State of California - The Resources Agency ARNOLD SCHWARZENEGGER, Governor
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005

ORIGINAL

July 20, 2007

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Subject: Proposed 2007-2008 Instream Flow Schedule, FERC License Article 37
Don Pedro Hydroelectric Project (FERC No. 2299-057), Tuolumne and
Modesto Irrigation Districts, Tuolumne River

Dear Secretary Bose:

The California Department of Fish and Game (Department) has reviewed the Tuolumne and Modesto Irrigation District's (Districts) proposed 2007-2008 instream flow schedule as described in the District's letter dated May 31, 2007. The Department provides the following comments.

The Department received three letters from the Districts in 2007 regarding the Tuolumne River flow allocation for 2007-2008; the letters were dated January 11, April 18, and May 31. The January 11th letter informed the Department that the Districts were updating the time period used to calculate the San Joaquin River Hydrologic Classification. The result of this update is that while the frequencies for each individual water year type remained the same the "break point" values for each water year type designation changed slightly. The April 18th letter informed the Department that the April 10th, 2007 50%, and 90%, exceedence run-off forecasts resulted in a water year index of 2,043,183 and 1,773,183 acre-feet respectively. Per the FERC Article 37 flow schedule, indexes of 1,827,183 and 2,043,183, make 2007 essentially an "Intermeditate Critical Dry Year" with a corresponding spring pulse flow of approximately 32,619 acre-feet. However, for some unknown reason the Districts pulse flow schedule showed approximately 20,000 acre-feet. The Department did not note this discrepancy until after the fact.

The Districts letter dated May 31st letter informed the Department that the May 22nd 50%, and 90%, exceedence forecasts resulted in indexes of 2,025,183, and 1,908,183 acre-feet respectively. According to the FERC Article 37 flow schedule, indexes of 1,908,183 and 2,025,183 acre-feet should result spring pulse flows of approximately 32,619 acre-feet. However, the Districts, per the flow schedule attached to their May 31st letter, have provided a spring pulse flow of 20,091 acre-feet corresponding to a "Median Critical Water Year" type (e.g. one entire water year type lower than what actually occurred in 2007). The Districts did not provide any explanation for this discrepancy. Again, the Department did not note this discrepancy until after the fact.

The Federal Energy Regulatory Commission (FERC) should note that this flow scheduling error is not minor from biological or scientific monitoring standpoints. The discrepancy could have caused substantial disruption in downstream related, Tuolumne River dependent, instream flow studies[1] (e.g. reference to South Delta Vernalis Adaptive Management Program). The strong relationship between spring pulse flow and salmon production in the Tuolumne River provides a basis to monitor the affects between spring flow and salmon production in the Tuolumne River and South Delta. The Department requests FERC take notice that this error occurred at a time when salmon escapement on the Tuolumne River is near all time low abundance levels.

The District's May 31st annual instream flow schedule included about 11,565 acre-feet of water that was taken out of the critical spring pulse flow period and put into the summer time period. The question becomes what to do about it. The Districts are aware that the Department has consistently not supported the reallocation of the current scheduled water for salmon to the summer months. We continue to advocate other means (e.g., license Amendment; Relicensing changes; Ancillary measures) to meet the additional flow and temperature requirements of rainbow trout below the project in the Tuolumne River. However, we believe the practice of satisfying trout requirements through redirection of streamflows intended and agreed to be provided for salmon is not acceptable or appropriate. At the March 2007 Tuolumne River Technical Advisory Committee Meeting (TRTAC) the Department informed the Districts that i) it did not support any additional water being used, should it become available as part of the annual flow schedule "true-up" process, for summer flow augmentation (redirection of salmon flows to rainbow trout) and ii) if any additional water became available after the spring pulse period under the "true-up" process associated with updated forecasts, that all water was to be released in the fall for fall attraction flows. Justification for the Department's recommendation for allocation this fall is based on there being **ZERO** fall adult salmon attraction flows in years when the San Joaquin River hydrologic index is at, or below, 2,200,000 acre-feet.

