

February 11, 2014

**Filed via Electronic Submittal (E-File)**

Kimberly D. Bose, Secretary  
FEDERAL ENERGY REGULATORY COMMISSION  
888 – 1st Street, N.E.  
Washington, D.C. 20426-0001

**SUBJECT:** Yuba River Development Project  
FERC Project No. 2246-058 - California  
Study 7.11a, *Radio Telemetry Study of Spring- and Fall-run Chinook Salmon  
Migratory Behavior Downstream of Narrows 2 Powerhouse*  
Requested Delay of Phase 2 Until 2015

Dear Secretary Bose:

This letter requests that the Federal Energy Regulatory Commission (FERC or Commission) modify Study 7.11a, *Radio Telemetry Study of Spring- and Fall-run Chinook Salmon Migratory Behavior Downstream of Narrows 2 Powerhouse*, (Study) to delay implementation of Phase 2 of the Study from 2014 to 2015. The request is based on the fact that, unless this delay is granted, the Study would be performed under anomalous environmental conditions and is unlikely to meet the goals and objectives of the FERC-approved study.<sup>1</sup> Specifically, because of the extraordinarily dry conditions in the Yuba River watershed and in most of California this year, it is unlikely that the Yuba County Water Agency (YCWA) will be operating the Narrows 2 Powerhouse for any substantial amounts of time this year (and the powerhouse may not operate at all), and it is uncertain whether there will be any substantial migrations of adult Chinook salmon into the Yuba River this year. For these reasons, conducting Phase 2 of this study during 2014 would not be likely to inform license conditions, or to meet the goals and objectives of the FERC-approved Study, and YCWA probably would need to repeat Phase 2 of this Study during 2015. Therefore, and because Phase 2 of this study will be very costly to implement, YCWA requests that the Commission modify this Study so that implementation of Phase 2 can be delayed until 2015.

## **I. BACKGROUND**

On September 30, 2011, the Commission issued a Study Plan Determination for YCWA's relicensing of its Yuba River Development Project, FERC Project Number 2246 (Project). The Determination was modified on March 29, 2013 to include the Study, which was modified further by FERC on August 22, 2013.

<sup>1</sup> 18 C.F.R. 5.15(d)(2) states, in part, that any proposal to modify an ongoing study be accompanied by a showing of good cause why the proposal should be approved, and must include a demonstration that the study was conducted under anomalous environmental conditions. As discussed in this letter, all evidence strongly indicates that if Phase 2 is conducted in 2014, it would be conducted under anomalous environmental conditions.

As stated by FERC in its March 29, 2013 letter, the purpose of the Study is to determine whether or not there is any correlation between Project operations and movement and behavior of fish in the Yuba River the between Narrows 1 and 2 powerhouses, and with an emphasis in the area of the Narrows 2 Powerhouse. FERC estimated that the entire Study would cost approximately \$250,000. Based on recent discussions with vendors and agencies, YCWA estimates Phase 2 of the Study alone will cost between \$495,000 and \$550,000.

The Study includes two phases: 1) Phase 1, Evaluation of Telemetry Technologies; and 2) Phase 2, Tagging and Tracking Fish. Phase 1 is complete.<sup>2</sup> Phase 2 includes six steps: 1) obtaining necessary permits; 2) deploying a telemetry array; 3) collecting and tagging Chinook salmon (*Oncorhynchus tshawytscha*) in the Narrows Pool;<sup>3</sup> 4) monitoring fish movement from the Narrows 2 Powerhouse downstream to, but not including, Pacific Gas and Electric Company's (PG&E) Narrows 1 Powerhouse; 5) reviewing data for quality assurance and control (QA/QC) and 6) reporting. The current status of each of these Phase 2 steps is described below, assuming Phase 2 proceeds in 2014.

- Permitting. The Study could affect the Evolutionarily Significant Unit of spring-run Chinook salmon and the Distinct Population Segment of Central Valley steelhead (*O. mykiss*), both of which are listed as threatened species under the Endangered Species Act (ESA). Therefore, YCWA consulted with United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (Cal Fish and Wildlife) regarding an ESA Section 4(d) Rule Research Authorization, and filed the necessary application. YCWA understands that the permit will be issued in February 2014, which would allow for the collection and tagging of fish beginning in May 2014, as required by the Study. The only other permit required to perform the study is a scientific collecting permit, which YCWA will obtain well in advance of fish collection and tagging.
- Telemetry System. YCWA is in the process of preparing an order for the telemetry system. The manufacturer advised YCWA that the system could be delivered 6 to 8 weeks after the order is received, and YCWA anticipates another 2 to 3 weeks will be necessary to prepare, deploy, test and calibrate the equipment. Deployment requires low flows in the study area.<sup>4</sup> YCWA expects the earliest the system would be deployed and operational is May 1, 2014.

