

THE STATE OF NEW HAMPSHIRE
before the
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

The City of Holyoke Gas & Electric Department
Application for Certification of Class IV Pursuant to RSA 362-F

Docket No. DE 10-151

MOTION OF THE CITY OF HOLYOKE GAS & ELECTRIC DEPARTMENT
FOR RECONSIDERATION OR, IN THE ALTERNATIVE, REHEARING

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Pursuant to PUC Rule 203.07 and New Hampshire RSA 541:3, the City of Holyoke Gas & Electric Department (“HG&E”) requests reconsideration, or in the alternative rehearing, of the August 12, 2010, determination by the Commission denying HG&E’s request to certify the fourteen hydro stations at issue in this proceeding (“Hydro Facilities”) as Class IV renewable energy sources pursuant to RSA 362-F (New Hampshire’s Renewable Portfolio Standard, “NH RPS law”). The Commission based its August 2010 determination on the alleged lack of upstream and downstream diadromous fish passage facilities at the Hydro Facilities, and an interpretation of the RPS law that such Hydro Facilities, therefore, did not qualify as Class IV renewable energy sources.

However, the record supports a decision for Class IV certification for the Hydro Facilities. To clarify the record and as discussed in its Application in this proceeding, HG&E here amplifies the description of the facilities related to the Hydro Facilities that currently provide fish passage (both upstream and downstream). These fish passage facilities at the Holyoke Project¹ provide upstream and downstream passage in

¹ 88 FERC ¶ 61,186 (1999); as amended 111 FERC ¶ 61,106 (2005). Both orders were

connection with the Hydro Facilities for thousands of migrating fish each year consistent with the language and intent of the NH RPS law.

Accordingly, the Commission's August 2010 decision is unreasonable and contrary to the RPS law. HG&E requests that the Commission grant reconsideration, or rehearing, and reverse its August 2010 decision, granting HG&E Class IV certification for the Hydro Facilities.

I.

Background of this Proceeding
and Summary of this Motion

On June 2, 2010, HG&E's application for Class IV status under the NH RPS was received by the Commission and docketed as No. DE 10-151 ("Application"). No parties intervened or sought to participate in that proceeding. HG&E supplemented its application and provided additional information on June 14 and June 30, 2010, respectively. On July 27, 2010, the Commission Staff issued a memorandum recommending to the Commission that HG&E's application be denied because the fourteen facilities "do not each have both upstream and downstream diadromous fish passages." The Commission issued its order denying HG&E's request by letter dated August 12, 2010.

HG&E believes that the Commission's decision is contrary to the facts and the provisions and intent of the RPS. Briefly stated and explained further below, the definition of Class IV renewable energy sources under the RPS contemplates that to be eligible for certification the small hydro facilities must provide protections for diadromous fish, in the form of both upstream and downstream passage. First, it is useful to note

referenced in Appendix A and attached in Appendix B to HG&E's Application.

that the situation presented with respect to the Hydro Facilities is rather unique in that fish do not enter the Canal System in which the Hydro Facilities are located. As discussed in HG&E's Application and further demonstrated below, HG&E has developed extensive facilities providing fish passage at the Holyoke Project, both upstream and downstream passage, where the River feeds into the Canal System (in which the Hydro Facilities are located). The fish passage facilities are precisely what the RPS was intended to require – and HG&E has met that requirement as to each of the Hydro Facilities at issue in this proceeding.

As also discussed in the Application and further demonstrated below, the Federal and State resource agencies² and other non-governmental fish organizations³ have consistently accepted, at least since 1999, that fish passage relative to the Hydro Facilities is and has been provided by HG&E (and its predecessor) at the Hadley Falls station pursuant to the license for the Holyoke Project, FERC Project No. 2004. This fact has been confirmed by the Federal Energy Regulatory Commission ("FERC") in the various licenses for the Hydro Facilities (see Appendix B to HG&E's Application in this proceeding), as discussed further below. In addition, as discussed further below, the Massachusetts Department of Environmental Protection ("MADEP") has confirmed that Clean Water Act Section 401 ("401 WQC") certifications are not needed for the Hydro Facilities based on the 401 WQC for the Holyoke Project, with fish passage issues addressed under the FERC Project No. 2004 401 WQC (see Appendix C to HG&E's Application in this proceeding). Other Federal and State resource agencies have

² U.S. National Oceanic and Atmospheric Administration, National Marine Fisheries Service; U.S. Fish and Wildlife Service; Massachusetts Department of Environmental Protection; Massachusetts Department of Fish and Wildlife.

