correspondence from Energy Facilities Siting Board to Crane and Company et al re Site Visit to Byron Weston 2 Hydroelectric Project under P-13583.	Other Submittal	Government Agency Submittal	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13777876
12/8/2009	P-13583-000	Submittal	Commonwealth of Massachusetts submits letter re the site visit to Byron Weston No 2 Hydroelectric Project under P-13583.	Other Submittal	Government Agency Submittal	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13788081
11/19/2009	P-13583-000	Submittal	GZA GeoEnvironmental, Inc submits Initial Consultation Package for the proposed Byron Weston No 2 Hydroelectric Project under P-13583.	Application/Petition/Request	Application for Preliminary Permit	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13772835
11/17/2009	P-13583-000	Issuance	Letter informing Crane & Company that the preliminary permit application for the Byron Weston Dam 2 Hydroelectric Generation Project has been accepted & to submit within 5 days a copy of the application to Department of the Interior et al under P-13583.	FERC Correspondence With Applicant	General Correspondence	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13769769
11/17/2009	P-13583-000	Issuance	Notice of Preliminary Permit Application Accepted for Filing and Soliciting Comments, Motions to Intervene, and Competing Applications re Crane & Company under P-13583.	Notice	Formal Notice	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13769784
10/12/2009	P-13583-000	Submittal	Crane and Company submits response to FERC's 10/7/09 letter re deficiencies in the Preliminary Permit of the Bryon Weston Dam 2 Project under P-13583.	Applicant Correspondence	Deficiency Letter/Data Response	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13763316
10/7/2009	P-13583-000	Issuance	Letter informing Crane & Company that their preliminary permit application is deficient & to submit copies of the deficient information within 30 days re Byron Weston Dam No. 2 Hydroelectric Generation Project under P-13583.	FERC Correspondence With Applicant	Compliance Directives	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13759403
9/2/2009	P-13583-000	Submittal	Crane Currency submits Preliminary Permit for the Byron Weston 2 Hydroelectric Generation Project under P-13583.	Application/Petition/Request	Application for Preliminary Permit	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13752379
9/2/2009	P-13583-000	Submittal	Crane Currency submits Preliminary Permit for the Byron Weston 2 Hydroelectric Generation Project under P-13583. LARGE FORMATS ONLY.	Application/Petition/Request	Application for Preliminary Permit	Public	http://elibrary.ferc.gov/idmws/search/intermediate.asp?link_info=yes&doclist=13754763