bcc: David Mudd

State of Washington
DEPARTMENT OF FISH AND WILDLIFE

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Main Office Location: Natural Resources Building • 1111 Washington Street SE • Olympia, WA

February 4, 1997

Ms. Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street Northeast
Washington, D.C. 20426

SUBJECT: ROCKY BROOK HYDROELECTRIC PROJECT, FERC NO. 3783

Dear Ms. Cashell:

I am writing to express concerns of the Washington Department of Fish and Wildlife (WDFW) regarding instream flow maintenance for the above-referenced project. The FERC Exemption for this project requires a minimum flow of 5 cubic feet per second (cfs) in the bypass reach while the project is in operation. On December 19, 1996, Hal Beecher (the instream flow biologist for WDFW) and I visited the Rocky Brook Project and found the bypass flow was very low (approximately 1.5 cfs), with the project in operation. No staff gauge was present in the bypass reach, a violation of project requirements. In addition, the continuous flow recording gauge was out of commission, again violating the terms and conditions of the project's FERC Exemption. Hal and I walked up to the intake and found a 2" x 10" x 2' board blocking the minimum flow orifice. I removed the board and restored the full flow through the minimum flow pipe; the resulting flow was significantly greater than the amount of water that had been able to leak past the board.

By the time we walked back down to the powerhouse, the project operator (Mr. Grant Rember) was there. We described the problem to him; he stated that he had noticed the water had been low recently, but hadn't been to the intake for a couple of weeks. We reiterated the importance of maintaining the required minimum flow and discussed installing an automated flow-measuring device to automatically adjust the turbines so minimum flows would always be provided. Mr. Rember suggested he work out a system whereby he install a staff gauge, take readings daily, and submit monthly reports. He assured us that in the future minimum flows would be met. He also agreed to complete repairs on the continuous recording gauge and reinstall it. He said he would take these measures in the immediate future and would explore options for automated flow measuring for the longer term.

A few weeks later Mr. Rember left me a phone message stating he had installed and calibrated a staff gauge upstream from the tailrace. He said he was watching streamflow daily and would send WDFW a letter and pictures of the gauge after the photographs were developed. To date, we have not received this information.

On January 15, 1997, Fred Seavey of the U.S. Fish and Wildlife Service and I stopped in at the project to check on the bypass flows. Once again, the bypass flow was very low, approximately the same as the low flow (about 1.5 cfs) Hal and I had observed in December. The project was in operation. The gate to the intake access road was open, so apparently someone was at the intake. We did not have time to make the trip to the intake to investigate why minimum flows were not being met; however, it was apparent that again a violation of project requirements was occurring. Weather during these events was similar: dry, with relatively low flow in the creek. Apparently only the smallest turbine, which uses 6.6 cfs, was in operation.

These are not the first occurrences of minimum flow violations. In May of 1988, a Washington Deparment of Fisheries (WDF) employee found a log in the minimum flow bypass pipe, cutting off most of the flow into the bypass reach and providing far less than the 5 cfs required.

For this Exemption, WDF and the Washington Department of Wildlife (WDW), the agencies which have since been merged into the WDFW, provided terms and conditions which included:

> "WDF understands that a FERC exemption for hydroelectric projects is granted in perpetuity and that WDF prescribed terms and conditions that regulate the project are also perpetual. Conditions affecting the salmon resource and/or the hydroelectric project may change over time. WDF reserves the right to alter the terms and conditions as appropriate, to uphold the responsibilities of the agency during the life of the project."
>
> "The Department of Game (WDG) understands that a FERC exemption for hydroelectric project is granted in perpetuity and that WDG-prescribed terms and conditions that regulate the project are also perpetual. Conditions affecting game fish and wildlife and/or the hydroelectirc project may change over time. WDG reserves the right to alter the terms and conditions, as appropriate to uphold the responsibilities of the agency during the life of the project."

Further, WDF required that:

> "The minimum instream flow in the bypass reach will be 5.0 cfs or natural streamflow, whichever is less. A flow measuring device, designed to provide instantaneous flow data, will be installed upstream of the tailrace."

While it may be contended that the staff gauge provides intantaneous flow data, it is apparent the present system being utilized at the Rocky Brook Project is not adequate to maintain the required minimum flows. Because of this, WDFW recommends the project owners be required to install an automatic flow maintenance system by which the instream flow in the bypass reach is measured continuously and the turbines automatically adjusted to maintain a minimum flow of 5 cfs, as required in the FERC Exemption. This is not an unusual or overly costly requirement; most proposed small hydroelectric projects are being designed with automated flow monitoring and control of turbine operation.

Another WDF and WDW term and condition for this project is as follows:

> "The applicant may be required to periodically provide to WDF a written record of streamflow, power generation, diversion screen maintenance, dissolved gas monitoring and other pertinent data relative to protecting the fisheries resource."

These records have not been provided regularly in the past. We would like to initiate a formal reporting process to aid us in tracking fish protection at the project.

