

Vermont Department of Environmental Conservation*Agency of Natural Resources*

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May 26, 2016

Pat McIlvaine
Low Impact Hydropower Institute
PO Box 194
Harrington Park, New Jersey

RE: Vernon Hydroelectric Project (FERC No. 1904)
Comments on Low Impact Hydropower Certification

Dear Ms. McIlvaine,

On March 31, 2016, the Low Impact Hydropower Institute (LIHI) contacted Vermont Agency of Natural Resources (Agency) staff to seek comment on low impact certification of the Vernon Project, located on the Connecticut River in Vermont and New Hampshire. Based on our review, the Agency has substantial concerns regarding compliance of the Vernon project with LIHI's low impact criteria. The Agency provides comments, herein.

Background

The Vernon hydroelectric project was originally licensed in 1979 and significant aspects of project operation remain governed by the original license. Subsequent amendments to modify project capacity have not involved a comprehensive evaluation of project operations due to the Federal Energy Regulatory Commission (FERC) rules governing the processes, as well as the practical challenge of addressing certain aspects of operation at the Vernon project without involvement of the upstream and downstream facilities.

For example, the most recent amendment in 2006 was a non-capacity amendment. In general, non-capacity amendments do not require three stage agency consultation typical of the licensing process. As a result, issues were limited in scope to the effects of the change and did not include other issues within the scope of review. Issues analyzed at the time of the 2006 license amendment and associated water quality certification were limited to water chemistry, fish passage, erosion, and administration (flow monitoring and operations compliance plans). As you are aware the Vernon Project currently is in the FERC relicensing process, with its current license set to expire in April 2019.

The State of Vermont's 2014 List of Priority Surface Waters Outside of the Scope of Clean Water Act Section 303(d) lists the Vernon impoundment and the downstream 5.5-mile segment of the Connecticut River on Part F as waters altered by flow regulation, in this case primarily related to hydropeaking and deficient minimum flow resulting from operations at the Vernon hydroelectric

project.¹ The project waters are considered by the Agency to not fully support the designated use of aquatic biota, wildlife, and aquatic habitat.

Flows

Project operations are not in compliance with LIHI's flow criterion. LIHI's flow criteria applicable to this application are:

“Compliance with Resource Agency Recommendations issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement” or meet one of two alternative standards: (1) meet the flow levels required using the Aquatic Base Flow methodology or the “good” habitat flow level under the Montana-Tennant methodology; or (2) present a letter from a resource agency prepared for the application confirming the flows at the facility are adequately protective of fish, wildlife, and water quality.

The current 1250 cubic feet per second (cfs) minimum flow was established by the 1979 project license. It would be incorrect to use the amended license and associated certification as a foundation for flow compliance. Due to FERC process for non-capacity amendments in which a change in mode of operation is not proposed, the project flow regime was not reviewed as part of the amendment process. The FERC Environmental Assessment conducted in support of the amendment specifically stated, “The licensee will continue to operate the project as it has in the past, therefore minimum flows will remain unchanged”. As a result of the limited scope, quantitative in-stream flow studies were not conducted and neither the license amendment, nor water quality certification, contained conditions related to in-stream flows, ramping and peaking rate conditions, or seasonal and episodic instream flow variations. Therefore, the project is not in compliance with “Resource Agency Recommendations issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement.”

Given that the project does not conform with a resource agency flow recommendation made after 1986, the next test (A.2) is whether the flows meet Aquatic Base Flow (ABF) standards or the good habitat flow level under the Montana-Tennant methodology. The facility maintains a minimum flow equivalent to 0.2 cubic feet per second per square mile (csm) or 1250 cfs. Summer ABF (0.5 csm) for the 6,266 square mile drainage area would be 3,133 cfs. Montana-Tennant's methodology would require a minimum flow of approximately 2,700 cfs (20% Average Daily Flow (ADF)) from October through March and 5,400 cfs (40% ADF) from April through September for “good” habitat conditions. The existing minimum flows required by the 1979 license do not meet the flow levels required using the Aquatic Base Flow methodology or the “good” habitat flow level under the Montana-Tennant methodology.

The last test (A.3) is whether the application has documentation from a resource agency that it has demonstrated the flow regime as “appropriately protective of fish, wildlife, and water quality”. Given the listing of waters affected by the project on the State of Vermont's List of Priority Surface Waters, as discussed above and specifically due to project operations, the State has in fact made a determination that the flow regime is *not* appropriately protective of fish and does not fully support the designated use of aquatic biota, wildlife, and aquatic habitat.

¹ State of Vermont (2014). List of Priority Surface Waters. Part F. Surface Waters Altered by Flow Regulation.

Fish Passage

Anadromous and catadromous fish are present in the area of the project. Mandatory fish passage prescriptions have historically focused on passage for anadromous fish, but the need for measures to pass American Eel, a catadromous species and a species of greatest conservation need in Vermont, has been identified as least as far back as the 2009 LIHI certification. The Applicant has not implemented any downstream passage measures for American Eel to date.

Since the certification in 2009, there have been material changes in regards to what is known about the technical feasibility of passing many species of interest at the project. Studies associated with the relicensing have been conducted to assess the feasibility of passing American Eel, anadromous species, as well as riverine fish. While the collection of more field data may be necessary to determine the optimal means of passing migratory and resident species over the course of the upcoming license, results to date indicate that it may be possible to greatly improve passage effectiveness by utilizing existing infrastructure with only minor modifications to the operation of the existing infrastructure.

Once the data collection for the relicensing is complete, if it is possible for the Applicant to reduce the impacts of the dam on fish movement by facilitating more effective passage through modified ladder operation, the Agency is confident that the Applicant, given their interest in low impact certification, would proactively undertake these measures on an interim basis before the new license is issued. However, the Agency also hopes that LIHI will encourage the Applicant to make reasonable interim modifications to fishway operation, in consultation with resource agencies, if such modifications would reduce the impacts of the facility. Accordingly, the Agency includes a recommended condition below.

Recommendation

As a result of this review, the Agency's does not believe the Vernon hydroelectric project complies with LIHI's criteria, particularly in regards to the criteria for flows and fish passage. As such, the Agency would recommend against certification of this project as "low impact". If LIHI does certify the project, the Agency would recommend the following condition be included in any certification issued for the project.

"During the term of this certification, should a resource agency request implementation of passage measures for catadromous or riverine fish, the applicant shall notify LIHI within 14 days, provide LIHI with a copy of the request, and the applicant's response."

Thank you for the opportunity to comment.

Sincerely yours,



Eric Davis
River Ecologist

c: Jeff Crocker, VTDEC
Lael Will, VTDFW
Owen David, NHDES
Gregg Comstock, NHDES

Gabe Gries, NHFG
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