Despite the Department's recommendations to the contrary, the Districts have, in the past, advocated moving salmon schedule water into the summer time periods to improve rainbow trout habitat in years when the FERC flow schedule calls for a 50 cfs flow level. In 2007 the Districts have actually moved salmon spring pulse flow water into the summer months to protect rainbow trout habitat, an action that is not supported by the intent of the 1996 Federal Energy Regulatory Commission (FERC) Settlement Agreement (FSA) nor the District's FERC License. The 1996 FSA and subsequent

[1] The 2007 Vernalis Adaptive Management Plan instream flow study was set at 3,200 cfs based upon the baseline, non-VAMP predicted 31 day average pulse flow of approximately 2,721 cfs for the 31 day pulse flow period (e.g. April 22 thru May 22). Had the non-VAMP pulse flow period been around 3,000 cfs, then the missing Tuolumne River pulse would have caused the non-VAMP pulse flow to be higher than 3,200 cfs, resulting in a VAMP flow of 4,450 cfs. There is growing concern regarding the aberrant high frequency of low target flow years in the San Joaquin River basin. This scheduling mistake fosters that concern.

FERC License requires flows for the protection of fall-run Chinook salmon (salmon). The Department fully supports a management action by the Districts to provide additional (beyond the salmon allocations) flows and temperature protection for rainbow trout in the Tuolumne River below the Project. Again, there are several options to accomplish this important objective.

In conclusion, the Department requests that FERC order the Districts to mitigate for the loss of salmon production in 2007 (salmon bread year 2006). Our preference is for the Districts to carry forward in storing an additional 11,565 acre-feet for the Department, and the U.S. Fish and Wildlife Service, to utilize in future spring flow years where we deem appropriate[2]. Another, although less desirable, alternative would be to re-schedule the 11,565 acre-feet of water into the fall time period to create an adult fall attraction flow.

If you have questions concerning these comments, please contact Mr. Dean Marston, Staff Environmental Scientist (559) 243-4014 ext. 241, or at the address on this letterhead.

Sincerely,

for W. E. Loudermilk
A/Regional Manager

Enclosure

cc: Mr. & Mrs. Dave and Allison Boucher
Friends of the Tuolumne River
7533 Meadow Avenue
Stockton CA 95207

Mr. Don Furmann
City and County of San Francisco
1390 Market Street Room 418
San Francisco CA 94102

Ms. Julie Gantenbein
Natural Heritage Institute
1423 Marshall Street
Houston, Texas 77006

[2] The water held in account must be protected from any type of volume loss (e.g. via flood control release, reservoir evaporation etc.).

Ms. Deborah Giglio
United States Fish and Wildlife Service
2800 Cottage Way W-2605
Sacramento CA 95825

Mr. Roger Guinee
United States Fish and Wildlife Service
2800 Cottage Way W-2606
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Stockton, CA 95205

Mr. Philip Scordelis
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Allen Short, General Manager
Modesto Irrigation District
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Ms. Kim Webb
United States Fish and Wildlife Service
Anadromous Fish Restoration Program
Stockton Fish and Wildlife Office
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Stockton, CA 95205

Larry Weis, General Manager
Turlock Irrigation District
Post Office Box 949
Turlock, California 95381-0949

Ms. Cindy Charles
Golden West Women Fly Fishers
1403 Willard St.
San Francisco, CA 94117

PROOF OF SERVICE

I hereby declare as follows:

I am employed in the County of Fresno, State of California. I am eighteen years of age or older and am not a party to the within entitled action. My business address is 1234 Shaw Avenue, Fresno, California 93710.

On July 20, 2007, I served the following document on FERC Docket P-2299-060 Service List.

