

New Hampshire Department of Environmental Services
Response to Comments and Substantive Changes
for Section 401 Water Quality Certification WQC 2021-FERC-002
Lower Great Falls Hydroelectric Project (FERC Number 4451)
April 4, 2022

From February 18, 2022 to March 24, 2022, the draft Clean Water Act section 401 water quality certification (WQC or certification) for the Lower Great Falls Hydroelectric Project (Project), FERC Number 4451, was issued for public comment. On April 4, 2022, the New Hampshire Department of Environmental Services (NHDES) issued a final certification for the Project (WQC 2021-FERC-002). The following is a summary of the comments received, NHDES' response to each comment (in italics), and a description of other substantive changes made to the final certification since the draft certification was issued for comment.

COMMENTS AND NHDES' RESPONSE

The only comments received were from Green Mountain Power Corporation (GMP) on behalf of itself and its co-licensee the City of Somersworth, NH (collectively the Applicant).

GMP Comment 1:

"Section D. Findings: D-3. Background

Second sentence should read '...is located within the City of *Somersworth*, New Hampshire.' Fourth sentence should read 'The Project dam is located at *approximately*...'"

NHDES Response to Comment 1: Agree. Changes made.

GMP Comment 2:

"Section D. Findings: D-4. Existing Project Facilities

First sentence under Part A should read '...with sill elevations of 84.9 feet, *NGVD*....'. Second sentence under Part D should read '.... have an 8.5-foot *diameter*'. Second sentence under Part E should read 'The *minimum* and maximum hydraulic capacities....'"

NHDES Response to Comment 2: Agree. Changes made.

GMP Comment 3:

"Section D. Findings: D-5. Existing Project Operation

Third sentence should read '...the Project is generating, *the* pond level control....'

NHDES Response to Comment 3: Agree. Change made.

GMP Comment 4:

"Section D. Findings: D-11. RSA 485-A:12,III

Last bullet should read '.... useable by NHDES for surface water *quality* assessments required by section 305(b) and 303(d) of the federal Clean Water Act.'"

NHDES Response to Comment 4: Agree. Change made.

GMP Comment 5:

"Section D. Findings, Water Chemistry D-25

Next to last sentence should read '...is estimated to be approximately 28.7 cfs based on *the* 1999 Salmon Falls River TMDL.'"

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NHDES Response to Comment 5: Agree. Changes made.

GMP Comment 6:

“Section D. Findings, Water Chemistry D-33

Third sentence should read ‘There were no excursions of New Hampshire’s numeric chlorophyll-a threshold for recreation (15 ug/L) *specified* in the NHDES...’”

NHDES Response to Comment 6: Agree. Change made.

GMP Comment 7:

“Section D. Findings, Flow/Impoundment Management D-41

First sentence, second paragraph should read ‘NHDES concurs with the USFWS’ Section 10(j) *recommendation* to operate the Project ...’”

NHDES Response to Comment 7: Agree. Change made.

GMP Comment 8:

“Section D. Findings, Water Use Registration and Reporting D-47

Please note that GMP requested and received a waiver from the requirement for a water conservation plan in accordance with Env-Wq 2101.23. The waiver was received from NHDES on February 25, 2022.”

NHDES Response to Comment 8: Agree. NHDES revised the finding as follow (changes are in bold font):

*“Water Use Registration and Reporting: Based on discussions in March and April 2021 with staff in the NHDES Water Use Registration and Reporting program (WURRP), the Activity is currently registered with the WURRP and must continue to report under this program in accordance with Env-Wq 2102. The purpose of Env-Wq 2102 is to “...is to implement RSA 488 by establishing requirements relative to documenting the identity and location of water uses and collecting accurate water use data to support management of the state's water resources.” Staff also stated that the Applicant should contact them to determine if a water conservation plan (in accordance with Env-Wq 2102.24) is required for the Activity. **On February 21, 2022 the Applicant submitted a request to NHDES to waive the requirement under Env-Wq 2101.24(a)(5) to submit a water conservation plan to NHDES. On February 25, 2022, NHDES notified the Applicant in a letter that NHDES approved the waiver request, in accordance with Env-Wq 2101.23, and that the waiver was valid for no more than four years from the date of the approval, and prior to expiration of the waiver, the same waiver may be requested in order to be considered an extension of the original waiver approval. If a water conservation plan is not required, the Applicant will need to request a waiver in accordance with Env-Wq 2101.23.** The WURRP provides valuable data for tracking discharges (such as those from the Project) to and withdrawal volumes from surface waters and other sources throughout the state. This water quantity data assists NHDES with managing water resources to help assure surface waters have sufficient water to support the designated uses (see Fact C-27) specified in the New Hampshire surface water quality standards (NH RSA 485-A:8 and Env-Wq 1700, see Finding D-*

