

WATER QUALITY CERTIFICATION

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

In the matter of: Mr. Arlon Warner
P.O. Box 27
Lowell, VT 05847
Application for Warner Hydroelectric
Project

The Water Quality Division of the Vermont Department of Water Resources and Environmental Engineering (the Department) has reviewed a petition dated August 31, 1983 and filed with the Vermont Public Service Board by Mr. Arlon Warner (the applicant) for a Certificate of Public Good pursuant to Section 248 of Title 30, Vermont Statutes Annotated. The Department accepted this petition as an application for a Water Quality Certificate since no formal application was submitted by the applicant. The Department has made the following findings:

1. The applicant has constructed a small hydroelectric facility on Potter Brook just above its confluence with the Burgess Branch of the Missisquoi River in the Town of Lowell. Electricity produced by this project will be used by the applicant for private use and excess energy will be sold to a local utility.

2. A small concrete dam extends across approximately 50% of the streambed. The dam is located at the outlet of the culvert under the Mine Road (State Aid Highway #3). The dam creates an impoundment with a water level approximately 3 feet above streambed elevation and a gross storage capacity of no

greater than 1000 gallons. A 1200 foot section of stream is bypassed by a penstock constructed of 12 inch PVC pipe. The generation system consists of a one-nozzle 19 inch Pelton Wheel with a hydraulic capacity of 5 to 6 cfs. The total installed capacity is 25-35 kw at an operating head of 140 feet. The powerhouse and tailrace are located just below the confluence of Potter Brook and the Burgess Branch.

3. The facility will be operated in a strict run-of-the-river mode with a minimum flow of 3 cfs bypassing the diversion structure at all times.

4. The drainage area for Potter Brook at the project site is approximately 6 square miles. Based on hydrologic data from USGS gaging stations located on Stony Brook near Eden (#04292100) and on the Brownington Branch near Evansville (#04296200), the mean annual flow at the project site is approximately 12 cfs.

5. Potter Brook is designated Class B by the State of Vermont Water Resources Board. Class B waters are suitable for swimming, recreation, irrigation, and agricultural uses, good fish habitat, good aesthetic value, and are acceptable for public water supply with filtration and disinfection.

Potter Brook is designated Water Management Type I or II for the protection and management of aquatic life. Dissolved oxygen content of these waters shall not be less than 6 mg/l, and 7 mg/l or greater may be required at and near spawning areas.

6. Potter Brook supports a brook trout fishery. The dam does not obstruct the upstream migration of fish. The bypassed section from the dam to the Burgess Branch primarily consists of a sequence of bedrock falls and pools.

8. No water quality data is available on Potter Brook. The Department believes that when available from inflow, a continuous minimum flow of 3 cfs (August median flow) in the dam and penstock bypassed section of stream should be sufficient to maintain water quality as well as instream fisheries. If inflow falls below this minimum, no flows should be withdrawn for use by the hydroelectric facility.

CONDITIONS

Based on its review, the Department certifies that the operation of the proposed facility will not violate Vermont Water Quality Standards provided the following conditions are met:

A. When available from inflow, a minimum instantaneous stream flow of 3 cfs shall be maintained in the dam and penstock bypassed section of stream at all times. If instantaneous inflow falls below this minimum, no flow may be withdrawn through the penstock.

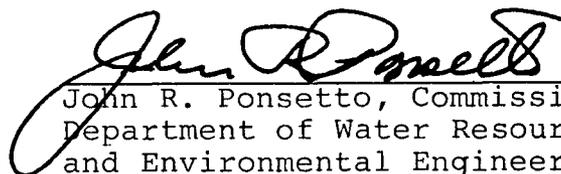
B. The facility shall be operated in a strict run-of-the-river mode where no water will be drawn out of storage at the dam. During non-generation periods, all flows shall bypass the diversion structure.

C. The applicant shall undertake proper and timely erosion control measures on sites associated with project construction to prevent the discharge of sediment into State waters. This will include grading, seeding and mulching of all disturbed earth.

D. Debris associated with project construction and operation shall be disposed of properly.

E. Any significant changes to the project must be submitted to the Department for prior review and written approval. This includes any changes made after the facility starts operation.

F. The applicant shall submit an as-built set of plans for the record.


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

Dated at Montpelier, Vermont
this 17 day of NOV, 1983.