☐ By Personal Delivery in a Sealed Envelope Addressed as Indicated

☐ By Depositing in a Sealed Envelope Via United Parcel Service Overnight Mail with Postage Fully Paid Thereon and Addressed as Indicated

☑ Via United States Postal Service Mail

☐ Via Facsimile Transmission at the Facsimile Number(s) Indicated

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed in Fresno, California on **July 20, 2007.**

Eileen Hernandez

Eileen Hernandez

TURLOCK IRRIGATION DISTRICT
333 EAST CANAL DRIVE
POST OFFICE BOX 949
TURLOCK, CALIFORNIA 95381
(209) 883-8300

May 31, 2007 (via e-mail)

Mr. Bill Loudermilk
California Dept. of Fish and Game
1234 E. Shaw Ave.
Fresno, CA 93710

Ms. Deborah Giglio
U.S. Fish and Wildlife Service
2800 Cottage Way, W-2605
Sacramento, CA 95825

RE: Tuolumne River 2007-2008 FERC Article 37 Flow Schedule for P-2299

Dear Fishery Agency representatives:

A letter dated April 18, 2007, and pursuant to the 1996 FERC Order, Amended Article 37, contained the initial flow schedule for the April 15 through May 31 period of the current Fish Flow Year, encompassing the spring pulse flow period. That schedule was established using the April 10 DWR forecast update for the San Joaquin Basin 60-20-20 Index.

The DWR May 22, 2007 60-20-20 San Joaquin Basin Index forecasts were 2.025183 for 50% exceedence and 1.908183 for 90% exceedence. Those latest indices correspond to annual volumes of 118,339 AF and 114,518 AF respectively, based on interpolation above the applicable basin index threshold.

An interim flow schedule for the remainder of the fish flow year using 117,335 AF (attached) was provided to you by e-mail from Wes Monier on May 18 and we will proceed to use that schedule as of June 1. We will see if further schedule adjustments become necessary as the forecasts and runoff continue. The final annual fish flow year volume will not be available until August when the basin index is finalized.

If you have any questions, please contact Wes Monier at 209-883-8321.

Sincerely,

Robert Nees
Assistant General Manager
Water Resources and Regulatory Affairs Administration

