6-3-83

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

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

William Porter
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Application for North Montpelier Hydro-electric Project

The Water Quality Division of the Vermont Department of Water Resources and Environmental Engineering (the Department) has examined the Water Quality Certification application filed by Mr. Thomas J. Stuwe and Mr. William Porter (the applicants) by letter dated December 6, 1982. The Department has made the following findings:

1. The applicants propose to develop the site of a former woolen mill on North Montpelier Pond in East Montpelier for the purpose of generating hydroelectric power. The pond is on the Kingsbury Branch about two miles upstream of the Winooski River confluence.

2. The dam is a stone-masonry structure with a concrete facing. It is about 72 feet long and 10 feet high. The dam will be capped with no change to the pool level. The intake structure will be repaired. Flashboards are not to be used.

3. The existing steel penstock, about 289 feet in length, is in poor condition. It will be replaced with a new 5 foot diameter steel penstock.

4. The powerhouse is existing and will be repaired.

5. The tailrace will be cleaned of brush and debris.

6. Approximately 32 feet of head is available between the pool and the tailrace. About 320 feet of stream will be bypassed. This section includes a second smaller dam just upstream of the Vermont Route 14 bridge.

7. The applicant proposes to operate the facility in a strict run-of-the-river manner with no manipulation of pool levels or alteration of stream flow. A flow of 10 cfs (7Q10) is to be passed at the dam in order to preclude dewatering of the bypassed section and to maintain water quality.

8. The impoundment upstream has a surface area of about 42 acres. The sports fishery in the pond consists of bass, pickerel and perch. The Vermont Department of Fish and Game recently introduced largemouth bass to the pond and is presently undergoing a management evaluation program. If the pool is not drawn below the crest, impacts on upstream recreational uses, wetlands, and the fishery in the pond should be minimal.

9. The Kingsbury Branch has been classified by the Vermont Water Resources Board as Class C waters, although reclassification to Class B has been recommended by the Department staff. Class C waters are waters suitable for recreational boating; irrigation of crops not used for consumption without cooking; habitat for wildlife and for common food and game fishes indigenous to the region; and such industrial uses as are consistent with other class uses. The stream is designated as Water Management Type I or II for the protection and management of aquatic life. The minimum dissolved oxygen standard is 6 mg/l, and 7 mg/l may be required at and near spawning areas. Loss of spillage at the dam and falls during generation will at times

reduce the dissolved oxygen concentration in the water. The Department expects that, with the passage of a minimum flow of 10 cfs or all inflows when either flows are less than 10 cfs or the project is not generating, the dissolved oxygen standard will be met. If it is found that the project causes or may cause a violation of the standard, the Department may order a change to the way the project operates during critical periods of low dissolved oxygen levels.

10. The watershed area at the site is about 51 square miles. No information has been supplied relative to the hydrology of the Kingsbury Branch, hydraulic operating range of the proposed facility and turbine/generator specifications. No engineering plans have been filed.

CONDITIONS

The Vermont Department of Water Resources and Environmental Engineering certifies that this project will meet Vermont Water Quality Standards with the following conditions:

A. The project shall be operated in a strict run-of-the-river manner, with instantaneous flows downstream of the tailrace maintained equivalent to the instantaneous inflow to the impoundment. 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.

B. Under no conditions shall the project totally interrupt stream flow in order to facilitate repairs or maintenance operations. If the impoundment is to be drawn down, prior approval is to be obtained from the Department.

C. The pond level shall be maintained at or above the present crest elevation. Capping of the dam shall not change the existing crest elevation. The pond level shall not be manipulated for operation out of storage. Flashboards shall not be installed.

D. Any desilting shall be done in accordance with the Agency of Environmental Conservation's Desilting Policy, a copy of which is attached.

E. A construction plan shall be filed with the Department. Said plan will include the construction schedule, project design layout, tailrace excavation details, work area coffer

damming and dewatering information, staging area location and a discussion of procedures to be used to prevent wet concrete and sediment from entering state waters. A description of the turbine(s) to be used, including the hydraulic operating range, shall be provided to the Department.

F. The applicant shall insure that every reasonable precaution is taken to prevent the discharge of petro chemicals and debris to state waters.

G. Any debris removed from the dam crest, trashracks and work area during construction and later operation shall be disposed of properly.

H. Any significant changes to the project, including the operational scheme, must be submitted to the Department of Water Resources and Environmental Engineering for review and approval prior to effecting the change. The approval of the Department shall be obtained under conditions A and E prior to starting construction.

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

Dated at Montpelier, Vermont this 3rd day of June, 1983.

JRC/rh