

WATER QUALITY CERTIFICATION

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

In the matter of: L. Macrae Rood
Barnet Hydro Company
P.O. Box 142
Warren, VT 05674
Application for Barnet Hydroelectric Project

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

1. The applicant proposes to develop a hydroelectric generation plant on the Stevens River in the Village of Barnet. The project would involve the construction of a dam ranging in height from 1 to 4 feet and located just upstream of the first town bridge west of the U.S. Route 5 bridge. The dam would divert water into a 3 foot diameter, steel penstock approximately 500 feet long. The powerhouse would be located at the site of the former powerhouse on the right bank about 700 feet downstream of the intake.

2. The facility would have an installed capacity of about 370 kw. The available head at the site is 70 feet. The primary purpose of the dam is to divert water into the penstock.

3. The Stevens River at the site has a drainage area of approximately 48 square miles. No gaging records are available for the Stevens River. Based on USGS gages in that area, the average daily flow and 7Q10 value have been estimated at 80 CFS and 5 CFS, respectively. At the request of the Vermont Agency of Environmental Conservation, the applicant has agreed to maintain a minimum stream flow of 15 CFS over the falls at all times when available from inflow.

4. The bypass section of stream is not considered to be important in terms of fisheries habitat. A minimum stream flow of 15 CFS should be sufficient to maintain macroinvertebrate food production.

5. No water quality sampling or analyses have been presented; however, due to the small size of the impoundment, a minimum stream flow of 15 CFS and the physical characteristics of the stream channel downstream of the powerhouse, the project impacts on water quality will not be significant.

6. The hydraulic capacity of the powerhouse is 15 CFS to 90 CFS. It is estimated that a flow of 30 CFS, the minimum flow necessary to provide 15 CFS for generation and 15 CFS spillage over the falls, is available 60% of the time. Flows exceeding the maximum hydraulic capacity of the powerhouse with the minimum spillage of 15 CFS occur about 18% of the time.

The facility will be operated in a strictly run-of-the-river mode with instantaneous discharges below the project tailrace equalling instantaneous inflows into the impoundment at all times.

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. At all times when available from inflow, a minimum instantaneous flow of 15.0 CFS shall be maintained over the falls directly downstream of the proposed intake. When natural instantaneous inflows into the impoundment fall below 15.0 CFS, the plant shall not be operated and all flows shall be passed over the falls. The facility shall not be operated from storage. The applicant shall provide the Department of Water Resources and Environmental Engineering with a description and plans detailing how releases will be made at the dam for review and approval.

B. During the final engineering phase or earlier, the applicant shall file a comprehensive erosion and sediment control plan with the Department of Water Resources and Environmental Engineering for review and approval. The plan shall cover temporary and permanent measures to limit adverse impacts on water quality from turbidity and sedimentation with regard to construction activities. The plan shall also specify how flows will be managed during construction. It may be beneficial to consult with the Department for input during the development of the plan.

C. The intake shall be designed in such manner as to make desilting of the forebay possible without creating turbidity problems.

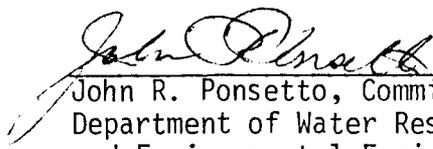
D. The applicant shall insure that every reasonable precaution is taken during construction to prevent the discharge of petro chemicals, wet concrete and debris to state waters.

E. Any debris removed from the project area during construction and later operation shall be disposed of properly.

F. 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.

G. No construction may commence until the Department of Water Resources and Environmental Engineering has issued written approval under conditions A, B, and F. Operational changes made after project completion are subject to Condition F and must be approved prior to effecting the change.


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

Dated at Montpelier, Vermont this
15th day of March, 1982.

JRC/rh