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14). Including a condition in this certification to require compliance with WURRP is authorized under RSA 485-A:12, III (see Finding D-11). Condition E-9 addresses this Finding.”

GMP Comment 9:

“Section D. Findings, Fish Passage D-52

Second sentence should read ‘...concerning the appropriate terms of Prescription for Fishways for American shad and river herring to be included in the Subsequent License for the Project (“Prescription”) pursuant to section 18 of the FPA (16 U.S.C. § 811).’”

NHDES Response to Comment 9: Agree. Change made.

GMP Comment 10:

“Section D. Findings, Fish Passage D-55

Next to last sentence should read ‘NHDES has also observed European naiad (Najas minor) in the Salmon Falls River from Milton down through Dover which includes the Project area.’”

NHDES Response to Comment 10: Agree. Change made.

GMP Comment 11:

“Condition E-10: Flow/Impoundment Management

In Part A, the Condition states ‘The Applicant shall operate the Activity in an instantaneous run-of-river mode whereby inflow to the Project equals outflow from the Project at all times and water levels above the dam are not drawn down for the purpose of generating power.’ While GMP understands the intent of Condition E-10(a) some consideration must be given to minor flow fluctuations that may result during operational procedures for unit start-ups and shut-downs, and during unit trips beyond GMP’s control. For example, in recent licensing proceedings, FERC has acknowledged the inherent lag times associated with the passive release of flow from an elevation-stabilized impoundment. FERC determined that precise instantaneous matching of outflows to inflows is not practicable. Therefore, run-of-river operation should be defined as when outflows from a given project are released to approximate inflow. FERC also recognized as project operation changes, some flexibility regarding minor flow fluctuations downstream is needed to allow for brief delays between change in operation and attenuation of the flow. GMP respectfully requests that this condition contain some acknowledgement of the situations (e.g., unit start up and shutdown, unit trips) when “instantaneous” matching of inflows is not possible from an operational perspective.”

NHDES Response to Comment 11: Some changes made.

GMP cited the first sentence of Condition E-10.a in its comment, above, regarding instantaneous run-of-river. NHDES acknowledges that there may be brief periods of time when, due to project operation, inflow is not exactly equal to outflow. That said, NHDES made no changes to Condition E-10.a for the following reasons:

- 1) *To make it clear that instantaneous run-of-river operation is the goal;*
- 2) *NHDES was not provided with any indication of the magnitude, frequency and duration of anticipated deviations in flow from run-of-river operation due to turbine start up and shut down or unanticipated events such as unit trips; and*

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- 3) *The language in Condition E-10.a has been used by NHDES in other recently issued section 401 water quality certifications, including the following:*

*Rollinsford Hydroelectric Project, FERC No. 3777, FERC Accession No. 20210611-5022 ¹;
Jackson Mills Hydroelectric Project, FERC No. 7590, FERC Accession No. 20220309-5061.*

As shown in bold below, NHDES did, however, make the following change (shown in bold) to the first sentence in Condition E-10:

*E-10. Flow / Impoundment Management: The following requirements (items a. through e.) may be temporarily modified if required by operating emergencies beyond the control of the Applicant, ~~and~~ as specified below, **or as allowed in the approved Flow/Impoundment Compliance Monitoring Plan (FICMP) that is required by Condition E-12 of this Certification.***

The FICMP must be developed in consultation with the various natural resource agencies, submitted to NHDES for review and approval, and be kept up-to-date as specified by Condition E-12 of this Certification. Condition E-12.b of the FICMP condition requires GMP to include the following in the FICMP: “a detailed description of how the Project will be operated under all conditions (i.e., under normal operating conditions as well as during low flow, high flow, maintenance and emergency conditions) to maintain compliance with the flow and impoundment level management requirements in Condition E-10”.