³ Trout Unlimited; and Connecticut River Watershed Council (referred to collectively as the "other stakeholders").

concluded in this analysis as outlined below.⁴

Therefore, HG&E requests that the Commission grant reconsideration, or in the alternative rehearing, of its August 2010 determination. Further, on reconsideration or rehearing, HG&E requests that the Commission reverse its decision in the August 2010 letter, and thereby confirm that HG&E's Hydro Facilities qualify for Class IV NH RPS certification.

II.

The NH RPS Law Requirements

The RPS law was enacted in 2007 with the stated finding that it is "in the public interest to stimulate investment in low emission renewable energy generation technologies in New England ... whether at new or existing facilities." (RSA 362-F:1). As amended in 2009, Class IV includes "the production of electricity from hydroelectric energy, provided the facility began operation prior to January 1, 2006, has a total nameplate capacity of 5 MWs or less as measured by the sum of the nameplate capacities of all the generators at the facility, has actually installed both upstream and downstream diadromous fish passages and such installations have been approved by the Federal Energy Regulatory Commission, and when required, has documented applicable state water quality certification pursuant to section 401 of the Clean Water Act for hydroelectric projects." [RSA 362-F:4(IV)(a)].

The purpose of the Class IV language in the RPS law relating to fish passage is to ensure that fish have the ability to move upstream and downstream in the River at the

⁴ The positions taken by the various State and Federal resource agencies and other stakeholders are reflected in the FERC orders included in Appendix B of HG&E's Application in this proceeding.

location of a dam associated with the hydro facilities for which certification is sought.⁵ The goal of this requirement in the RPS law, as affirmed by Granite State Hydropower Association in a April 2007 letter which was incorporated into the legislative record, is “to recognize that projects with such facilities [both upstream and downstream fish passages] have gone to great capital expense and incur meaningful operating costs by virtue of supporting the migration of fish [both eel and anadromous fish].”⁶ As demonstrated in HG&E’s Application and further discussed below, the Hydro Facilities at issue here meet this test under the NH RPS law through HG&E’s extensive facilities that provide upstream and downstream passage for anadromous fish (including American shad, sea lamprey, striped bass, gizzard shad, Atlantic salmon, and blueback herring), catadromous fish (American eel), and resident fish.⁷

III.

The Hydro Facilities and the Canal System

A. The Canal System.

As discussed in HG&E’s Application (pages 3 and 6-7), all fourteen of the stations at issue in this proceeding are located in the City of Holyoke’s Canal System.

⁵ Hearing of the Senate Committee on Energy, Environment and Economic Development on HB 873, Transcript at pages 10-11 (April 17, 2007) – submitted by the NH Department of Environmental Services, in PUC Docket No. DE 08-053, on August 18, 2008.

⁶ Id., Transcript at Attachment 14, page 2.

⁷ HG&E documented its fish passage in 2009 in its submittal to this Commission in this proceeding on June 28, 2010 (response to PUC Staff Request Item #7). In that response, HG&E submitted a copy of its 2010 Annual Report to the FERC on upstream fish passage pursuant to the Holyoke Project License Article 414. As documented in that report, during the 2009 anadromous fish passage season HG&E’s facilities collected or passed over 160,000 American shad, 18,000 sea lamprey, 670 striped bass, 60 gizzard shad, 60 **Atlantic salmon**, and 40 blueback herring. In addition, in that spring HG&E counted and passed upstream over 600 fish of 21 species through its fish passage facilities; the most common of these species were **American eel**, smallmouth bass, white sucker, walleye, and channel catfish. The HG&E facilities are also designed to handle fish passage for shortnose sturgeon, although none passed through the Project in 2009. Both Atlantic salmon and eel were specifically mentioned in the legislative history of HB 873.

The 4.5-mile long Canal System, completed in 1892, is located in the City of Holyoke, Hampden County, Massachusetts, adjacent to the Connecticut River. The Canal System extends from the Canal Gatehouse located on the impoundment adjacent to the Holyoke Project's Hadley Falls Generating Station through the lower areas of the City of Holyoke. The Canal System consists of three levels, referred to as the First, Second, and Third Level Canals.

