

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

In the matter of: Mr. & Mrs. Robert M. Woodside
Hyde Park, VT 05655
Application for the Woodside
Hydroelectric Project

The Water Quality Division of the Vermont Department of Water Resources and Environmental Engineering (the Department) has examined the Water Quality Certificate application filed by Mr. & Mrs. Robert M. Woodside (the applicants) by letter dated January 14, 1983. The application includes a draft copy of the Federal Energy Regulatory Commission license exemption request as supporting documentation for this certification. The Department makes the following findings:

1. The applicants propose to develop the site of an existing dam and powerhouse located on the Gihon River in the Town of Hyde Park. The dam is four miles upstream of the confluence of the Gihon River with the Lamoille River in Johnson. The facility was constructed by the Village of Hyde Park in 1895.

2. The dam, a reinforced concrete structure is 23 feet high and formed an impoundment with a surface area of 12 acres and an estimated gross storage volume of 4,500,000 cubic feet when five feet of flashboards were used. The existing 5' diameter penstock is 22 feet long. The available head with the present setup is 9'8".

3. The applicants do not intend to install flashboards at this time.

4. The proposed installed capacity is about 100 kw to 150 kw. The applicants have no specific proposal concerning the turbine to be installed. Operation will be strictly run-of-the- river.

5. The watershed area at the site is about 56 square miles. The U.S.G.S. operates a surface water gaging station (number 42920) on the Lamoille River at Johnson. The watershed area at the gage is 310 square miles, and the station has been in continuous operation since 1930. Using a direct drainage area proration, the following hydrologic values may be estimated for the dam site:

<u>Parameters</u>	<u>Value (cfs)</u>
Mean Flow	97
7Q10	12
95% Exceedance	20
50% Exceedance (median)	52
10% Exceedance	215

6. Except for a short Class C segment in Johnson Village, the Gihon River has been classified by the Vermont Water Resources Board as Class B waters. Class B waters are waters suitable for bathing and recreation; irrigation and agricultural uses; good fish habitat; good aesthetic value; acceptable for public water supply with filtration and disinfection. The stream is considered Water Management Type I or II and supports a good salmonid fishery. The predominant species of trout are rainbow trout upstream of the dam and brown trout downstream of the dam.

7. The facility will discharge at the base of the dam. This essentially eliminates the loss of any stream section due to a penstock/tailrace bypass.

8. It is not expected that the operation as proposed will significantly reduce dissolved oxygen levels or increase water temperatures. Care must be taken during desilting operations not to cause excessive turbidity. Also, some provision must be made for passage of reasonable minimum flows during those special periods where the pool must be refilled. Utilizing the U.S. Fish and Wildlife Service Flow Recommendation Policy for the New England Area, the Department is requiring passage of 28 cfs (0.5 cfs/square mile of watershed area) during such periods.

CONDITIONS

The Department certifies that this project will meet Vermont Water Quality Standards with the following conditions:

A. The hydroelectric facility shall be operated in a strict run-of-the-river manner, with instantaneous flows downstream of the tailrace maintained equivalent to instantaneous inflows to the impoundment. When the facility is not operating, all flows shall be spilled at the dam. During the special circumstances when the pool must be refilled after a drawdown necessitated by a maintenance procedure, the applicant must pass a continuous minimum flow of 28 cfs, or impoundment inflow, if less. In no case shall the facility interrupt downstream flow.

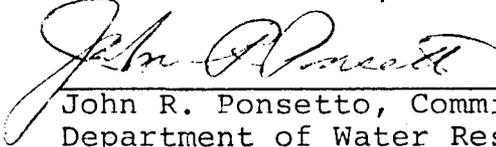
B. The applicant shall insure that every reasonable precaution is taken during construction to prevent the discharge of petro chemicals, wet concrete and debris to state waters.

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

D. Any significant changes to the project including the operation scheme must be submitted to the Department for approval prior to effecting the change.

E. Upon completion of the project, the applicant shall provide the Department with an as-built set of plans for the record.

F. Any desilting shall be done in accordance with the Agency of Environmental Conservation Desilting Policy, a copy of which is enclosed.


John R. Ponsetto, Commissioner
Department of Water Resources
and Environmental Engineering
Dated at Montpelier, Vermont
this 28th day of March
1983.

JRC/rh