C: Larry Weis - TID
Allen Short - MID
Phylis Posey – FERC Secretary

TID

TABLE 1

Tuolumne River Flow Schedule

SCHEDULE FOR 2007 - 2008 Fish Flow Year

DATE		Number of	BASE FLOW			PULSE FLOW			ADDITIONAL FLOW			TOTAL FERC FLOW	
From:	To:	DAYS	CFS	AF	ACCUM. A.F.	CFS	AF	ACCUM. A.F.	CFS	AF	ACCUM. A.F.	CFS	ACCUM. A.F.
15-Apr-2007	15-Apr-2007	1	150	298	298	100	198	198	0	0	0	250	496
16-Apr-2007	16-Apr-2007	1	150	298	595	100	198	397	0	0	0	250	992
17-Apr-2007	17-Apr-2007	1	150	298	893	100	198	595	0	0	0	250	1,488
18-Apr-2007	18-Apr-2007	1	150	298	1,190	100	198	793	0	0	0	250	1,983
19-Apr-2007	19-Apr-2007	1	150	298	1,488	100	198	992	0	0	0	250	2,479
20-Apr-2007	20-Apr-2007	1	150	298	1,785	392	778	1,770	56	111	111	599	3,667
21-Apr-2007	21-Apr-2007	1	150	298	2,083	392	778	2,548	56	111	223	599	4,854
22-Apr-2007	22-Apr-2007	1	150	298	2,380	392	778	3,327	56	111	334	599	6,041
23-Apr-2007	23-Apr-2007	1	150	298	2,678	392	778	4,105	56	111	446	599	7,229
24-Apr-2007	24-Apr-2007	1	150	298	2,975	392	778	4,883	56	111	557	599	8,416
25-Apr-2007	25-Apr-2007	1	150	298	3,273	392	778	5,662	56	111	669	599	9,603
26-Apr-2007	26-Apr-2007	1	150	298	3,570	392	778	6,440	56	111	780	599	10,791
27-Apr-2007	27-Apr-2007	1	150	298	3,868	392	778	7,218	56	111	892	599	11,978
28-Apr-2007	28-Apr-2007	1	150	298	4,165	392	778	7,997	56	111	1003	599	13,165
29-Apr-2007	29-Apr-2007	1	150	298	4,463	285	566	8,563	41	81	1084	476	14,110
30-Apr-2007	30-Apr-2007	1	150	298	4,760	196	389	8,952	28	56	1140	374	14,853
01-May-2007	01-May-2007	1	150	298	5,058	107	212	9,164	15	30	1171	272	15,393
02-May-2007	02-May-2007	1	150	298	5,355	107	212	9,377	15	30	1201	272	15,933
03-May-2007	03-May-2007	1	150	298	5,653	107	212	9,589	15	30	1231	272	16,473
04-May-2007	04-May-2007	1	150	298	5,950	107	212	9,801	15	30	1262	272	17,013
05-May-2007	05-May-2007	1	150	298	6,248	107	212	10,013	15	30	1292	272	17,554
06-May-2007	06-May-2007	1	150	298	6,545	107	212	10,226	15	30	1323	272	18,094
07-May-2007	07-May-2007	1	150	298	6,843	107	212	10,438	15	30	1353	272	18,634
08-May-2007	08-May-2007	1	150	298	7,140	107	212	10,650	15	30	1383	272	19,174
09-May-2007	09-May-2007	1	150	298	7,438	107	212	10,863	15	30	1414	272	19,714
10-May-2007	10-May-2007	1	150	298	7,736	107	212	11,075	15	30	1444	272	20,255
11-May-2007	11-May-2007	1	150	298	8,033	196	389	11,464	28	56	1500	374	20,997
12-May-2007	12-May-2007	1	150	298	8,331	285	566	12,030	41	81	1581	476	21,942
13-May-2007	13-May-2007	1	150	298	8,628	392	778	12,808	56	111	1693	599	23,129
14-May-2007	14-May-2007	1	150	298	8,926	392	778	13,587	56	111	1804	599	24,316
15-May-2007	15-May-2007	1	150	298	9,223	392	778	14,365	56	111	1916	599	25,504
16-May-2007	16-May-2007	1	150	298	9,521	392	778	15,143	56	111	2027	599	26,691
17-May-2007	17-May-2007	1	150	298	9,818	392	778	15,922	56	111	2139	599	27,878
18-May-2007	18-May-2007	1	150	298	10,116	392	778	16,700	56	111	2250	599	29,066
19-May-2007	19-May-2007	1	150	298	10,413	392	778	17,478	56	111	2362	599	30,253
20-May-2007	20-May-2007	1	150	298	10,711	392	778	18,257	56	111	2473	599	31,440
21-May-2007	21-May-2007	1	150	298	11,008	400	793	19,050	0	0	2,473	550	32,531
22-May-2007	22-May-2007	1	150	298	11,306	275	545	19,596	0	0	2,473	425	33,374
23-May-2007	23-May-2007	1	150	298	11,603	175	347	19,943	0	0	2,473	325	34,019
24-May-2007	24-May-2007	1	150	298	11,901	75	149	20,091	0	0	2,473	225	34,465
25-May-2007	25-May-2007	1	150	298	12,198	0	0	20,091	0	0	2,473	150	34,763
26-May-2007	26-May-2007	1	150	298	12,496	0	0	20,091	0	0	2,473	150	35,060
27-May-2007	27-May-2007	1	150	298	12,793	0	0	20,091	0	0	2,473	150	35,358
28-May-2007	28-May-2007	1	150	298	13,091	0	0	20,091	0	0	2,473	150	35,655
29-May-2007	29-May-2007	1	150	298	13,388	0	0	20,091	0	0	2,473	150	35,953
30-May-2007	30-May-2007	1	135	268	13,656	0	0	20,091	0	0	2,473	135	36,221
31-May-2007	31-May-2007	1	100	198	13,855	0	0	20,091	20	40	2,513	120	36,459
01-Jun-2007	01-Jun-2007	1	80	159	14,013	0	0	20,091	25	50	2,562	105	36,667
02-Jun-2007	02-Jun-2007	1	75	149	14,162	0	0	20,091	20	40	2,602	95	36,855
03-Jun-2007	03-Jun-2007	1	60	119	14,281	0	0	20,091	35	69	2,671	95	37,044
04-Jun-2007	04-Jun-2007	1	50	99	14,380	0	0	20,091	45	89	2,761	95	37,232
05-Jun-2007	30-Jun-2007	26	50	2,579	16,959	0	0	20,091	45	2,321	5,081	95	42,131
01-Jul-2007	31-Jul-2007	31	50	3,074	20,033	0	0	20,091	45	2,767	7,848	95	47,973
01-Aug-2007	31-Aug-2007	31	50	3,074	23,107	0	0	20,091	45	2,767	10,615	95	53,814
01-Sep-2007	30-Sep-2007	30	50	2,975	26,083	0	0	20,091	45	2,678	13,293	95	59,467
01-Oct-2007	13-Oct-2007	13	100	2,579	28,661	0	0	20,091	25	645	13,937	125	62,690
14-Oct-2007	15-Oct-2007	2	100	397	29,058	0	0	20,091	25	99	14,037	125	63,186
16-Oct-2007	26-Oct-2007	11	150	3,273	32,331	0	0	20,091	0	0	14,037	150	66,459
27-Oct-2007	28-Oct-2007	2	150	595	32,926	0	0	20,091	0	0	14,037	150	67,054
29-Oct-2007	29-Oct-2007	1	150	298	33,223	0	0	20,091	0	0	14,037	150	67,351
30-Oct-2007	30-Oct-2007	1	150	298	33,521	0	0	20,091	0	0	14,037	150	67,649
31-Oct-2007	31-Oct-2007	1	150	298	33,818	0	0	20,091	0	0	14,037	150	67,946
01-Nov-2007	16-Nov-2007	16	150	4,760	38,579	0	0	20,091	0	0	14,037	150	72,707
17-Nov-2007	30-Nov-2007	14	150	4,165	42,744	0	0	20,091	0	0	14,037	150	76,872
01-Dec-2007	31-Dec-2007	31	150	9,223	51,967	0	0	20,091	0	0	14,037	150	86,095
01-Jan-2008	31-Jan-2008	31	150	9,223	61,190	0	0	20,091	0	0	14,037	150	95,318
01-Feb-2008	29-Feb-2008	29	150	8,628	69,818	0	0	20,091	0	0	14,037	150	103,946
01-Mar-2008	31-Mar-2008	31	150	9,223	79,041	0	0	20,091	0	0	14,037	150	113,169
01-Apr-2008	14-Apr-2008	14	150	4,165	83,207	0	0	20,091	0	0	14,037	150	117,335
No. of days		366	(April 15 through April 14)										

