TUOLUMNE RIVER TRUST – CALIFORNIA SPORTFISHING PROTECTION ALLIANCE – GOLDEN WEST WOMEN FLYFISHERS – WILLIAM L. MARTIN – DAVID WARNER

December 30, 2019

Ms. Kimberley Bose, Secretary
Federal Energy Regulatory Commission
Via electronic submittal

Re: *Reply Comments of Tuolumne River Trust, California Sportfishing Protection Alliance, Golden West Women Flyfishers, William L. Martin and David Warner to Comments on the Draft Environmental Impact Statement and to Responses to Comments on the Draft Environmental Impact Statement*

Dear Secretary Bose:

The Tuolumne River Trust, California Sportfishing Protection Alliance, Golden West Women Flyfishers, Mr. William L. Martin and Mr. David Warner (collectively hereinafter, TRT et al.) respectfully submit these comments in response to two sets of filings by the City and County of San Francisco (CCSF) and the Bay Area Water Supply and Conservation Agency (BAWSCA): their respective comments[1] on the Draft Environmental Impact Statement (DEIS) for the relicensing of the Don Pedro Project and the original licensing of the La Grange Project;[2] and their respective responses to comments of others on the DEIS.[3]

TRT et al. submits these comments in order to inform a more complete and accurate Final Environmental Impact Statement from staff of the Federal Energy Regulatory Commission (FERC or Commission). The additional information contained herein will assist staff in disclosing and evaluating the impacts of various licensing alternatives on water supply for SFPUC and BAWSCA. It will also assist the Commission in evaluating licensing alternatives in developing its licensing decision.

Because staff must still evaluate the response from Turlock Irrigation District and Modesto Irrigation District (licensees) to an Additional Information Request, consideration of these comments will not delay the relicensing process.

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[1] *Comments on Draft Environmental Impact Statement and Request For License Condition of the City and County of San Francisco*, (Apr. 12, 2019), eLibrary no. 20190412-5239; *BAWSCA's Comments on the Draft Environmental Impact Statement Prepared for the Don Pedro Hydroelectric Project (No. 2299-082) and La Grange Hydroelectric Project (No. 14581-002)* (Apr. 12, 2019), eLibrary no. 20190412-5118.

[2] *Draft Environmental Impact Statement for Hydropower Licenses, Don Pedro Hydroelectric Project, Project No. 2299-082—California, La Grange Hydroelectric Project, Project No. 14581-002—California* (Feb. 11, 2019), eLibrary No. 20190211-3006 ("DEIS").

[3] *Response of City and County of San Francisco to Comments on Draft Environmental Impact Statement for Hydropower Licenses for the Don Pedro and La Grange Hydroelectric Projects* (Sept. 23, 2019), eLibrary no. 20190923-5174; *Bay Area Water Supply and Conservation Agency's Response to Comments on the Draft Environmental Impact Statement Prepared for the Don Pedro Hydroelectric Project (No. 2299-082) and La Grange Hydroelectric Project (No. 14581-002)* (Oct. 25, 2019), eLibrary no. 20191025-5192.

Conservation Groups' April 12, 2019 comments on the DEIS[4] lay out the legal bases for which the analysis recommended in the instant comments are not only advisable but required. We do not repeat the legal analysis here. Rather, these comments focus on factual issues raised in the filings that are the subject of this response.

Please feel free to contact me if you have any questions.

Respectfully submitted,

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[4] *Conservation Groups' Comments on the Draft Environmental Impact Statement for the Relicensing of the Don Pedro Project and the Original Licensing of the La Grange Project* ("Conservation Groups' DEIS Comments," (Apr. 12, 2019), eLibrary no. 20190412-5156.

**UNITED STATES OF AMERICA**
**FEDERAL ENERGY REGULATORY COMMISSION**

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| Modesto Irrigation District | ) | |
| Turlock Irrigation District | ) | |
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| Don Pedro Hydroelectric Project | ) | P-2299-082 |
| La Grange Hydroelectric Project | ) | P-14581-002 |
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**REPLY COMMENTS OF**
**TUOLUMNE RIVER TRUST,**
**CALIFORNIA SPORTFISHING PROTECTION ALLIANCE,**
**GOLDEN WEST WOMEN FLYFISHERS,**
**WILLIAM L. MARTIN AND DAVID WARNER**
**TO**
**COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT**
**AND TO**
**RESPONSES TO COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT**