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<sup>2</sup> Phase 1 concluded with the selection of a telemetry system to use in Phase 2. On February 10, 2014, YCWA filed a letter advising FERC that YCWA, NMFS, the United States Department of Interior, Fish and Wildlife Service (USFWS), and the Cal Fish and Wildlife had collaboratively agreed on a telemetry system to use in Phase 2 of the Study, which the exception of a cap for deployment of additional hydrophones. YCWA suggested the decision on the cap be determined by FERC at the appropriate time on the Study.

<sup>3</sup> For the purpose of the Study, the Narrows Pool is the area of the Yuba River from the Narrows 1 Powerhouse downstream to Deer Creek

<sup>4</sup> The study area is the Yuba River from the Narrows 2 Powerhouse to, but not including, the Narrows 1 Powerhouse.



- Fish Tagging. Fish collection and tagging (i.e., up to 85 Chinook salmon) in the Narrows Pool is scheduled to begin in May 2014 and extend through September 2014.
- Fish Movement Monitoring. As required in the Study, monitoring fish movement would begin in May 2014 and conclude on December 15, 2014.
- Data Analysis and Reporting. YCWA is scheduled to perform data analysis, including QA/QC, and prepare a technical memorandum, which will be filed with FERC by March 31, 2015.

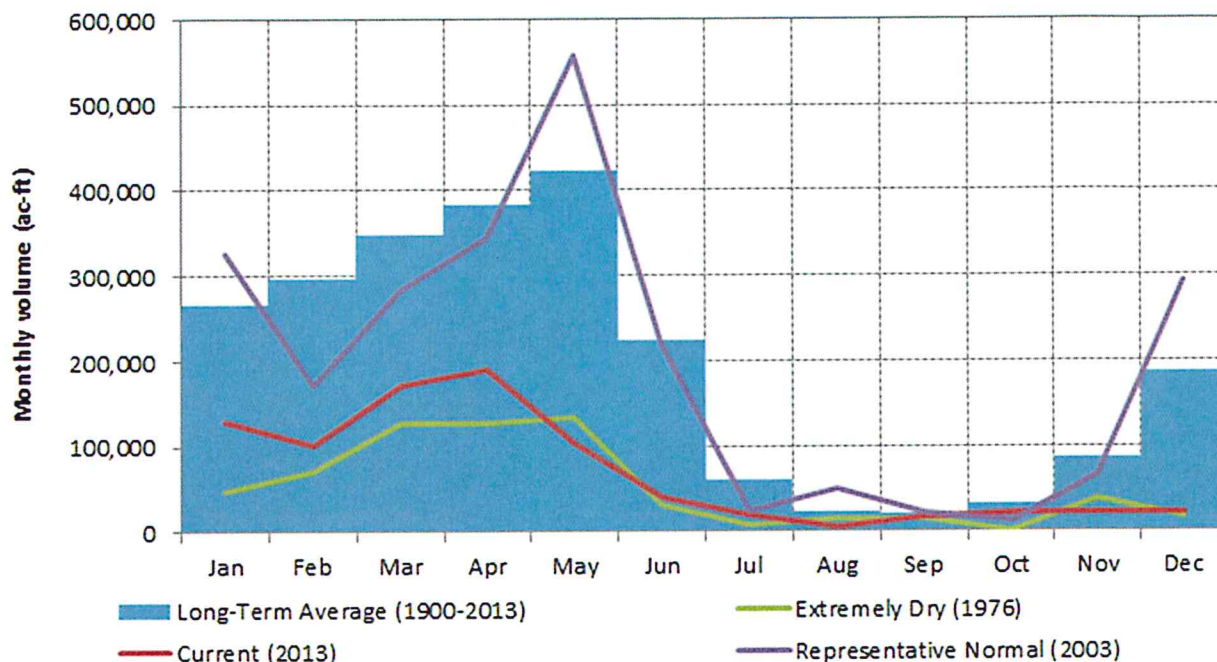
## II. RATIONALE FOR REQUEST

YCWA makes its request because: 1) water year (WY) 2014 is expected to be the driest year on record; 2) given the unprecedented dry conditions, Narrows 2 Powerhouse may not operate; and 3) given the unprecedented dry conditions, it is unlikely that Chinook salmon will behave typically or that there will be typical numbers of adults migrating into the Yuba River, which could affect how many fish are tagged as part of the Study and how they move after they are tagged and released. Each of these items is discussed below.

