



United States Department of the Interior



FISH AND WILDLIFE SERVICE

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

July 9, 2019

Shannon Ames, Executive Director
Low Impact Hydropower Institute
329 Massachusetts Ave., Suite 6
Lexington, MA 02420

REF: FERC No. 1904
Great River Hydro, LLC
Vernon Hydroelectric Project
COMMENTS ON LOW IMPACT HYDROPOWER INSTITUTE RECERTIFICATION

Dear Ms. Ames:

This letter is in regards to the pending application by Great River Hydro, LLC (GRH) for the Low Impact Hydropower Institute's (LIHI) Low Impact Hydropower (re)Certification for the Vernon Project, located on the Connecticut River in Vermont and New Hampshire.

We have reviewed the LIHI's criteria for certification and have assessed whether, in our opinion, the Vernon Project meets those criteria. Based on our review, and a number of significant factors specified below, we do not believe that the Vernon Project qualifies for LIHI certification at this time.

1. Ecological Flow Regimes

Standard A-1: The Vernon Project does not meet the "Not Applicable/De Minimis Effect" standard because Vernon operates in a daily peaking mode.

Standard A-2: The Vernon Project does not meet the "Agency Recommendation" standard because the current flow regime was not developed in accordance with a science-based agency recommendation.

Standard A-3: The Vernon Project does not meet the "Limited Storage" standard because the current flow regime does not comply with a well-documented, regionally accepted instream flow policy or methodology. The current minimum flow release below the project of 1,250 cfs equates to 0.2 cubic feet per second per square mile of drainage area (csm), which is less than half the summer default Aquatic Base Flow of 0.5 csm. The minimum

Standard A-4: The Vernon Project does not meet the “Site-Specific Studies” standard because the current flow regime was not developed on a site-specific basis, using a well-documented, science-based habitat evaluation technique or a flow-ecology model. As part of the relicensing process, GRH did undertake a rigorous Instream Flow Incremental Methodology Study at Vernon, and those results will be used by the agencies to develop flow recommendations (or 401 Water Quality Certification conditions) for any new license issued to the project.

2. Upstream Fish Passage

Standard C-1: The Vernon Project does not meet the “Not Applicable/De Minimis Effect” standard because the dam associated with the project creates a barrier to upstream passage and there are migratory fish in the vicinity of the facility.

Standard C-2: The Vernon Project partially meets the “Agency Recommendation” standard. There is an existing upstream anadromous fish ladder that has generally been considered effective. However, the ladder was designed to pass Atlantic salmon and annual fishway inspections as well as results of relicensing studies have identified a number of measures that should be undertaken to improve its effectiveness for other migratory fish species. GRH is aware of some of these needed improvements and has begun implementing them. Other necessary changes will be conveyed as part of the relicensing process.

In addition, American eel passage is lacking at this site. Relicensing studies have documented some use of the anadromous fish ladder by eels, but also substantial fallback, indicating that either eel-specific modifications need to be made to the fish ladder and/or dedicated eel passage facilities are needed at the site. Also, the operational dates for the fish ladder do not correspond to the upstream eel migration period (May 1 through October 31); therefore, even if eels are able to ascend the ladder effectively, they are prevented from doing so for the majority of their migration season due to the ladder closing in July. Likewise, upstream passage for riverine species is limited to the period the fish ladder is operated for anadromous fish passage.

Standard C-3: The Vernon Project does not meet the “Best Practice/Best Available Technology” standard because it does not include well-designed, well-operated upstream fish passage methods or technologies that are appropriate for all migratory fish species that occur in the area affected by the facility (see comments under Standard C-2, above).

Standard C-4: The Vernon Project does not meet the “Acceptable Mitigation” standard because it does not employ approved, alternative fish passage mitigation measures that support migratory fish species affected by the facility. As noted above, the project does have an upstream fish ladder, but currently it is not designed and operated to provide safe, timely and effective passage for the full suite of migratory fishes in the vicinity of the facility.

3. Downstream Fish Passage and Protection

Standard D-1: The Vernon Project does not meet the “Not Applicable/De Minimis Effect” standard because the dam and hydropower turbines associated with the project create a barrier to downstream passage and there are migratory fish in the vicinity of the facility.

Standard D-1: The Vernon Project does not meet the “Not Applicable/De Minimis Effect” standard because the dam and hydropower turbines associated with the project create a barrier to downstream passage and there are migratory fish in the vicinity of the facility.

Standard D-2: The Vernon Project partially meets the “Agency Recommendation” standard. There are existing downstream fish passage facilities at the site and previous studies had suggested the facilities were effective at passing juvenile Atlantic salmon and American shad. However, the adequacy of the facilities at providing safe, timely and effective passage for adult American eels and post-spawned American shad had not been assessed until the relicensing process began. Results of directed studies on passage route, timing, and survival of juvenile shad, post-spawned adult shad, and adult silver-phase American eels indicate that existing downstream passage facilities are not sufficiently protective. Study results will be used by the agencies in developing fishway prescriptions and/or 401 Water Quality Certification conditions for any new license issued to the project.

Standard D-3: The Vernon Project does not meet the “Best Practice/Best Available Technology” standard because it does not include well-designed, well-operated downstream fish passage methods or technologies that are appropriate for all migratory fish species that occur in the area affected by the facility (see comments under Standard D-2, above).

Standard D-4: The Vernon Project does not meet the “Acceptable Mitigation” standard because it does not employ approved, alternative fish passage mitigation measures that support migratory fish species affected by the facility. As noted above, the project does have downstream passage facilities, but currently they are not designed and operated to provide safe, timely and effective passage for the full suite of migratory fishes in the vicinity of the facility.

CONCLUSION

Although the current and former licensees have worked towards improved fish passage in the past, the project does not adhere to LIHI criteria for river flows and fish passage, in our opinion. Therefore, we cannot support LIHI recertification for the Vernon Project at this time. Relicensing presents an ideal opportunity to use newly acquired information to cooperatively develop structural and operational modifications at Vernon that would enable the facility to meet current LIHI standards.

Thank you for this opportunity to comment. If you have any questions, please contact Melissa Grader at 413-548-8002, extension 8124.

Sincerely yours,



Thomas R. Chapman
Supervisor
New England Field Office

Shannon Ames, Executive Director
July 9, 2019

4

CC: VTDEC, Jeff Crocker
VTDFW, Lael Will
NHDES, Gregg Comstock
NHFGD, Carol Henderson
FWS/Ct. River Coord., Ken Sprankle
FWS/EN, Brett Towler
TNC, Katie Kennedy
CRC, Andrea Donlon
FERC- Div. of Hydropower Administration and Compliance
Reading file

ES: MGrader:7-9-19:413-548-8002