

WATER QUALITY CERTIFICATION

(P.L. 92-500, Section 401)

In the matter of: Morrisville Water and Light Department
Morrisville, Vermont 05661
Application for hydroelectric
generation facilities at Morrisville
and Cadys Falls

The Water Quality Division of the Vermont Department of Water Resources and Environmental Engineering has examined the information submitted by the applicant and made the following findings:

1. Morrisville Water and Light Department (MWLD) owns and operates two existing hydroelectric generation facilities located on the Lamoille River in the Town of Morrystown. In requesting this certification MWLD has indicated that there will be no changes to either of the two physical plants.
2. The Morrisville plant, constructed in 1924, consists of a gravity type dam, with 72 acre feet of useful storage, an intake, penstocks, and two generating units of 600 kw and 1200 kw capacity. Output will vary between 100 kw and 1800 kw depending on water availability. During normal operation, the pond would be drawn slightly during the day and allowed to refill at reduced power output during the night.
3. The Cadys Falls project, originally constructed in 1894, consists of a gravity type dam, with 525 acre feet of useful storage, an intake, a penstock, a storage tank, and two generator units of 600 kw and 700 kw capacity. The headwater of this plant is the tail water of the Morrisville plant and the entire fall of the water in the Lamoille River in a three mile reach is utilized for power generation. The generation output varies between 100 kw and 1400 kw depending on water availability. As with the Morrisville plant, during normal operation, the pond is drawn slightly during the day and refilled at reduced power output during the night. This project includes a penstock

bypass of approximately 1800 feet of stream.

4. Operation of both facilities is such that the average daily discharge from the plants is equivalent to the average daily inflows. Both plants are operated on a 24 hour a day basis with a continuous discharge to provide water for downstream hydroelectric plants. The Morrisville plant incurs only a nominal pond level variation while the Cadys Falls plant operates with a maximum daily drawdown of approximately two feet.

5. The Department of Water Resources and Environmental Engineering as a result of field work associated with the Department's Fishery Flow Needs Methodology and subsequent analyses completed with the cooperation of the Vermont Department of Fish and Game has determined that the minimum acceptable aquatic base flows for the Cadys Falls and Morrisville projects are instantaneous flows of 150 cfs and 135 cfs respectively. The species studied were brown and rainbow trout in their various life stages along with food production capabilities of the river to sustain the fishery at different flow regimes. Flows lower than those stated were found to severely restrict macroinvertebrate food production, the propagation of fish, and the resident fishery in its different life stages. At Cadys Falls, a flow of 150 cfs has an exceedance probability of approximately 75 percent. By letter dated April 1, 1981, MWLD has stated through their consultant that MWLD would accept a minimum stream flow constraint in accordance with the Department of Water Resources and Environmental Engineering's flow study.

6. No new construction or other activities are proposed.

Certification is being requested as part of the FERC licensing process.

CONDITIONS

The Department of Water Resources and Environmental Engineering hereby certifies these projects as meeting Vermont Water Quality Standards with the following conditions imposed:

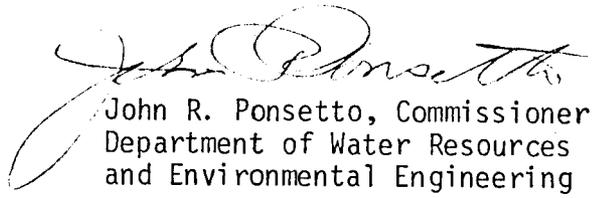
A. At the Cadys Falls project, an instantaneous stream flow of 150 cfs or greater shall be maintained at all times below the tailrace when available from inflow to the impoundment. When inflow rates fall below 150 cfs the instantaneous outflow rate shall be at least equal to the instantaneous inflow.

B. At the Morrisville plant, an instantaneous stream flow of 135 cfs or greater shall be maintained at all times below the tailrace when available from inflow to the impoundment. When inflow rates fall below 135 cfs the instantaneous outflow rate shall be at least equal to the instantaneous inflow.

C. MWLD shall measure stream flows directly below the projects during the release of minimum stream flows to demonstrate that the mechanisms for releasing minimum stream flows are correctly calibrated. This data and the procedure for releasing minimum stream flows shall be submitted to the Department of Water Resources and Environmental Engineering for review within 30 days following first operation of the project. If excessive stream flows make meeting this deadline impossible, the Department of Water Resources and Environmental Engineering shall be contacted.

D. Any significant changes to the physical plants or operations must be submitted to the Department of Water Resources and Environmental Engineering for review and approval. Such changes shall only be implemented after receipt of written approval from the Department of Water Resources and Environmental Engineering.

E. Trash rack debris shall be disposed of at a location which will preclude reentry into the Lamoille River.


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

Dated at Montpelier, Vermont this
17th day of May, 1981.

JRC/rh