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ENGINEERING

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OCT 13 1989

Mr. Gary Spackman, Manager  
Water Rights Permits Section  
Idaho Department of Water Resources  
1301 North Orchard Street  
Boise, Idaho 83720

Department of Water Resources

Subject: Field Examination for Permit No. 47-7679  
and Permit No 47-7682

Dear Gary:

I received your letter regarding the deficiencies in the Field Examination for permit no 47-7679 and am responding to them as follows:

At the time Mr. Kasel retained me to conduct the field exams, I was aware of both permits 47-7679 and 47-7682 for two power plants on two separate streams emanating from springs in the SW1/4 SW1/4 Sec 35 T9S R17E. The intent at the time of filing was to construct two plants, in fact the point of diversion for permit 47-7682 was not owned by Mr. Kasel at the time. The decision was apparently made and negotiations made to cut the stream contemplated under permit no 47-7682 into the stream for permit no 47-7679 and not construct the additional powerhouse. During our initial discussions, both Mr. Kasel and Mr. Witherspoon, a partner in the hydropower development, talked of cutting the 'other smaller stream' in to the power plant stream. I apparently misunderstood and assumed that the 'other stream' was a small stream to the east of the power plant stream and not the stream flowing into the pond in the NW1/4 NW1/4 Sec 2 which was contemplated in permit no 47-7682. For this reason, I assumed that permit 47-7682 was not going to be utilized and did not perform a field exam on that permit. This was an oversight on my part since the other stream had been incorporated in the water supply for permit 47-7679 and the field exam should have covered both permits and been included in the overlap analysis.

The field examination covering permit 47-7679 recommended licensing for a flow rate of 30 cfs since that was the amount applied for under that permit. The measured flow rate of 46 cfs by the USGS was considerably in excess of the 30 cfs applied for under the one permit. The USGS gaging station is just upstream of the power plant diversion structure with no other diversions in the reach. I specifically asked the USGS to make the measurement the morning of September 4, 1987 to coincide with my examination of the diversion structure and facilities. I chose this procedure because the USGS was due for a monthly current meter measurement at this site and their measurement should have adequate credibility. At the time of the measurement, there was some leakage through the boards of the check structure, which I estimated at less than .5 cfs, leaving at least 45.5 cfs of the USGS measured 46.0 cfs in the penstock. An inspection of the turbines and generators showed that all the penstock flow was going through the turbines.

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The examination was performed on September 4, 1987 at the same time the USGS discharge measurement was performed. This was stated in the cover letter to Loren Holmes of the Souther District office; however it was not included on the examination form. I was accompanied during the exam by Mr. Kasel.

The overlap review was conducted but because of the misunderstanding on permit no 47-7682, it was not included. The system consists of the concrete diversion structure, a 1000 ft. long 34 inch diameter penstock dropping 375 feet to the upper powerhouse with 4, 12 cfs turbines, a 165 ft long 34 inch diameter penstock dropping 105 feet to the second or lower powerhouse, and a spill pipe to the Snake River. There is also a bypass from the first powerhouse to the Snake River. I agree that the sketch submitted, although it contains the necessary system information, is not a quality drawing and it has been redrawn as a schematic to show the relative locations of all facilities. Also, nameplate information on the turbine-generator sets was not included as part of the exam but has been secured..

The water returns to the Snake river at the same point that the Perrine waste has historically returned in the SW1/4 SW1/4 of Sec 35. It is a small delta formed by the canal waste sediments. Two 15 inch diameter pipes, 40 feet long convey the lower power plant effluent a small stream and ultimately to the river.

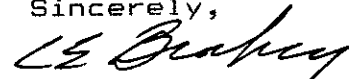
I was unaware that the annual volume used be recommended for a hydropower facility since it is a non-consumptive use. However, based on the historical flow data, the average annual flow available as determined from all or part of five years of data by the USGS is approximately 22,090 acre feet. Under permit 46-7679, the maximum permitted amount is 30 cfs which would limit the annual flow to 17570 acre feet under the single permit(see attached table). For the combined flow applied for under permits 47-7679 and 47-7682 or 44 cfs, the available annual volume is\_\_\_\_\_. The recommended annual volume is therefore 17,570 acre feet for permit 47-7679.

I believe the USGS measured flow 100 feet upstream from the power plant diversion adequately describes the flow available to the power plant and I stated in the cover letter for the exam that, with the exception of an estimated .5 cfs going over and through the check boards of the diversion structure, the entire flow was entering the penstock and being utilized by the powerplants.

In order to address the deficiencies in the examination for permit 47-7679 , I am submitting, along with this letter, the updated field exam including a system schematic drawing and information on the turbine generator systems. Also included is a field exam for permit 47-7682 recognizing that the 14 cfs applied for was being beneficially used on September 4, 1987.

Please let me know if additional information is required.

Sincerely,



C.E. Brockway/P.E