1 cfs day = 1.983471 acre-feet (af)

Notes: 1. Based on 66-30-30 below is 2,641,183 July 31, 1996 FERC Order Flow Interpolated as 119,360 AF fish flow year requirement.

2. The pulse flows are a target that represents a daily average.

TURLOCK IRRIGATION DISTRICT
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Don Pedro Dam and Powerhouse

April 18, 2007 (via e-mail)

Mr. Dean Marston
California Dept. of Fish and Game
1234 E. Shaw Ave.
Fresno, CA 93710

Ms. Deborah Giglio
U.S. Fish and Wildlife Service
2800 Cottage Way, W-2605
Sacramento, CA 95825

RE: Tuolumne River 2007-2008 FERC Article 37 Flow Schedule for P-2299

Dear Fishery Agency representatives:

In a letter dated January 11, 2007, and pursuant to the 1996 FERC Order, Amended Article 37, I provided to you an updated Water Year Classification Index for determining the volume of scheduled stream flows for the fish flow year based on the San Joaquin Basin 60-20-20 Index.

As you know, the 2007 Water Year is likely to be the driest year since the 1996 FERC Order. The DWR April 1, 2007 60-20-20 San Joaquin Basin Index forecasts were 2,133,183 for 50% exceedence and 1,827,183 for 90% exceedence. The forecasts had dropped to 2,043,183 for 50% exceedence and 1,773,183 for 90% exceedence in the DWR April 10 update. Those latest indices correspond to annual volumes of 119,360 AF (including 32,619 AF outmigration pulse flow) and 110,919 AF (including 20,091 AF outmigration pulse flow) respectively, with additional water based on interpolation above the applicable basin index threshold.