The First Level Canal is over a mile long and discharges water into the Second Level Canal through nine separate hydroelectric generating stations located along its length; seven of these stations are currently operational.⁸ The No. 1 Overflow structure is located immediately downstream of the Hadley Falls Station gatehouse and provides attraction flow for the fishlifts as well as discharging into the Connecticut River. The Second Level Canal is over 2 miles long and includes eleven in-service generating stations, the No. 2 Overflow structure⁹ that discharges into the Holyoke Project's Hadley Falls Station tailrace (i.e., into the River), and Overflow Nos. 3 and 5¹⁰ that discharge into the Third Level Canal. The Third Level Canal, approximately 4000 feet long, is supplied with water from the Holyoke No. 3 Station and the No. 3 Overflow. It is located largely at the low-lying southern end of the Canal System, mostly parallel to the bank of the River. The Third Level Canal includes the No. 4 Overflow structure located between the Canal System and the River.

The Canal System is included in the FERC License for the Holyoke Project, FERC Project No. 2004. Given that the Canal System is covered by the Holyoke

⁸ There is also a facility owned by Hart Top Manufacturing, which is used as process water and is not a hydroelectric generating facility.

⁹ Note that the structures designated as "overflow structures" (i.e., No. 2 Overflow) do not pond any water – they maintain the stable elevation of the respective Canal Level.

¹⁰ Overflow No. 5 is no longer used because the Canal has been filled in that area.

Project's FERC License and 401 WQC, fish passage facilities that move fish around the Holyoke Dam back into the Connecticut River (avoiding the Canal System) are addressed in the Holyoke Project License and 401 WQC, as discussed further below.

Flows into the Canal System are regulated by HG&E pursuant to the Comprehensive Canal Operations Plan ("CCOP") and the Comprehensive Operations and Flow Plan ("COFP") filed and approved by the FERC under Project No. 2004. The CCOP describes, inter alia, the minimum flows in the Canal System including the magnitude and the distribution of minimum flows throughout the 3-levels, the seasonal variation of minimum flows and specific measures to monitor minimum flows throughout the Canal System. The COFP describes the methods for operating the Holyoke Project, including the prioritization of flows into the Canal System and the releasing of flows from the Holyoke Project including flows into the Canal System.

B. The Hydro Facilities.

All fourteen of the Hydro Facilities are located on the Canal System. The configurations of the Hydro Facilities are described in detail in HG&E's Application and are here incorporated by reference and summarized briefly below.

Of the Hydro Facilities at issue in this proceeding, the following stations are separately licensed as reflected in Appendices A and B to HG&E's Application. The Holyoke No. 1 Station (FERC Project No. 2386)¹¹, Holyoke No. 2 Station (FERC Project No. 2387)¹², and Holyoke No. 4 Station (FERC Project No. 7758)¹³ are all between the First Level Canal and the Second Level Canal. The Holyoke No. 3 Station (FERC

¹¹ 46 FERC ¶ 62,229 (1989).

¹² 44 FERC ¶ 62,310 (1988).

¹³ 38 FERC ¶ 62,270 (1987).

Project No. 2388)¹⁴ is located on the Second Level Canal and discharges to the Third Level of the Canal. The Albion Mill A Station (FERC No. 2768)¹⁵, Albion Mill D Station (FERC Project No. 2766)¹⁶, Gill Mill D Station (FERC Project No. 2775)¹⁷, and Valley Hydro/Station No. 5 (FERC Project No. 10806)¹⁸ are located on the Second Level Canal and discharge into the River.

The remaining stations at issue in this proceeding are included under the FERC license for the Holyoke Project, FERC Project No. 2004.¹⁹ Briefly stated, the Holyoke Project was originally licensed by the predecessor to the FERC in 1949 and relicensed by FERC in 1999. The Project includes the 30-foot-high, 985-foot-long dam (topped by five 3.5-foot high inflatable rubber dam sections), the impoundment behind the dam, the Hadley Falls Station (at the Dam), the three-level Canal System described above, and the following additional separate stations located in the Canal: Beebe-Holbrook Station, Boatlock Station, Chemical Station, Riverside 4-7 Station, Riverside 8 Station, and Skinner Station.²⁰ Beebe-Holbrook, Boatlock and Skinner Stations are located between the First Level Canal and Second Level Canal. Riverside 4-7 Station and Riverside 8 Station are located on the Second Level Canal and discharge into the River. The Chemical Station is located on the Third Level Canal and discharges into the River.

