PCWA-L-217

Placer County Water Agency

Power System: 24625 Harrison St. • Mail: P.O. Box 667 • Foresthill, California 95631
(530) 367-2291 (530) 885-6917 FAX (530) 367-4440

August 2, 2005

Mr. Takeshi Yamashita, Regional Engineer
FEDERAL ENERGY REGULATORY COMMISSION
901 Market Street, Suite 350
San Francisco, CA 94103

Re: FERC Project No. 2079-CA

Dear Mr. Yamashita:

Enclosed is a statement, bearing a certification in the format of Section 12.13 of the Commission's Regulations, concerning Project stream maintenance minimum flows, as required in connection with the annual operation inspection that Mr. John Onderdonk and I made on July 25-26, 2005. If you have any questions or concerns, please contact me at 530-885-6917.

Sincerely,

PLACER COUNTY WATER AGENCY

Stephen J. Jones
Power System Manager

Enclosure

cc: David Breninger
Philip Scordelis
Ed Tiedemann
May Toy

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California
County of Placer } ss.

On August 1, 2005 (Date) before me, Cheryl Lynn Sprunck Notary Public. (Name and Title of Officer (e.g., "Jane Doe, Notary Public"))

personally appeared Stephen J. Jones (Name(s) of Signer(s))

☒ personally known to me
☐ proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Cheryl Lynn Sprunck
(Signature of Notary Public)

CHERYL LYNN SPRUNCK
Commission # 1376702
Notary Public - California
Placer County
My Comm. Expires Oct 23, 2006

OPTIONAL

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PLACER COUNTY WATER AGENCY

POWER SYSTEM

MEMO

August 1, 2005

TO: Files

FROM: Stephen J. Jones, Power System Manager

SUBJECT: Project 2079-CA
R2 anomaly, October 17 and 19, 2004

The record of license-required minimum flow releases since the beginning of the current water year were reviewed with John Onderdonk on the morning of July 26, 2005, before we left to complete the inspection of the dams and powerhouses. In the course of this review, I tried to explain why the record of computed daily average flows for the gaging stations upstream and downstream of Duncan Diversion Dam, which appear to show violations on October 17 and 19, 2004, were not violations. After eleven days in which the daily average flows recorded above and below the dam were less than one cfs, on October 17, 2004 the daily average flow above the dam was 8.2 cfs and the daily average flow below the dam was 4.2 cfs.

On the following day, October 18, 2004, the daily average flow above the dam was 6.0 cfs and the daily average flow below the dam was 6.4 cfs. The next day, October 19, 2004, the daily average flow above the dam was 8.2 cfs and the daily average flow below the dam was 6.4 cfs. Article 37 of the license requires that 8 cfs, or the natural inflow, whichever is less, be released during a normal water year, or 4 cfs, or the natural inflow, whichever is less, be released during a dry year. Normal water year release requirements have been in effect since June 1, 1995. The gaging station above the dam is located 1,050 feet upstream from the dam, and the gaging station below the dam is located 1,000 feet downstream from the dam. The gaging station above the dam is called, "Duncan Creek Near French Meadows, CA", USGS #11427700, and/or "R1", and the gaging station below the dam is called, "Duncan Creek Below Diversion Dam, Near French Meadows, CA, USGS #11427750, and/or "R2". There is a small reservoir at the dam. The drainage area above the dam is 9.94 square miles, the elevation of the gaging station above the dam is 5,270 feet above sea level, and the elevation of the gaging station below the dam is 5,210 feet above sea level. The gaging station above the dam is located in a valley-like area, while the gaging station below the dam is located at the bottom of a canyon. The historic maximum recorded flow at the gaging station above the dam since the gaging station was installed in August, 1960, is 3,650 cfs which occurred during a flood on December 22, 1964. There have been many other high flow events since that time.