It has been determined that the 2007 Vernalis Adaptive Management Plan (VAMP) is scheduled to begin on April 22, meaning increased La Grange flows must be scheduled to start by April 20 as two days are needed for those flows to reach Vernalis in the San Joaquin River. The Districts have been coordinating a daily flow schedule with your agencies in the VAMP process for the spring pulse flow period. Attached is the Tuolumne River flow schedule for the April 15-May 31 period, utilizing 22,564 AF in spring pulse flow due to the overall dry trend. Later DWR forecast updates will be used to determine the summer flow level starting in June, which appears now to be in the 50-75 cfs range. The annual fish flow year volume will not be available until August after the basin index is finalized.

If you have any questions, please contact Wes Monier at 209-883-8321.

Sincerely,

Robert Nees
Assistant General Manager
Water Resources and Regulatory Affairs Administration

TID

C: Larry Weis - TID
Allen Short - MID
Phylis Posey – FERC Secretary

TABLE 1

Tuolumne River Flow Schedule

SCHEDULE FOR 2007 - 2008 Fish Flow Year

DATE		Number of	BASE FLOW			PULSE FLOW			ADDITIONAL FLOW			TOTAL FERC FLOW	
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15-Apr-2007	15-Apr-2007	1	150	298	298	100	198	198	0	0	0	250	496
16-Apr-2007	16-Apr-2007	1	150	298	595	100	198	397	0	0	0	250	992
17-Apr-2007	17-Apr-2007	1	150	298	893	100	198	595	0	0	0	250	1,488
18-Apr-2007	18-Apr-2007	1	150	298	1,190	100	198	793	0	0	0	250	1,983
19-Apr-2007	19-Apr-2007	1	150	298	1,488	100	198	992	0	0	0	250	2,479
20-Apr-2007	20-Apr-2007	1	150	298	1,785	392	778	1,770	56	111	111	599	3,867
21-Apr-2007	21-Apr-2007	1	150	298	2,083	392	778	2,548	56	111	223	599	4,854
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11-May-2007	11-May-2007	1	150	298	8,033	196	389	11,464	28	56	1500	374	20,997
12-May-2007	12-May-2007	1	150	298	8,331	285	566	12,030	41	81	1581	476	21,942
13-May-2007	13-May-2007	1	150	298	8,628	392	778	12,808	56	111	1693	599	23,129
14-May-2007	14-May-2007	1	150	298	8,926	392	778	13,587	56	111	1804	599	24,316
15-May-2007	15-May-2007	1	150	298	9,223	392	778	14,365	56	111	1916	599	25,504
16-May-2007	16-May-2007	1	150	298	9,521	392	778	15,143	56	111	2027	599	26,691
17-May-2007	17-May-2007	1	150	298	9,818	392	778	15,922	56	111	2139	599	27,878
18-May-2007	18-May-2007	1	150	298	10,116	392	778	16,700	56	111	2250	599	29,066
19-May-2007	19-May-2007	1	150	298	10,413	392	778	17,478	56	111	2362	599	30,253
20-May-2007	20-May-2007	1	150	298	10,711	392	778	18,257	56	111	2473	599	31,440
21-May-2007	21-May-2007	1	150	298	11,008	400	793	19,050	0	0	2,473	550	32,531
22-May-2007	22-May-2007	1	150	298	11,306	275	545	19,596	0	0	2,473	425	33,374
23-May-2007	23-May-2007	1	150	298	11,603	175	347	19,943	0	0	2,473	325	34,019
24-May-2007	24-May-2007	1	150	298	11,901	75	149	20,091	0	0	2,473	225	34,465
25-May-2007	25-May-2007	1	150	298	12,198	0	0	20,091	0	0	2,473	150	34,763
26-May-2007	26-May-2007	1	150	298	12,496	0	0	20,091	0	0	2,473	150	35,060
27-May-2007	27-May-2007	1	150	298	12,793	0	0	20,091	0	0	2,473	150	35,358
28-May-2007	28-May-2007	1	150	298	13,091	0	0	20,091	0	0	2,473	150	35,655
29-May-2007	29-May-2007	1	150	298	13,388	0	0	20,091	0	0	2,473	150	35,953
30-May-2007	30-May-2007	1	135	268	13,656	0	0	20,091	0	0	2,473	135	36,223
31-May-2007	31-May-2007	1	120	238	13,894	0	0	20,091	0	0	2,473	120	36,439