¹⁴ 44 FERC ¶ 62,309 (1988).

¹⁵ 47 FERC ¶ 62,298 (1989).

¹⁶ 47 FERC ¶ 62,307 (1989).

¹⁷ 47 FERC ¶ 62,297 (1989).

¹⁸ 51 FERC ¶ 62,314 (1990).

¹⁹ It is not unusual for the FERC to include multiple hydro projects within one license – even when such projects are at great distances from each other. Licensing multiple facilities in the same license is often just a matter of convenience for the licensee and is generally determined by the owner at the time of licensing. HG&E's predecessor sought relicensing of the Holyoke Project in combination with the six Canal System projects – and FERC issued that combined license in 1999. FERC's actions including multiple projects in a license does not in any way impute that those projects are not electrically separate within the contemplation of the NH RPS.

²⁰ 88 FERC ¶ 61,186 at 61,620-22.

IV.

HG&E's Fish Passage Facilities

Under the current FERC License and MADEP 401 WQC for the Holyoke Project, HG&E operates upstream and downstream fish passage facilities for diadromous fish at the Holyoke Project. Such facilities ensure that fish do not enter the Canal System, but instead are moved upstream and downstream around the Holyoke Dam and the Canal System.

Many aspects of the fish passage facilities at the Holyoke Project have been in place for decades. Upon its acquisition of the Holyoke Project in 2001, HG&E began implementing further enhancements to those fish passage facilities. Furthermore, as approved by the FERC in 2005,²¹ HG&E has been working with Federal and State resource agencies and other stakeholders to implement a multi-year program of additional research and analysis to address further potential enhancements to fish passage at the Holyoke Project. These enhancements demonstrate HG&E's commitment to fish passage at the Hydro Facilities.

A. Fish passage facilities prior to HG&E ownership in 2001.

The tailrace fishway at the Holyoke Project was originally installed in 1955; since that date, the fishway has undergone numerous modifications and improvement. Prior to the construction of the spillway fishway in 1976, upstream passage was accomplished solely through the tailrace lift facilities.

As explained in the FERC's License issued to HG&E's predecessor,²² in 1999

²¹ 111 FERC ¶ 61,106 (2005); this order was referenced in Appendix A and attached in Appendix B to HG&E's Application in this proceeding.

²² 88 FERC at 61,602.

the Holyoke Project already contained fish passage facilities at multiple locations. Specifically, as described in the Final Environmental Impact Statement for the Holyoke Project (issued in July 1999),²³ the upstream fish passage facilities at the Project consisted of two fish lifts – one serving the Project tailrace and one serving the Project’s Bypass Reach. Each fishlift consisted of an entrance, a crowding bay, a lift bucket, and a lift elevator.²⁴

As of 1999, downstream fish passage was facilitated through a Bascule Gate, located adjacent to the Hadley Falls Station intake at the Holyoke Project) which discharged into the Bypass Reach next to the spillway fishlift. In addition, a louver array in the First Level Canal served to guide downstream migrating fish entering the Canal System to a bypass structure (a 3-foot steel pipe) through which the fish were returned to the Project’s tailrace.

B. Enhancements to fish passage facilities since HG&E acquisition in 2001.

Since taking ownership of the Project in December 2001, and pursuant to its Holyoke Project License and 401 WQC, HG&E has operated downstream fish passage facilities that prevent fish from entering the Canal System. These facilities include the full-depth louver located at the entrance to the Canal System and a bypass pipe (“Louver Bypass Facility”). The full-depth louvers begin approximately 500 ft downstream of the Canal gatehouse, are approximately 500-ft long, and are angled across the entrance to the First Level Canal. The louvers guide fish to the bypass pipe which transports migrating fish to the tailrace of the Holyoke Project and out of the

²³ Final Environmental Impact Statement, Holyoke Hydroelectric Project (Massachusetts), FERC Project No. 2004 (issued July 1999) (“FEIS”).

²⁴ Id. at 2-6 through 2-7.

Canal System. HG&E's effectiveness testing of the full-depth louvers has demonstrated that the Facility has a 100% guidance efficiency for diadromous juvenile shortnose sturgeon. In the event that the Louver Bypass Facility is not operational, the Canal System will not be operated and the headgates will be closed into the Canal.

