

MEMORANDUM

Date: February 20, 2008
To: Water Right File 47-7768
From: medl
Re: license review

While reviewing this file for licensing, I found the following worth noting:

This property and the permit may have changed ownership since the field exam was done. The permit holder, Crystal Springs Hydroelectric LP, is no longer a viable business entity in Idaho. According to Twin Falls county tax information, the current owner of the diversion dam property and the current owner of the power house property are not the same and neither property is owned by Crystal Springs Hydroelectric.

Neither the POD nor the POU shapes had been created prior to my review. I created them based on 2004 NAIP aerial photography and the beneficial use field exam. The permit application located the POU in a QQ that differed from where the field examiner and I found them. The powerhouse, (the POU) is located in NWNE Twp 09S, Rge 15E, sec 14. An amendment will be needed.

Cedar Draw Creek hydro has a 35-year, firm energy, co-gen contract with Idaho Power Company beginning May 10, 1984. During calendar year 1986, the plant generated electricity every month and therefore beneficially used available water from Cedar Draw Creek the entire year.

This hydroelectric plant was licensed by FERC as Cedar Draw Creek, FERC project #8278 on May 24, 1985. The facilities licensed in 1985 included a powerhouse and three generating units with: 28 cfs, 35 cfs and 47 cfs capacities. Based on the turbine curves, the plant was not designed to operate below 23.8 cfs.

According to FERC licensing documentation, the diversion dam at the confluence of the east and west arms of Cedar Draw Creek, was sized to pass 7-110 cfs through the penstock to the powerhouse. However, to satisfy IDF&G requirements, FERCs Cedar Draw license stipulates that the minimum flow in Cedar Draw Creek will be 25 cfs and that the turbines will be bypassed if flow in the channel is less than or equal that minimum. Therefore the power plant operation range is 25-110 cfs and flows outside of that operation range remain in the Cedar Draw Creek channel.

The permit holder retained J.U.B. Engineers Inc, to conduct the field exam for 47-7768 and 47-7991. On February 3, 1987, J.U.B. notified the Department that the examination had been conducted by one of their certified examiners on October 7, 1986.

In his 10/7/1986 field exam, the examiner notes that a 4th unit is in place. He also notes that it is not online and is awaiting FERC approval of the powerhouse expansion to four units and 150 cfs. However, he recommends a total beneficial use that includes the 4th unit s capacity, as if it were in use.

FERC approval of an amendment to expand the plant capacity occurred Feb 27, 1987. A subsequent field exam has not been done to verify beneficial use of an additional 40 cfs through the 4th unit. The only field exam made for the plant, to date, was the 10/7/1986 exam. Because only one completed Proof of Beneficial Use form was completed for both 47-7768 and 47-7991, the permit holder may believe that the one field exam embraced the whole plant, including the 4th unit. However, at the time of the exam, the 4th unit was inactive so the examiner did not find

beneficial use of the additional 40 cfs permitted in 47-7991. The Department will need to void permit 47-7991.

The field exam indicated that the system capacity was greater than 110 cfs permitted and recommended a beneficial use rate of 150 cfs. However, the permit rate is the controlling factor for this water right license.

Because the 4th unit was approved and put online shortly after the field exam, I believe that the permit holder is using more water than has been authorized and will need to complete an additional application for the additional flow rate and volume.

Proof of beneficial use for 47-7768 and 47-7991 was received on Feb 4, 1987, which was after the field exam was completed. Therefore, 1986 was the nearest full calendar year and water and generation data from that year was used in the analysis for beneficial use.

USGS streamgaging station #13093550, Cedar Draw near Filer, Idaho, was sited on one of two arms of Cedar Draw Creek upstream of the diversion dam between April 22, 1985 and October 7, 1991. I believe that the other arm was and still is ungauged.

I used approved USGS daily average flow data from station 13093550 to establish the volume of water beneficially used in 1986. The plant was permitted to use flows between 25-110 cfs. Daily average flows at station 13093550 did not fall below 29 cfs in 1986. Assuming that the ungauged arm of Cedar Draw Creek contributed some flow the entire year and that that unknown flow would contribute the needed minimum flow, then the power plant could have been operational the entire year.

In 1986, daily average flows in Cedar Draw Creek were above the 110 cfs plant capacity for several months. I considered any flow above 110 cfs as spill and not contributing additional volume. For my volume calculation, I summed the daily average flow for USGS station 13093550 converted that to acre-feet and rounded to three significant figures. Please refer to the attached USGS web graph and data table for the original data set used. Refer to the attached Excel spreadsheet and graph for my data set. The volume calculation becomes:

sum of day average flows greater than 25 cfs and less than or equal to 110 cfs for calendar year 1986 = 30799 cfs,

multiplied by 1.9835 to convert to acre-feet = 61089.82 AF

and finally rounded to three significant figures = 61100 AFA.