TURLOCK IRRIGATION DISTRICT
333 EAST CANAL DRIVE
POST OFFICE BOX 949
TURLOCK, CALIFORNIA 95381
(209) 883-8300

Don Pedro Dam and Powerhouse

January 11, 2007

Mr. Dean Marston
California Dept. of Fish and Game
1234 E. Shaw Ave.
Fresno, CA 93710

Ms. Deborah Giglio
U.S. Fish and Wildlife Service
2800 Cottage Way, W-2605
Sacramento, CA 95825

RE: Project 2299 - Tuolumne River Fall 2006 Pulse Flow, Article 38 45-Day Period, and Water Year Classification Index
Dear Fishery Agency representatives:

The 1996 FERC Order, Amended Article 37, contained a Water Year Classification Index for determining the volume of scheduled stream flows for each fish flow year. The classifications were based on the San Joaquin Basin 60-20-20 Indices for water years 1906-1995. The order stated, "60-20-20 index numbers used each year shall be updated to incorporate subsequent water years pursuant to standard Water Resources Department procedures so as to maintain approximately the same frequency distribution of water year types." The index is updated to incorporate water years 1996 through 2006 (Table 1). While the frequency distribution remains the same, some index numbers may change slightly with each annual update to maintain the frequency distribution.

The 2006 fall pulse flow was from October 14-28 with a scheduled volume of 5,950 AF above the minimum flow requirement of 300 cfs. An average of 552 cfs during this period was actually released or 7,492 acre-feet above the minimum flow requirement (Table 2).

The Article 38 '45-Day Period' in fall 2005 began October 15 and ended November 30, as has been our standard practice in recent years. In accordance with Article 38, reduction in river height between the end of the 45-day period and March 31 shall not exceed four inches (0.33 feet) below the average height established during the 45-day period (measured at Old La Grange Bridge). Using provisional daily flow data from the USGS gage at La Grange, we have calculated the average flow was 409 cfs for the 45-day period, which corresponds to a river height of 170.26 feet at the Old La Grange Bridge based on the USGS 1996 rating table. The current minimum flow requirement of 300 cfs through March 31 exceeds the 273 cfs as shown on Table 3 represented by a gage elevation of 169.93 feet.

TID

If you have any questions, please contact Wes Monier at 209-883-8321.

Sincerely,

Robert Nees
Assistant General Manager
Water Resources and Regulatory Affairs Administration

C: Larry Weis - TID
Allen Short - MID
Magalie Salas – FERC Secretary

TABLE 1
DETERMINATION OF WATER YEAR CLASSIFICATION THRESHOLDS
Water Year Classification

Water Year Classification	Cumulative Occurrence				602020 INDEX (x 1000)											
					Settlement Agreement	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Critical Water Year and Below	0.0%	-	8.4%	<	1500	1,441	1,441	1,441	1,476	1,476	1,476	1,476	1,476	1,476	1,476	1,476
Median Critical Water Year	8.4%	<	14.4%	>=	1500	1,441	1,441	1,441	1,476	1,476	1,476	1,476	1,476	1,476	1,476	1,476
Intermediate Critical Dry Water Year	14.4%	<	20.5%	>=	2000	1,964	1,964	1,964	1,964	1,964	1,964	1,964	2,002	2,002	2,002	2,002
Median Dry	20.5%	<	31.3%	>=	2200	2,159	2,159	2,183	2,183	2,183	2,183	2,183	2,187	2,187	2,187	2,187
Intermediate Dry-Below Normal	31.3%	<	40.4%	>=	2400	2,441	2,441	2,442	2,442	2,442	2,442	2,441	2,441	2,403	2,441	2,441
Median Below Normal	40.4%	<	50.7%	>=	2700	2,698	2,720	2,720	2,720	2,763	2,720	2,720	2,720	2,698	2,720	2,720
* Intermediate Below Normal-Above Normal	50.7%	<	68.2%	>=	3100	3,139	3,139	3,183	3,183	3,225	3,183	3,183	3,139	3,139	3,139	3,183
Median Above Normal	68.2%	<	71.3%	>=	3100	3,689	3,689	3,740	3,740	3,689	3,689	3,689	3,689	3,689	3,689	3,689
Intermediate Above Normal-Wet	71.3%	<	88.7%	>=	3100	3,898	3,903	4,028	4,028	3,903	3,903	3,903	3,898	3,898	3,903	4,028
Median Wet/Maximum	88.7%	<	100.0%	>=	3100	4,593	4,593	4,653	4,653	4,653	4,653	4,653	4,593	4,593	4,653	4,730