In addition, HG&E modified the Downstream Sampling Facility to enhance downstream passage of diadromous fish, and HG&E further determined, in consultation with the resource agencies and other stakeholders, that there was no need to modify the Louver Bypass Discharge Pipe to accommodate downstream passage.

In addition, since 2001 HG&E has completed numerous additional significant measures that have had substantial beneficial impact on fish passage at the Holyoke Project and in the Canal System. These fish passage enhancements, as described further below, include:

- Installation of a rubber dam across the crest of the Dam, replacing wooden flashboards, to allow for more control over releases downstream of the Dam.
- Installation of a shortnose sturgeon exclusion device in the attraction water entrance gate located at the No. 1 Overflow.
- Modifications to both fish lifts by raising fishway equipment and structures in the tailrace area approximately 18 inches to provide for 12 inches of free board at operations of 40,000 cfs total river flow, thereby increasing the amount of time that the fish lifts can be operated.
- Replacement of the tailrace lift tower, auxiliary equipment, and hopper (approximately one-third larger than the existing hopper) to accommodate 33 cubic feet per minute capacity.
- Replacement of the spillway lift tower, auxiliary equipment, and hopper (approximately doubling the size of the old hopper) to accommodate 46 cubic feet per minute capacity. The crowding channel was increased from the prior 10 ft to approximately 35 ft.
- Increase of the width of the spillway transport channel to an average width of 6 feet, and increase of the length of the transport channel from 30 ft. to

approximately 70 ft.

- Modifications to the exit flume to accommodate the new spillway lift location and to widen the flume from 3 ft. to 7 ft..
- Increase in the width of fish exit channel up to a maximum of 14 feet between the lift towers and fish counting station, and adding a backlit panel at the counting station to aid in the enumeration and identification of fish passing.
- Installation of a high capacity adjustable drain valve in the flume.
- Addition of a second fish trap and viewing window in the exit flume.
- Modification of the fish trapping and hauling system to improve the work area and minimize hoisting and netting of fish.
- Modification of the attraction water supply system to provide up to 200 cfs at the spillway entrance and 120 cfs at each of the tailrace entrances to better attract migrating fish.
- Implementation of enhanced minimum bypass reach flows.
- Removal of approximately 350 cubic yards of bedrock outcropping at the west tailrace fishway entrance.

All such modifications and enhancements have been made in consultation with the Federal and State resource agencies and other stakeholders, and approved by the FERC and the MADEP.

Specifically, in 2001 HG&E installed the rubber dam comprised of five 3.5 ft high sections on the spillway crest of the Holyoke Dam. The sections are automated with a programmable control system to deflate sequentially at the pond elevation settings such that the Holyoke pond will not drop below the minimum pond elevation, but the Rubber Dam sections can also be operated manually if the need arises.

Further, for upstream fish passage, since 2001 HG&E has made significant improvements and enhancements to its upstream fish passage facilities at the Holyoke

Dam. Specifically, since 2001 HG&E has raised the fishway equipment and structures in the tailrace area approximately 18 inches to provide for 12 inches of free board at operations of 40,000 cfs total river flow. Raising the structures will increase the amount of time that the fish lift can be operated. HG&E has also modified the existing attraction water supply flume, energy dissipater and gates to provide 200 cfs to the spillway fishway entrance and 240 cfs to the tailrace fishway entrances; together the existing attraction water distribution structure provides 440 cfs. Hydraulic control features are provided to distribute and regulate the required range of flows to the crowder and bypass channels of the spillway and tailrace fishways. Augmentation of the attraction water system to supply more water to the lifts ensures that enough water is available to attract diadromous fish to the entrances when the Federal resource agencies determine it is appropriate for the shortnose sturgeon to be passed upstream.

The primary components of the tailrace fishway include the entrance(s), the transport channel, the crowder channel, the elevator hopper, and the exit flume. HG&E has opened the Hadley Falls Unit 2 fishway entrance on the west side of the tailrace and has made enhancements to the entrance. With this additional gate in service the fishway has an entrance on each side of the tailrace and an additional 100 ft of transport channel. The other tailrace fishlift tower and hoist were enlarged to accommodate a new hopper, with a volume of 330 cubic feet, approximately one-third larger than the prior hopper. The tailrace fishlift will discharge fish as it currently does at the downstream end of the exit flume and in line with the axis of the flume. The crowding channel will remain in the same area as it is currently, with a crowding length bay of approximately 35 ft. Each tailrace entrance will be designed to discharge flows

up to 120 cfs, for a total of 240 cfs.