We appreciate your attention to this matter. Please feel free to call me at (360)902-2541 if you have any questions.

Sincerely,

Brett DeMond
Hydroelectric Project Coordinator

cc: J. Mark Robinson, Director
Division of Licensing and Compliance, FERC, D.C.
Carl Swanson, FERC, Portland
Fred Seavey, USFWS
Bob Heinith, PNPTC
Jeff Marti, DOE
Dell Keehn, Weatherly Private Capital

JOHN SPELLMAN
Governor

FRANK LOCKA
Director

STATE OF WASHINGTON
DEPARTMENT OF GAME
600 North Capitol Way, GJ-11 • Olympia, Washington 98504 • (206) 753-5700

June 25, 1982

Mr. Kenneth F. Plumb, Secretary
Federal Energy Regulatory Commission
825 N. Capitol Street
Washington, D. C.

TERMS AND CONDITIONS

RE: Rocky Brook Creek Hydroelectric Project, FERC exemption number 3783-002 in Jefferson County, Washington

Dear Mr. Plumb:

This letter lists conditions developed by Washington State Department of Game necessary to protect fish and wildlife from the proposed Rocky Brook Creek Project 2783-002. These conditions were developed through coordination with Washington Department of Fisheries, National Marine Fisheries Service, and U. S. Fish and Wildlife Service.

The proposed project would consist of:

1. An 8' high diversion structure at approximately RM 0.5 with a 5 foot high crest.

2. A 36" pipeline 1,730 feet long.

3. A powerhouse located at approximately RM 0.35 discharging into Rocky Brook Creek 165' downstream from an impassable falls at a point agreed to on January 14, 1982. The project will develop up to 1.5 MW.

The following terms and conditions are necessary to protect game fish and wildlife during project construction and operation.

1. The Department of Game (WDG) understands that a FERC exemption for hydroelectric project is granted in perpetuity and that WDG-prescribed terms and conditions that regulate the project are also perpetual. Conditions affecting game fish and wildlife and/or the hydroelectric project may change over time. WDG reserves the right to alter the terms and conditions, as appropriate to uphold the responsibilities of the agency during the life of the project.

2. Screens will be required at the water intake to prevent fish from entering the pipeline and going through the turbine. Screen openings shall not exceed 1/4 inch in the narrowest direction. Water approach velocity shall not exceed 0.5 feet per second.

3. The diversion structure will be designed to be continuously self-flushing, allowing materials which accumulate behind the dam to move downstream during natural streamflow events.

4. The intake and pipeline will be designed to prevent atmospheric gases from entering the water supply. As an added precautionary measure, some means to allow dissolved atmospheric gases to reach equilibrium before reaching the creek downstream of the powerhouse will be provided.

5. The powerhouse will be equipped with an automatic turbine bypass system which prevents water level fluctuations downstream of the powerhouse during unanticipated load rejections or scheduled shut-downs. In addition, a ramping rate (flow reduction rate) acceptable to WDG will be established through on-site investigations after the project is completed but prior to coming on line.

6. A rack with 1 inch or less bar spacing will be installed at the confluence of Rocky Brook Creek and the powerhouse tailrace.

7. An automatic intake shutoff valve will be installed at the point of diversion to prevent extensive erosion in the event of pipe-line failure.

8. The applicant must comply with the provisions, timing restrictions and construction techniques set forth in the Hydraulic Project Approval, issued by the Departments of Fisheries and Game.

9. A minimum instream flow, measured in the bypass reach, will be 5 cfs or natural streamflow, whichever is less.

   A flow measuring device designed to provide instantaneous flow readings will be installed at or immediately downstream from the diversion structure.

10. Discharge velocity dissipation structures must be installed in conjunction with the flow continuation valve (if not an integral feature of the valve). This provision will lessen the possibility of erosion or destruction of aquatic life and habitat by reducing tailrace velocity during load rejection or turbine maintenance.

11. Erosion potential must be assessed by comprehensive geological site surveys, including evaluation of powerline road, pipeline, intake, powerhouse and appurtenant facility locations for erosion control. An erosion control plan containing the following elements must be presented to WDG for review and approval:

    a. plans for minimizing erosion during project construction,

    b. plans for maintenance of project ot minimize erosion during operation,

    c. contingency erosion control plans for emergencies, such as slides, pipeline blowouts, etc.

    d. plans for erosion control in case of project abandonment.

12. Authorized personnel from WDG will have the right to inspect, at any time, the project facilities and operations to ensure the project-related activities are not adversely affecting game fish and wildlife.

13. The applicant may be required to periodically provide to WDG a written record of streamflow, power generation, diversion screen maintenance, dissolved gas levels and other pertinent data.

Sincerely,

THE DEPARTMENT OF GAME

Hal A. Beecher

Hal A. Beecher
Applied Wildlife Ecology
Habitat Management Division

HAB:mjf

cc: Agencies
Gary Engman
Dave Gufler
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