

WATER QUALITY CERTIFICATION AMENDMENT  
(P.L. 92-400)

In the matter of: Newbury Hydro Company  
Mr. Matthew J. Bonaccorsi  
c/o Timothy Buzzell and Associates Inc.  
Methodist Hill Road  
Lebanon, New Hampshire 03766  
Application to Amend the Water Quality  
Certification for the Newbury Hydro  
Project

The Department of Environmental Conservation (the Department) has completed its review of an application dated May 27, 1988, and submitted by Newbury Hydro Company (the applicant) to amend the Water Quality Certification for the Newbury Hydro Project issued December 12, 1982. The Department makes the following findings based on this review and consultation with the applicant, the Vermont Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service:

1. The applicant proposes to install a bulb-type turbine/generator near the project dam. The unit would discharge into the lower end of the dam's plunge pool. The purpose of this proposal is to enable the facility to generate with the project's bypass minimum flow requirements, which are presently spilled over the dam, and to compensate for a power production shortfall caused by undersized generating equipment presently installed in the project's powerhouse.
2. The turbine would have two manually adjusted blade settings, which would allow the unit to operate at 40 kW

with a flow of 35 cfs and 100 kW with a flow of 70 cfs. The project would continue to generate with a hydraulic capacity of 20 cfs to 193 cfs as presently certified.

3. The project is required to maintain a minimum instantaneous flow of 25 cfs, or instantaneous inflow if less, at the dam at all times, with the exception of the period April 15 to June 10 when the required minimum is 50 cfs, or instantaneous inflow if less. These flow requirements are presently maintained as spillage over the dam. Under the applicant's proposal, these minimum flow requirements in the project's bypass would continue to be maintained. However, they would be discharged through the new turbine when in use. During a scheduled turbine shutdown, the applicant would maintain these flow requirements as spillage over the dam using the presently approved techniques.
4. To reduce the incidence of flashboard breakage and to insure passage of the project's minimum flow requirements in the event of an unscheduled turbine shutdown, the applicant proposes to replace a 24-foot section of the project's flashboards with a hydraulically operated crest gate. This gate, coupled with the necessary circuitry, would be designed to automatically open in the event of high water or an unscheduled shutdown.
5. When the new turbine is in operation, the applicant proposes to maintain a spillage flow over the dam of

5 cfs for aesthetics. This flow would also help to maintain the water quality of the section of plunge pool upstream of the turbine discharge.

6. The Department of Fish and Wildlife intends to stock the Wells River with Atlantic salmon as part of the Connecticut River restoration program. In order to insure that the project is compatible with the need to provide safe downstream passage of salmon smolt, certain measures will be required by condition of this certification during the spring and fall outmigration periods. The need for downstream accommodations for salmon is not expected before 1990.

The Department amends the Newbury Hydro Company's Water Quality Certification by adding conditions H and I as follows:

H. A minimum spillage flow of 5 cfs shall be maintained over the dam at all times when the turbine at the dam is in operation.

The applicant shall provide the Department with a description and plans detailing how this spillage will be maintained for prior review and approval.

I. The applicant shall install downstream fish passage facilities at the project when so directed by the Department. These facilities shall include a slot 18 inches wide by 36 inches in dimension to convey a flow of 20 cfs for the period April 1 to June 1. This slot shall be adjacent to the forebay. A similar device shall be installed for the period September 1 to November 15 and sized to convey a flow of 10 cfs. The Department may, if found to be necessary for fish passage, increase this 10 cfs flow requirement to 20 cfs.

During both periods, a screening device shall be maintained at the log boom, from the water surface to a depth of 10 feet and angled to direct fish towards the weir. This screening device shall have a maximum one inch opening.

The applicant shall provide the Department with a description, plans, and hydraulic sizing calculations for the downstream fish passage facilities to be installed for prior review and approval.

Dated at Waterbury, Vermont, this 21<sup>st</sup> day of July, 1988.

*for* Reginald A. Lohman Acting Comm  
Patrick A. Parenteau  
Commissioner  
Department of Environmental  
Conservation

PAP:AMD/eh