The spillway fishway provides upstream passage for migrants coming up the riverbed through the bypass reach to the base of the Holyoke Dam. During passage seasons, the Project was operated to optimize upstream passage conditions in the Hadley Falls tailrace. The spillway lift and associated facilities were built to supplement the tailrace fishway during periods of high river flow when spill occurred over the Dam. Based on these operating conditions, anticipated use and space constraints, the spillway fishway was constructed smaller than the tailrace facilities, having approximately 75% of the capacity. HG&E has significantly enlarged many of the components of the fishway including the fish hopper capacity and the lifting hoist capacity. The hopper capacity has a volume of 330 cubic feet, which is twice the size of the prior hopper. Significant expansions have taken place in both the transport and crowding channels. The transport channel has been lengthened from 30 ft to approximately 80 ft. The crowding channel has been increased from the existing 10 ft to approximately 35 ft. A new spillway fishway tower and hoist has been built adjacent to the tailrace fishlift to accommodate the larger hopper. HG&E has also expanded the width of the flume to accommodate the new location of the spillway tower at the downstream end, providing for hopper discharge along the length of the flume. The attraction water system was also modified to accommodate flows up to 200 cfs for the existing spillway fishway entrance.

The exit flume consists of the existing elevated flume, which passes through and is an integral part of the Hadley Falls Station intake structure. This facility has been widened to accommodate the release operation of the spillway fishway. The exit flume

is triangular in cross section, wider at the downstream end with a width of at least 14 ft and narrower at the upstream end with a minimum width of 7 ft. To maintain velocities in the range of 0.5 to 1.0 fps, hydraulic gates and a flow inducer were installed in the flume to define a directional flow, with the flow rates adjustable through use of butterfly valves.

In addition in 2002 HG&E installed a backlit panel in the exit flume at the counting station to aid in the enumeration and identification of fish passing by the viewing window during periods of high turbidity typically experienced during higher river flows. Furthermore, the exit flume was widened to reduce the potential for diadromous fish, such as shortnose sturgeon, to have incidental contact with the walls of the flume that may cause abrasions during passage. The extra flume area also reduced the potential for stress due to overcrowding during the American shad migration period.

HG&E operates the fish lifts for upstream fish passage from April 1 through November 15 of each year, as refined by the Federal and State resource agencies on an annual basis, except that the fish lifts are not operational during the period July 15 through September 15 each year until such time as the resource agencies determine that upstream passage of shortnose sturgeon is appropriate or that resident fish passage is necessary. The Federal and State resource agencies and other stakeholders have agreed that the upstream fish passage facilities are adequate to pass target species at current population levels and no further testing of the upstream fish passage facilities is needed until levels of target populations reach a threshold determined in consultation with the agencies. HG&E will continue to monitor fish passage and provide annual reports to the agencies/stakeholders and the FERC.

In addition at the Holyoke Project HG&E operates facilities specifically designed for upstream passage of American eels. These facilities include eel passage devices on the Holyoke side located inside the entrance to the tailrace and spillway fishlifts and located outside the spillway entrance in the Bypass Reach (all provided with attraction flows), and a permanent eel ramp on the South Hadley side of the Project (also provided with attraction flows).

Pursuant to its FERC License and the 401 WQC for the Holyoke Project, HG&E regulates the flows below the Holyoke Dam to assist fish passage. Specifically, HG&E provides minimum flows into the Bypass Reach (below the Dam) for: (1) the protection and enhancement of water quality and aquatic and fisheries resources (“Bypass Habitat Flows”); and (2) effective flows for migratory fish passage (“Bypass ZOP Flows”). Further, HG&E has implemented studies of potential modified run-of-river operations at the Holyoke Project with such re-regulation being of benefit to diadromous fish. Based on its cumulative analysis of potential modified run-of-river operations (with studies undertaken in 2004 through 2007), HG&E found the modified mode of operation to provide enhancements to fish passage and other natural resources. Therefore, with FERC and MADEP approval HG&E is now continuing operating under a modified run-of-river protocol for a three-year trial period before finalizing that protocol in its COFP for the Holyoke Project.