### 1. 2014 Is Expected To Be The Driest Period On Record, Which Is Clearly An Anomalous Environmental Condition

#### a. **Last 12 months have been drier than any other time in over 100 years.**

The 12-month period between January 1, 2013 and January 31, 2014 has been drier than any other time in over 107 years in the Yuba River watershed. While data are not yet available for January 2014, Figure 1 shows the California Department of Water Resources' (DWR) record of mean monthly unimpaired flows from January 2013 through December 2013 at the United States Geological Survey's (USGS) at Smartsville (USGS streamflow gage 11418000), which is located on the Yuba River about 400 feet (ft) downstream of the Narrows 1 Powerhouse. For comparison purposes, Figure 1 also includes unimpaired flow data for the previous calendar year (i.e., 2013), along with the long-term average (1900-2014), a normal year (i.e., 2003), and the year leading up to the driest year on record (i.e., 1976).



**Figure 1. Comparison of historical monthly unimpaired Yuba River flows at Smartsville.**

Further, due to these dry conditions, late-January snow surveys have shown there is no appreciable snowpack in the watershed, and long-term forecasts from the National Weather Service indicate current conditions will likely persist.

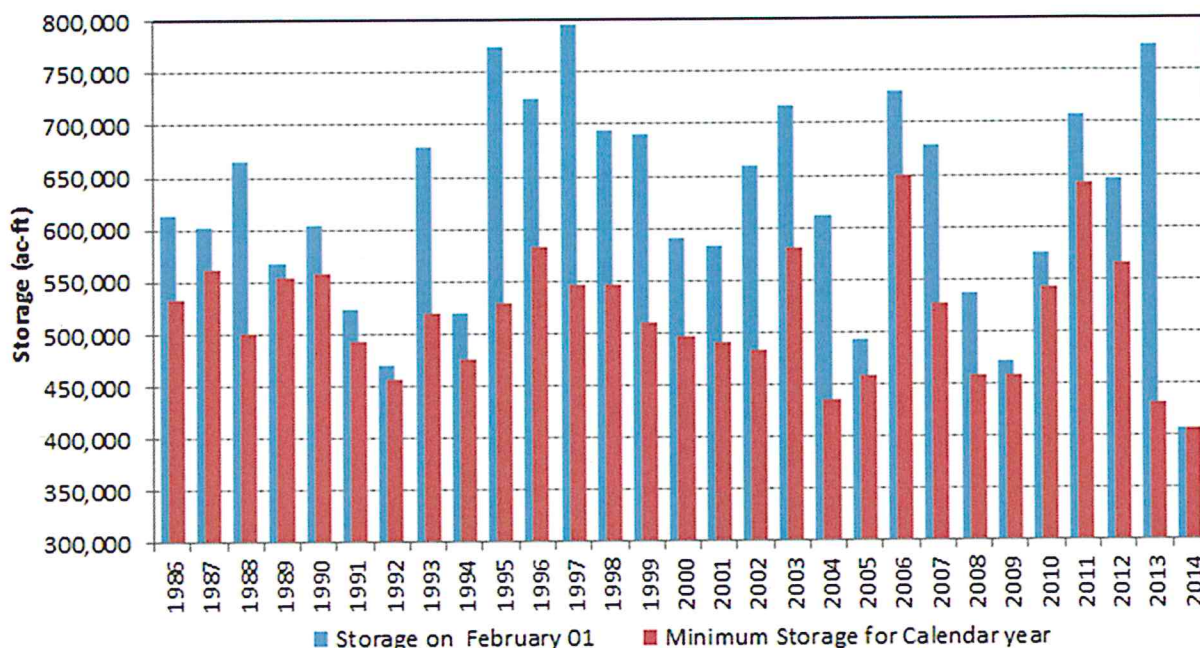
Even if some precipitation were to occur, soil-moisture conditions in the watershed are such that it will take several inches of precipitation to sufficiently moisten the soil profile to produce any meaningful increased runoff in the watershed. A demonstration of the dryness of the watershed occurred during a small rain event on January 11 and 12, 2014. During this event, North Yuba River watershed rainfall totals ranged from 0.2 to 0.7 inches. Under normal soil conditions, one inch of rain would produce approximately 10,000 acre-feet (ac-ft) of runoff in New Bullards Bar Reservoir, but this small storm produced less than 150 ac-ft of inflow to the reservoir. A second demonstration is the warm rainfall of 9 to 11 inches that occurred in the watershed from February 7 through 9, 2014. The storm resulted in very little snowpack and, as of 7:00 AM on February 10, 2014, New Bullards Bar Reservoir storage had increased from a pre-storm low of about 402,500 ac-ft to 435,500 ac-ft, an increase of about 33,000 ac-ft.

