

MEMORANDUM

TO: File 57-7385

FROM: Daniel Nelson – Staff Hydologist

DATE: February 20, 2013

SUBJECT: Reservoir Fill vs. Murphy Gage Review

I was asked to take a second look at the filling of the reservoir for this permit and compare that filling with the USGS stream gage near Murphy. The water right has a condition that limits diversion to the reservoir if the stream gage at Murphy falls below 8,400 cfs, unless Idaho Power does not need these flows for power generation.

During my filed examination, I viewed the 1992 aerial photography available in our GIS system, and I found the reservoir was filled in 1992. During this review, I discovered that the 1992 aerial photography was actually 1998 aerial photography, and could not be used to establish beneficial use during the development period. No water was diverted to the reservoir in 1992.

I reviewed the Dam Safety files for this reservoir, and found that the reservoir had a test fill in 1993. This test fill was authorized by the Department for a maximum of 50 acre feet of storage. 50 acre feet of storage would fill the reservoir to a depth of 1.5 feet, and an elevation of 2924 above mean sea level. This test fill occurred sometime during the months of March or April. The historical records of the stream flows at the Murphy gage show that flows in the Snake River were below the 8,400 cfs during these months. However, the Department did give specific permission to divert the 50 cfs for test purposes.

In 1996, the Dam Safety files show that the reservoir was filled to a capacity of 10 ft of water and an elevation of 2940 foot elevation above mean sea level. This fill happened during the last half of April and the first few weeks of May. Dam safety staff visited the site on May 11, and the reservoir was filled to capacity. USGS records show that Snake River was flowing at 22,200 cfs on March 11, 1996 and 13,400 cfs on May 8, 1996. Therefore, the reservoir was filled and beneficial use had been established prior to the date proof of beneficial use was filed on December 31, 1996.

Meas. Number	Date Time	Time Datum	Measurement Used?	Who	Measuring Agency	Stream flow (ft ³ /s)	Gage Height (ft)	Rating No.	Shift Adj. (ft)	% Diff.	GH Change (ft)	Meas. Duration (hr)	Meas. Rated	Control	Flow Adjust. Code
623	1993-12-02	MST	Yes	JLS	USGS	9840	4.33	8.1		1.70	-0.11	2.83	GOOD	CLER	UNSP
622	1993-11-23	MST	Yes	JLS	USGS	8380	4.01	8.1		-4.40	0.12	2.30	POOR	CLER	UNSP
621	1993-10-07	MDT	Yes	HRC	USGS	7430	3.49	8.1		1.40	0.12	1.70	FAIR	CLER	UNSP
620	1993-08-24	MDT	Yes	HRC	USGS	6650	3.23	8.1		0.800	0.08	1.80	FAIR	CLER	UNSP
619	1993-07-06	MDT	Yes	HRC	USGS	6230	3.10	8.1		-0.200	0.00	1.70	GOOD	CLER	UNSP
618	1993-06-14	MDT	Yes	DLG	USGS	21900	8.56	8.1		0.00	0.01	1.60	GOOD	CLER	UNSP
617	1993-05-19	MDT	Yes	HRC	USGS	8200	3.88	8.1		1.40	-0.04	1.50	GOOD	CLER	UNSP
616	1993-04-23	MDT	Yes	HRC	USGS	6750	3.43	8.1		-1.20	-0.01	1.20	GOOD	CLER	UNSP
615	1993-03-08	MST	Yes	HRC	USGS	6790	3.46	8.1		-1.70	0.00	1.20	GOOD	CLER	UNSP
614	1993-03-08	MST	Yes	HRC	USGS	6810	3.52	8.1		-3.80	-0.09	1.40	GOOD	CLER	UNSP
613	1993-01-25	MST	Yes	HRC	USGS	7390	3.58	8.1		1.90	0.09	1.80	GOOD	CLER	UNSP
647	1996-11-18	MST	Yes	JLS	USGS	11000	4.93	8.2		-2.70	0.00	1.50	GOOD	CLER	UNSP
646	1996-10-01	MDT	Yes	DLG	USGS	7940	3.77	8.2		-0.100	-0.01	1.50	GOOD	CLER	UNSP
645	1996-08-26	MDT	Yes	DLG	USGS	8280	3.90	8.1		-0.500	-0.01	1.30	GOOD	CLER	UNSP
644	1996-07-09	MDT	Yes	DLG	USGS	7800	3.64	8.1		2.70	-0.02	1.40	GOOD	CLER	UNSP
643	1996-05-08	MDT	Yes	DLG	USGS	13400	5.61	8.1		1.50	0.00	1.20	GOOD	CLER	UNSP
642	1996-03-11	MST	Yes	DLG	USGS	22200	8.49	8.1		2.30	0.01	1.50	GOOD	CLER	UNSP
641	1996-01-16	MST	Yes	DLG	USGS	11500	5.05	8.1		-0.900	0.01	1.50	GOOD	CLER	UNSP