C. HG&E’s ongoing research, studies and plans to further enhance fish passage.

As described above and documented in the FERC’s April 2005 Order,²⁵ under a plan filed by HG&E and the resource agencies and stakeholders in 2004, and approved

²⁵ See 111 FERC ¶ 61,106; attached in Appendix B to HG&E’s Application in this proceeding.

by FERC in 2005, HG&E has undertaken research and studies including: (i) five years of flume studies at the Conte and Alden laboratories; (ii) eight-plus years of computational fluid dynamic (“CFD”) studies by Alden; (iii) three-years of shortnose sturgeon radio tracking studies and one year of American eel radio tracking studies; and (iv) desk-top analysis of downstream fish passage efficiency at the Holyoke Project based on the flume testing data. In addition, turbine-passage mortality analysis of shortnose sturgeon based on a desktop study and of juvenile American shad at the existing Holyoke Station have been analyzed; demonstrating high fish passage efficiencies and low turbine mortality. All such studies have been done in close consultation with the Federal/State resource agencies and other stakeholders.

The studies and analysis performed have provided additional data on fish passage in connection with the Holyoke Project and related to the Hydro Facilities. The flume studies have evaluated various configurations (e.g., size and location) and entrance velocities of near-bottom entrances for the purpose of analyzing potential configurations of such a downstream fish bypass(es) – particularly for diadromous shortnose sturgeon. Flume studies also addressed passage for American eel. CFD analysis has been used to evaluate flows approaching and exiting the existing Holyoke Dam and associated facilities, and how the flows would be affected by potential enhancements to the Project facilities for fish passage. Radio tracking studies for shortnose sturgeon and American eel have documented where such fish move on the Connecticut River, potentially approaching the Holyoke Dam and passing the facilities; however, no radio-tagged shortnose sturgeon have been found to approach the Project.. The radio tracking studies have demonstrated that passage efficiency by all

routes at the Project is high (89%), demonstrating the effectiveness of the fish passage facilities at the Holyoke Project (associated with the Hydro Facilities).

Working with the Federal/State resource agencies and other stakeholders, HG&E is also currently working on plans for a new guidance/exclusion device to enhance downstream fish passage. Specifically, HG&E is working on plans to install and operate a new full-depth bar rack and trash raking system to be located immediately upstream of the existing intakes at the Holyoke Project's Hadley Falls Station (i.e., in front of Hadley Unit #1 and Unit #2). In addition, HG&E is working on plans for a new near-bottom bypass and a new surface bypass located at the end of the new rack structure. The apron of the dam below the location of the current Rubber Dam #5 will be excavated for a new plunge pool to diffuse energy from the new surface bypass. The proposed new full-depth bar rack and trash raking system, and the bypasses, will facilitate the guidance of fish away from the existing Hadley Unit #1 and Unit #2 intakes for downstream fish passage.

In addition, working with the Federal/State resource agencies and other stakeholders, HG&E is finalizing plans to further enhance the upstream fish passage facilities by modifications to the entrance to the spillway fishlift, downstream of the Holyoke Dam, to align the entrance walls and to add a ramp up to the floor of the entrance.

IV.

Findings of the Federal and State Agencies on the Fish Passage Facilities

The Hydro Facilities meet the requirements of the NH RPS law by having associated upstream and downstream passage for diadromous fish, as recognized by

the FERC and MADEP and other Federal/State agencies. There is no basis for denying Class IV Certifications.

A. FERC findings on fish passage relative to the Hydro Facilities.

The six Hydro Facilities that are covered by the FERC License for the Holyoke Project (Project No. 2004) clearly have fish passage facilities and protections, as discussed above. As the FERC has stated, License Articles 410 through 413 of the Project No. 2004 License deal with “upstream passage, downstream passage, eel passage, and monitoring such passage.”²⁶ In that 2005 order, the FERC further stated the Holyoke License includes “minimum flows for the bypassed reach, and upstream and downstream fish passage.”²⁷

With respect to the remaining eight of the Hydro Facilities that are separately licensed by the FERC, FERC has determined that the fish passage facilities requirements under the Holyoke Project License prevent fish from entering the Canal System. Since 2001 when HG&E took over the ownership of the Holyoke Project and installed fish enhancements as discussed above, the FERC has consistently referred to the Holyoke Project License for implementation of fish passage.²⁸

B. MADEP Section 401 WQC findings.

The six Canal projects that are subject to the FERC License for the Holyoke Project, FERC Project No. 2004, are obviously covered by the fish passage and other environmental conditions established in the Section 401 WQC for FERC Project No. 2004. A copy of that 401 WQC (as further amended pursuant to the 2004 Settlement)

²⁶ 111 FERC ¶ 61,106 at para. 12 (see, Appendix B to HG&E’s Application).