- b. Due to the dry conditions, New Bullards Bar Reservoir is unusually low, and the reservoir may hit minimum pool as early as mid-August 2014.**

New Bullards Bar Reservoir storage at the beginning of WY 2014 was not exceptionally low, but unprecedentedly low inflows to the reservoir have resulted in the lowest reservoir storage for the past 30 years. New Bullards Bar Reservoir storage on October 1, 2013 was 549,730



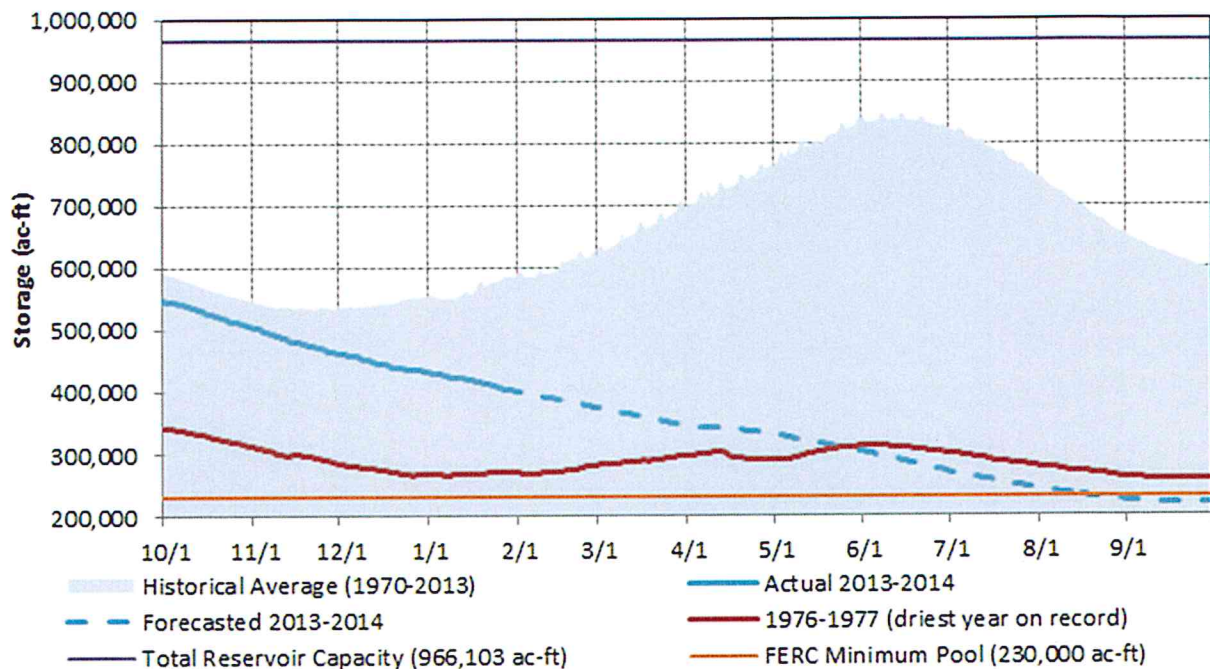
ac-ft. Total inflow to New Bullards Bar Reservoir between October 1, 2013 and February 1, 2014 was 27,187 ac-ft, compared to a previous minimum inflow of 35,046 ac-ft for the same period in WY 1977, previously the driest WY on record. New Bullards Bar Reservoir storage on February 1, 2014 was 404,347 ac-ft, when average storage on that date since 1986, when YCWA began supplying irrigation water throughout Yuba County, was 635,266 ac-ft. (Figure 2.)



**Figure 2. Comparison of historical storage in New Bullards Bar Reservoir on February 1, and minimum calendar year storage since 1986.**

Assuming continued dry conditions for the remainder of the WY, YCWA anticipates New Bullards Bar Reservoir will reach minimum pool<sup>5</sup> by August 16, 2014 (Figure 3).

<sup>5</sup> Article 34 in the existing FERC license sets New Bullards Bar Reservoir minimum pool at a water surface elevation of 1,730 ft, which equates to a gross storage of 230,000 ac-ft.