* Maximum index value for fish flow year is not to go above value shown in this row.
** The Index in the Settlement Agreement was based on Water Years 1906-1995

Table 2
Tuolumne River Flow Schedule

SCHEDULE FOR 2006 - 2007 Fish Flow Year

DATE		Number of	Minimum Flow	USGS Daily (2006 Fall Pulse Flow)			
				Actual	Difference from Minimum Flow		
From:	To:	DAYS	CFS	flow	cfs	a.f.	accum af
14-Oct-Sat	14-Oct-Sat	1	300	597	297	589	589
15-Oct-Sun	15-Oct-Sun	1	300	597	297	589	1,178
16-Oct-Mon	16-Oct-Mon	1	300	577	277	549	1,728
17-Oct-Tue	17-Oct-Tue	1	300	554	254	504	2,231
18-Oct-Wed	18-Oct-Wed	1	300	551	251	498	2,729
19-Oct-Thu	19-Oct-Thu	1	300	552	252	500	3,229
20-Oct-Fri	20-Oct-Fri	1	300	563	263	522	3,751
21-Oct-Sat	21-Oct-Sat	1	300	564	264	524	4,274
22-Oct-Sun	22-Oct-Sun	1	300	560	260	516	4,790
23-Oct-Mon	23-Oct-Mon	1	300	551	251	498	5,288
24-Oct-Tue	24-Oct-Tue	1	300	556	256	508	5,796
25-Oct-Wed	25-Oct-Wed	1	300	551	251	498	6,294
26-Oct-Thu	26-Oct-Thu	1	300	552	252	500	6,793
27-Oct-Fri	27-Oct-Fri	1	300	489	189	375	7,168
28-Oct-Sat	28-Oct-Sat	1	300	463	163	323	7,492
				552	3,777	7,492	

TURLOCK IRRIGATION DISTRICT

October 17 - November 30, 2006 Average Flow

In Tuolumne River at La Grange

ACTUAL FLOWS (Preliminary USGS Numbers)

DATE	FLOW CFS	DATE	FLOW CFS
17-Oct	554	08-Nov	373
18-Oct	551	09-Nov	371
19-Oct	552	10-Nov	373
20-Oct	563	11-Nov	379
21-Oct	564	12-Nov	372
22-Oct	560	13-Nov	386
23-Oct	551	14-Nov	377
24-Oct	556	15-Nov	348
25-Oct	551	16-Nov	349
26-Oct	552	17-Nov	349
27-Oct	489	18-Nov	348
28-Oct	463	19-Nov	348
29-Oct	407	20-Nov	348
30-Oct	350	21-Nov	348
31-Oct	348	22-Nov	348
01-Nov	343	23-Nov	349
02-Nov	345	24-Nov	348
03-Nov	379	25-Nov	349
04-Nov	389	26-Nov	351
05-Nov	388	27-Nov	348
06-Nov	393	28-Nov	346
07-Nov	374	29-Nov	346
		30-Nov	347
	TOTAL RELEASE=		18,423

45 day average =	409.4 cfs =	170.26 ft elevation *	
Less 4 inches		-0.33	
Minimum Flow =	273.0 CFS =	169.93 ft elevation *	

*

From U.S.G.S. table 22