²⁷ Id. at para. 27.

²⁸ See, e.g., 116 FERC ¶62,128 (2006) relicensing the Holyoke No. 4 Station, FERC Project No. 7758 (see Appendix B to HG&E’s Application); see also the Environmental Assessment, pages 6-7.

was attached to HG&E's Application in Appendix C thereto. As confirmed by the documents in Appendix C, HG&E has complied with the MADEP's fish passage requirements.

Furthermore, as demonstrated in the documents included in Appendix C to HG&E's Application in this proceeding, the MADEP has consistently waived the need for a 401 WQC for the other (non-Project No. 2004) Canal projects based on the 401 WQC issued to HG&E for the Holyoke Project. For example, in its letter dated May 14, 2009 (included in Appendix C), with respect to eight projects in the Canal System (including three projects at issue in the Application: FERC Project Nos. 2768, 2766 and 2775), the MADEP confirmed that they "consider the recently issued water quality certification for FERC Project 2004 to apply to these eight Projects." Further, by letter dated April 10, 2006 (also included in Appendix C), with respect to another project at issue in this proceeding, the MADEP stated that the 401 WQC for the Holyoke Project contained "all the conditions necessary to meet State water quality standards for the Holyoke No. 4 Project (FERC Project No. 7758)." The MADEP's letter dated May 25, 2010 (also included in Appendix C hereto) confirmed that the four remaining projects at issue in this proceeding were also covered by "the water quality certification for FERC Project 2004."

V.

Other PUC Decisions Support a Grant of Class IV Certification for HG&E's Hydro Facilities

HG&E also believes that the facts supporting the Class IV certification for the Hydro Facilities, as demonstrating herein and in HG&E's Application, are even more compelling than those presented in other proceedings where the Commission has

granted Class IV. For example, in PUC Docket No. DE 09-055, the Commission certified the Centennial Island facility as a Class IV renewable energy source effective in March 2009 based on a letter from the state resource agency confirming that the project's fishway was operable. Similarly, in PUC Docket No. 09-012, the Commission certified the Salmon Falls Hydroelectric Project as a Class IV renewable energy source based upon two FERC Staff letter orders acknowledging receipt of fish passage monitoring reports. Further, in PUC Docket No. DE10-080, the Commission certified the Medway Hydroelectric Facility as a Class IV renewable energy source based on a picture of the facility and portions of orders by the FERC and the Maine Department of Environmental Protection discussing those facilities.

In this proceeding HG&E has submitted similar and sufficient documentation of its existing and operating fish passage facilities. HG&E's Application contained substantial documentation in Appendices B and C documenting acknowledgement by the FERC and the MADEP, respectively, of HG&E's fish passage facilities. Furthermore, on June 30, 2010, HG&E filed in this proceeding its latest monitoring report (for 2009) for upstream fish passage, including pictures of the fish passage facilities and documentation of fish that used such facilities.

Good reason exists for a reversal of the PUC's August 2010 decision in this proceeding and certification of the Hydro Facilities as Class IV renewable energy source.

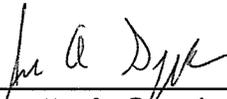
VI.

Conclusion

WHEREFORE, HG&E requests that the Commission grant reconsideration, or in

the alternative rehearing, of the August 2010 decision. Further, HG&E requests that on such reconsideration/rehearing the Commission reverse its prior decision and instead confirm that the HG&E's Hydro Facilities are certified as Class IV facilities under the NH RPS law.

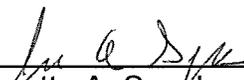
Respectfully submitted,

By 
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CERTIFICATE OF SERVICE

The undersigned hereby certifies that, on the date written below, she has today served an electronic copy of the "Motion of the City of Holyoke Gas & Electric Department for Reconsideration or, in the Alternative, Rehearing" in PUC Docket No. DE 10-151 on all persons on the Commission's service list for this proceeding, as required by PUC Rule 203.11(c).

Date: 9/9/2010

By 
Jeanette A. Sypek