**Figure 3. Comparison of historical and forecasted WY 2014 New Bullards Bar Reservoir storage and previous low and average storage conditions.**

**c. Given this situation, a State of Emergency has been declared.**

Given the unprecedented dry conditions not only in the Yuba River watershed but throughout California, Governor Edmond G. Brown, Jr. declared a State of Emergency drought condition on January 17, 2014.

**d. In recognition of this condition, FERC granted to YCWA a temporary variance to its minimum flow requirements.**

FERC acknowledged the unprecedented dry conditions in the Yuba River watershed when on February 7, 2014, FERC granted YCWA a temporary variance to the minimum flow requirements in Article 33 of its license so that YCWA may conserve water in the Bullards Bar Reservoir.

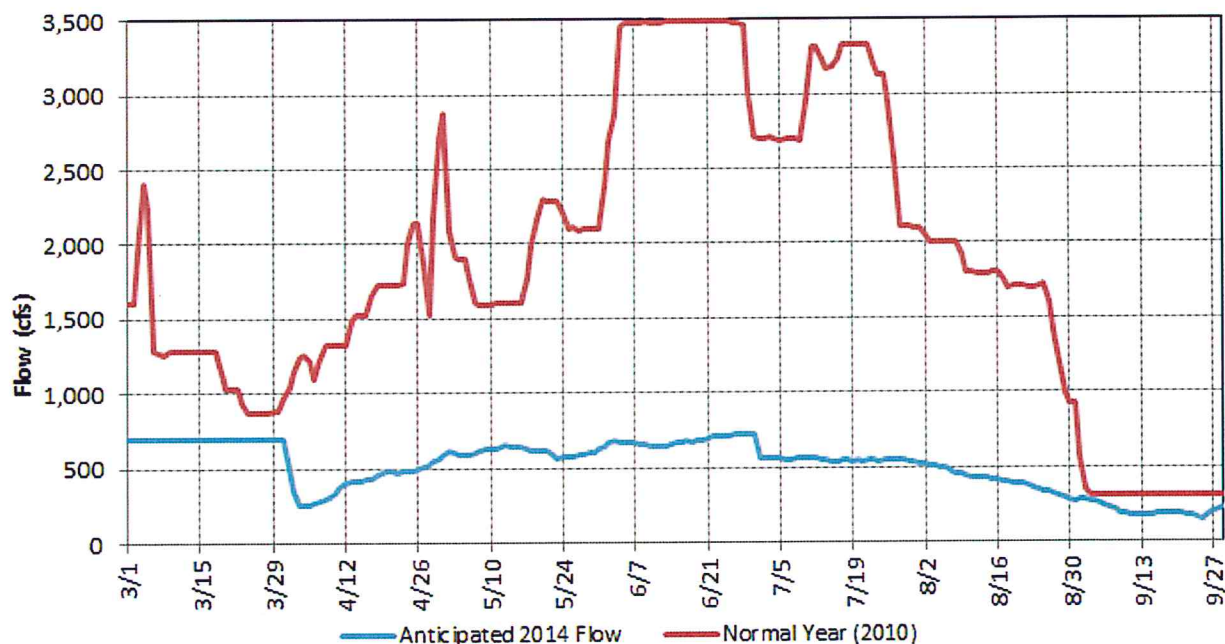
**2. Due To The Dry Conditions, Narrows 2 Powerhouse May Not Operate In 2014, Which Is An Anomalous Condition**

YCWA and PG&E cooperatively operate the Project's Narrows 2 Powerhouse and PG&E's Narrows 1 Powerhouse, which is located about 1,000 feet downstream of the Narrows 2 Powerhouse. During extremely dry conditions, releases to the Yuba River from Narrows 1 and 2 powerhouses are made to: 1) ensure compliance with the flow requirements at the USGS Smartsville gage; 2) ensure compliance with the flow requirements at the USGS's Marysville streamflow gage (USGS 11421000), located approximately 18 miles downstream



from the Narrows 2 Powerhouse; and 3) provide for irrigation deliveries, which occur upstream of the United States Army Corps of Engineers' Daguerre Point Dam near Marysville.