The FICMP, therefore, is where GMP should document and quantify (as best it can) any anticipated minor deviations (in terms of magnitude, frequency and duration) from instantaneous run-of-river flow due to Project operation (e.g., during unit start-up and shut-down) and unexpected events (e.g., unit trips). NHDES also recommends that GMP provide an explanation in the FICMP of measures GMP could take to reduce the magnitude, frequency and duration of any proposed run-of-river deviations. Once approved, the FICMP will provide documentation of the minor deviations from instantaneous run-of-river operation that are considered acceptable.

GMP Comment 12:

“Condition E-16: Invasive Species Detection and Control

This condition states that ‘If requested by NHDES in writing, the Applicant shall submit a plan to NHDES for approval to monitor for invasive plant species in river segments impacted by the Project, and to report the results to NHDES.’ The condition further requires that ‘Monitoring frequency shall be determined by NHDES and shall be no more frequent than annually.’ The draft WQC identifies variable leaf milfoil and European naiad as invasive aquatic plant species occurring in the Project waters. However, based on available information it does not appear that Project operations have any impact on the proliferation of these species. In addition, conditions along the impoundment are likely typical of those in other sections of the river corridor. GMP believes that infestation by invasive plant species in

¹ It is noted that GMP, on behalf of the Town of Rollinsford, was the Applicant on the Rollinsford Hydroelectric Project.

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the watershed is a regional issue, and that Project-specific measures to control invasive species would have little or no impact on the issue as a whole. It is likely that any measures to control invasive species within the relatively small Project area would be rendered ineffective by reinfestation from outside the Project boundary.”

NHDES Response to Comment 12: Some changes made.

It is well-documented that invasive species such as variable leaf milfoil and European naiad prefer slow moving waterbodies^[1]. Impoundments created by the presence of dams often slow the velocity of rivers, thereby creating aquatic habitats that are more suitable and prone to the proliferation of many invasive plant species once those species have been introduced to the aquatic system.

Control of invasive species is challenging. Fortunately, NHDES has a very active Invasive Species Program^[2], the purpose of which is to reduce the introduction of invasive species and manage their spread in the state’s surface waters. Staff of the NHDES Water Quality Certification Program have discussed GMP’s comments with the supervisor of the NHDES Invasive Species Program. The supervisor said that trained NHDES staff would likely conduct invasive species surveys (i.e., monitoring to identify the location of species) of the Salmon Falls River. Such surveys are needed to develop an invasive species control plan (control plan). On rivers with dams, control plans typically rely on the cooperation of dam owners to temporarily modify operation of the dam in order to create conditions in the impoundment that will maximize the effectiveness of invasive species control practices. The last sentence in Condition E-16 of the Certification helps to ensure this cooperation between GMP and NHDES will happen when invasive species control efforts are needed. Currently, there is no invasive species control plan that has been completed, or is being prepared by NHDES, for the Salmon Falls River.

For the reasons mentioned above, NHDES changed the title of Condition E-16 from “Invasive Species Detection and Control” to “Invasive Species Control” and deleted the first four sentences regarding monitoring for invasive species. NHDES did not change the last sentence regarding how the Applicant will assist NHDES with implementation of control efforts.

OTHER SUBSTANTIVE DIFFERENCES BETWEEN THE FINAL AND DRAFT CERTIFICATION

In addition to the revisions noted in the above response to comments, other changes made to the final certification since the draft certification was issued for public notice are not considered substantive. Examples include minor format revisions, grammatical corrections, replacement of the word “DRAFT”

^[1] See Johnson, P.T., J.D. Olden and M.J. Vander Zanden. 2008. Dam invaders: impoundments facilitate biological invasions into freshwaters. *Frontiers in Ecology and the Environment*. Volume 6, Issue 7. Pgs 357-363. Also see [WISC - Washington Invasive Species Council](#).

^[2] See [Invasive Species | NH Department of Environmental Services](#)

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with "FINAL" in the header, changing the "Decision" status on the first page from "Pending" to "Approved", adding a date of issuance and signature, adding a table of contents, etc.