

WATER QUALITY CERTIFICATION AMENDMENT
(P.L. 92-500, Section 401)

In the matter of: Thomas J. Stuwe
R.D.#1
Barre, VT 05641

William Porter
P.O. Box 35
Adamant, VT 05640

Application to Amend the North
Montpelier Hydroelectric Project*
Water Quality Certification

The Water Quality Division of the Vermont Department of Water Resources and Environmental Engineering (the Department) has reviewed a request by letter dated April 2, 1984 from Mr. Thomas J. Stuwe and Mr. William Porter (the applicants), partners in the Kingsbury Hydroelectric Company, to modify their hydroelectric project, which was certified on June 3, 1983. The Department finds:

1. The project has been operating since March, 1984. The project was certified as a strict run-of-the-river operation with no flashboards and a 10 cfs minimum flow in the penstock-bypassed section of stream.

2. The April 2, 1984 proposal was clarified in an April 26, 1984 submittal to be as follows:

- "1. Install 12" flashboards and fluctuate level of pond behind them.
2. Maintain 10 CFS over dam at all times. (As stipulated in current 401 permit).
3. Maintain discharge of 27 CFS at powerhouse.
4. When numbers 2 and 3 cannot be met, turbines will be shut down and all water will be discharged at the dam. (40% of the time)."

*Also known as the Kingsbury Hydro Project

3. The two Flygt propeller turbines at the site each have an operating range of 27-55 cfs. The turbines have adjustable blades; however, the angle adjustment is manual and requires disassembly of the turbine, a process which takes several hours. This is the primary reason for the applicants' desire to install flashboards and utilize the storage available behind the boards. A second reason is the slight increase in available head.

4. There would be no change to the 10 cfs minimum flow required in the bypassed section of stream between the dam and the tailrace. The minimum flow would be provided through a gap in the flashboards. Because some head over the dam crest will be necessary in order to maintain the 10 cfs spillage, the pond level cycle will normally be less than 12 inches. This coupled with the additional dam capacity attributable to penstock withdrawal should result in an relatively stable pool.

5. Extensive wetlands exist at the upper end of North Montpelier Pond. The Department does not believe that this proposal will significantly impact on the value of the wetland to wildlife and fish; however, the applicants have expressed a willingness to remove the flashboards if problems do result.

6. Downstream flows would be altered. The permitted operation is run-of-the-river (no operation from storage). The proposal is, when operating out of storage, to set one unit at 27 cfs and operate it continuously, using the other unit to cycle the pond level. This would result in fluctuating flows downstream. The low flow when the pool is being cycled would be

37 cfs below the tailrace. When the instantaneous inflow to the pond is less than 37 cfs, the facility would be shut down and all inflows spilled at the dam.

7. Where specific instream flow studies have not been done, the Department normally uses the U.S. Fish and Wildlife Service Flow Recommendation Policy for the New England Area to set minimum flows necessary to protect fisheries habitat at sites where there will be regulation of flow. The policy uses the August median flow as the minimum base flow for non-spawning periods. This would be estimated at 0.5 cfs/square mile of watershed, or 26 cfs at this site. The 37 cfs minimum proposed provides adequate protection for the downstream fishery in the Kingsbury Branch. The Vermont Department of Fish and Wildlife does not feel that additional flows are necessary for spawning periods, at this time.

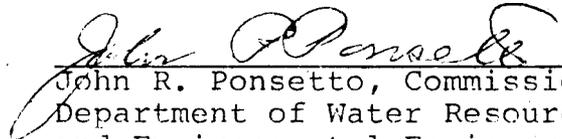
CONDITIONS

Based on its review and findings, the Department hereby amends the North Montpelier Hydroelectric Project Water Quality Certification by modifying Conditions A and C as follows:

A. A minimum instantaneous flow of 37 cfs, or instantaneous inflow to North Montpelier Pond, if less, shall be maintained at the project tailrace. The pool elevation of North Montpelier Pond may be cycled behind the flashboards as limited by the minimum flow constraints below the tailrace and below the dam. A continuous flow of 10 cfs or inflow to the impoundment, if less, shall be passed over the dam crest at all times, on an instantaneous basis. When the project is not operating, all inflows shall be passed at the dam. The proposed method to be used to pass minimum flows at the dam shall be submitted to the Department for review and approval along with the hydraulic sizing calculations.

C. The pond level shall be maintained at or above the present crest elevation. The Department may at any time order the permanent removal of the flashboards if it is found that they cause a degradation of upstream habitat conditions or adversely affect riparian use or flooding. The flashboards shall be designed to fail if overtopped by in excess of two (2.0) feet of water.

All other Water Quality Certification conditions remain in effect and unchanged.



John R. Ponsetto, Commissioner
Department of Water Resources
and Environmental Engineering

Dated at Montpelier, Vermont
this 18th day of June, 1984.

JRC/rh