At first glance it would appear that violations of the required minimum flows occurred on October 17 and 19 since on both days the computed average flows recorded upstream of the dam

were slightly over 8 cfs but the computed average flows recorded below the dam were only 4.2 and 6.4 cfs, respectively. However, what actually happened is shown on the enclosed table comparing the flows upstream and downstream of the dam for both dams from 6:00 a.m. to midnight at two hours intervals. As can be seen from the table, on October 17, 2004, the flow below the dam was actually above 10 cfs from 8 p.m. to midnight, and on October 19, 2004, the flow below the dam was above 11 cfs from 6 p.m. to midnight. What is happening can be seen even more clearly on the enclosed plots of both days. Obviously, rainstorms came up during the day over the watershed area above the dam. It also appears from the plots that diversion of some of the inflow in the Duncan Diversion Dam reservoir begins to occur around the time that flows at the downstream gage are somewhere above 8 cfs. The dam was designed to not begin diverting some of the inflow to French Meadows Reservoir until the stream maintenance release was above 8 cfs. The flattening of the release recorded at the downstream gage between a value of 10.5 to nearly 12 cfs would seem to indicate that this is occurring. The flattening also has the effect of reducing the computed daily average flow for the gage downstream of the dam. When the inflows spike to relatively high values late in the day – over 33 cfs on October 17 and over 19 cfs on October 19 – these relatively high values have a large effect on raising the computed average flow for the day.

The events that occurred on October 17 and 19, 2004 appear to be the same as the event that occurred on October 28, 2000 at the same dam, which was reported to "The Secretary" by letter dated April 2, 2001. In that letter, we provided the following information concerning the response of the gaging stations to the first significant rain during the Fall: "The flows in the creek before the rain starts are very small. Most of the creek bed is dry. As flows build in the creek, the creek channel slowly fills. The reservoir shoreline is also dry. Even if the dam was not present between the two gaging stations, the flow at the lower gaging station would lag the flow at the upper gaging station. Precipitation patterns can be concentrated over small areas. Most of the precipitation may have been over an area upstream of the upper gaging station."

In the response to that letter by letter dated June 13, 2001 from George H. Taylor, Group Leader, Division of Hydropower Administration and Compliance, it was concluded in the final paragraph of the letter, "After review of the available information, we have determined that the event on October 28, 2000, at the Duncan Creek diversion dam is not a violation of your license. From your records, it appears that a storm event caused the variation in gage readings and the incident was not the result of project operation."

PLACER COUNTY WATER AGENCY
FERC PROJECT NO. 2079

Analysis of Flow Anomaly at Duncan Diversion Dam
October 17 and 19, 2004

	October 17, 2004				October 19, 2004			
TIME	Gaging Station Above DD Dam		Gaging Station Below DD Dam		Gaging Station Above DD Dam		Gaging Station Below DD Dam	
	Stage(ft)	Flow(cfs)	Stage(ft)	Flow(cfs)	Stage(ft)	Flow(cfs)	Stage(ft)	Flow(cfs)
0600	5.36	0.85	0.98	0.69	5.49	2.12	1.13	1.86
0800	5.37	0.94	1.00	0.81	5.51	2.35	1.14	1.96
1000	5.39	1.10	1.01	0.88	5.60	3.46	1.18	2.40
1200	5.44	1.60	1.03	1.02	5.67	4.41	1.28	3.79
1400	5.48	2.01	1.08	1.40	5.75	5.59	1.34	4.83
1600	5.63	3.87	1.18	2.40	5.92	8.45	1.42	6.48
1800	6.00	9.95	1.40	6.04	6.22	15.90	1.59	11.10
2000	6.27	19.40	1.57	10.50	6.27	19.40	1.61	11.80
2200	6.43	33.40	1.59	11.10	6.24	17.40	1.60	11.40
2400	6.36	26.30	1.58	10.80	6.23	16.60	1.60	11.40
Average		9.94		4.56		9.57		6.70

Note: DD Dam is Duncan Diversion Dam