As shown in Figure 4, given the current dry conditions, YCWA anticipates that the mean daily flow at the Smartsville gage will range between 200 cubic feet per second (cfs) and 700 cfs throughout the spring and summer of 2014. YCWA anticipates that the releases will come through PG&E's Narrows 1 Powerhouse since the Narrows 1 Powerhouse has a maximum capacity of approximately 730 cfs and YCWA does not typically make releases of less than approximately 700 cfs from the Narrows 2 Powerhouse due to efficiency and other reasons, and in a year as dry as 2014 is forecasted to be, it is likely YCWA will not be making releases through either of the Narrows 2 bypasses due to renewable status of Narrows 1. As a comparison, Figure 4 also shows combined releases from the Narrows 2 facility (a combination of generation, partial bypass, and full bypass) in a normal (although relatively dry) year (i.e., 2010).



**Figure 4. Comparison of anticipated 2014 and normal Yuba River flows at the Smartsville gage for March 1 through September 30.**

Since the Narrows 1 Powerhouse capacity is adequate to make the full release, YCWA does not anticipate the need to utilize the Narrows 2 Partial or Full bypasses.

### **3. The Dry Conditions May Affect The Normal Migration Of Chinook Salmon Up To the Narrows Pool**

The unprecedented dry conditions, and likely warmer water temperatures, in the Yuba River watershed below Englebright Dam will likely affect the normal movement of Chinook salmon in the river, though the specific effect is unknown. This could affect the number of fish YCWA can capture and tag in the Narrows Pool, and their movement and behavior after being tagged.

### **III. EFFECT ON STUDY IF YCWA'S REQUEST IS APPROVED**

If FERC approves YCWA's request, YCWA will take the necessary actions to assure Phase 2 can begin in 2015. Specifically, YCWA will: 1) request that NMFS and Cal Fish and Wildlife extend the ESA Section 4(d) Rule Research Authorization through 2015; and 2) continue acquiring the HTI system equipment this spring. With these changes, YCWA will: 1) deploy the HTI equipment in low flow conditions in 2015, which typically occur around March, rather than in 2014; 2) collect and tag fish in the Narrows Pool from May through September 2015, rather than in 2014; 3) monitor fish movement from May through December 15, 2015, rather than in 2014; and 4) file a final technical memorandum by March 31, 2016, rather than in 2015.

### **IV. EFFECT ON RELICENSING SCHEDULE IF YCWA'S REQUEST IS APPROVED**

At this time, Study 7.11a, with an anticipated completion date of March 31, 2015, is the last study to be completed in support of YCWA's relicensing.<sup>6</sup> A delay of a year may affect FERC's issuance of the Ready for Environmental Analysis (REA) notice.

### **V. SUMMARY**

For the reasons stated above, YCWA requests FERC modify Study 7.11a to delay implementation of Phase 2 from 2014 to 2015.

While the delay may affect the overall relicensing schedule, collecting data regarding the movement of fish near Narrows 2 Powerhouse when the powerhouse is not operating, or is operating at very low levels, and when fish presence and movement is affected by unprecedented dry conditions, would not meet the goals and objectives of the Study or provide information that would inform license conditions.

On February 3, 2014, YCWA provided a draft of this letter to NMFS, USFWS, Forest Service, United States Department of Interior, Bureau of Land Management (BLM), Cal Fish

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<sup>6</sup> Relicensing Participants requested modifications to ongoing studies or new studies in response to YCWA's Updated Study Report, and may request additional studies in comments on YCWA's Draft License Application (comments due by March 3, 2014). If FERC orders YCWA to modify ongoing studies or perform new studies, those studies may not be complete until after Study 7.11a is scheduled to be complete in March 2015.



and Wildlife and the SWRCB and requested comments by February 10. In an e-mail dated February 7, USFWS said *"Since this study proposal is a result of dispute resolution generated by NMFS, the USFWS will wait until NMFS responds to your request for concurrence with the language in your draft letter to FERC before we respond."* In an e-mail dated February 10, NMFS stated *"NMFS does not concur with the letter as written and provided on 2/3/2014, as there are multiple points that were expressed by NMFS and others to YCWA/HDR on the conference call on 1/24/2014 that have not been incorporated into the letter. NMFS will file their comments and suggestions on the letter with FERC."* No other comments were received. Because, if the Study were to proceed in 2014, YCWA would need to begin deploying telemetry equipment in March 2014, YCWA requests an expedited reply from the Commission.

If you have any questions regarding this letter, please contact me.

Sincerely,

YUBA COUNTY WATER AGENCY



Curt Aikens  
General Manager

cc: Alan Mitchnick – FERC DC  
Ken Hogan – FERC DC  
Relicensing Participants on YCWA's Yuba River Development Project's  
Relicensing E-Mail Contact List (via e-mail)