The, Tuolumne River Trust (TRT), California Sportfishing Protection Alliance (CSPA), Golden West Women Flyfishers (GWWF), Mr. William L. Martin and Mr. David Warner (collectively, TRT et al.) respectfully respond to two sets of filings by the City and County of San Francisco (CCSF) and the Bay Area Water Supply and Conservation Agency (BAWSCA): their respective comments[5] on the Draft Environmental Impact Statement (DEIS) for the relicensing of the Don Pedro Project and the original licensing of the La Grange Project,[6] and their respective responses to comments of others on the DEIS.[7]

[5] *Comments on Draft Environmental Impact Statement and Request For License Condition of the City and County of San Francisco* ("CCSF DEIS Comments"; Apr. 12, 2019), eLibrary no. 20190412-5239; *BAWSCA's Comments on the Draft Environmental Impact Statement Prepared for the Don Pedro Hydroelectric Project (No. 2299-082) and La Grange Hydroelectric Project (No. 14581-002)* ("BAWSCA DEIS Comments"; Apr. 12, 2019), eLibrary no. 20190412-5118.

[6] *Draft Environmental Impact Statement for Hydropower Licenses, Don Pedro Hydroelectric Project, Project No. 2299-082—California, La Grange Hydroelectric Project, Project No. 14581-002—California* (Feb. 11, 2019), eLibrary No. 20190211-3006 ("DEIS").

[7] *Response of City and County of San Francisco to Comments on Draft Environmental Impact Statement for Hydropower Licenses for the Don Pedro and La Grange Hydroelectric Projects* ("CCSF Response"; Sept. 23, 2019) eLibrary no. 20190923-5174; *Bay Area Water Supply and Conservation Agency's Response to Comments on the Draft Environmental Impact Statement Prepared for the Don Pedro Hydroelectric Project (No. 2299-082) and La Grange Hydroelectric Project (No. 14581-002)* ("BAWSCA Response"; Oct. 25, 2019), eLibrary no. 20191025-5192.

These reply comments primarily address issues relating to water supply for CCSF and BAWSCA, and how the licensing decisions for the Don Pedro and La Grange projects may affect that water supply.[8]

In opposition to CCSF and BAWSCA, TRT et al. makes the following recommendations:

TRT et al. recommends that the Final Environmental Impact Statement (FEIS) for the relicensing of the Don Pedro Project and the original licensing of the La Grange Project evaluate a range of water supply demand scenarios for CCSF and BAWSCA that is wider than the range analyzed in the Amended Final License Application (AFLA) for the relicensing of the Don Pedro Project.[9]

TRT et al. recommends that the FEIS disregard CCSF's overstatement of economic impacts that might result from hypothesized water supply shortages.[10]

TRT et al. recommends that the FEIS evaluate impacts to CCSF and BAWSCA water supply using an alternative drought scenario or scenarios that are less conservative than the drought scenarios that CCSF and BAWSCA use.

TRT et al. recommends that the FEIS evaluate mitigations for reductions in water available for water supply due to increased flows in the lower Tuolumne River. The FEIS should hold CCSF, BAWSCA, and the Districts accountable for their failure to diligently and aggressively pursue alternative sources of water supply that could mitigate or offset reductions in water available to them due to increased flow requirements in the lower Tuolumne River.

We elaborate on these issues below.

## I. The FEIS should evaluate a range of water supply demand scenarios for CCSF and BAWSCA, including recent demand (200 mgd) and the demand analyzed in the DEIS (220 mgd).

The FEIS should evaluate a demand scenario for CCSF and BAWSCA of 200 million gallons per day (mgd). 200 mgd is a conservative value for the most recent usage reported by the San Francisco Public Utilities Commission (SFPUC).[11] The FEIS should also evaluate a demand scenario of 220 mgd, as staff of the Federal Energy Regulatory Commission (FERC or Commission) did in the DEIS. Prior to releasing the FEIS, Commission staff should require CCSF to provide to staff and relicensing participants modeling inputs for the Don Pedro

[8] Both the CCSF Response and the BAWSCA Response direct much of their argument at comments by Conservation Groups and Messrs. Warner and Martin related to CCSF and BAWSCA's respective water supply.
[9] *Amended Final License Application (AFLA) for the Don Pedro Hydroelectric Project*, (October 11, 2017) eLibrary no. 20171011-5064.
[10] BAWSCA supports CCSF's projections of economic impacts, but does not add independent analysis on this topic.
[11] Over each of the past five years, combined SFPUC and BAWSCA deliveries for their combined "Regional Water System" (RWS) of the Hetch Hetchy system and Bay Area sources has been less than this conservative 200 mgd value (*see* Figure 1 below).

operations model that correspond to how SFPUC would operate its diversions from the Tuolumne River on a month-by-month basis over the period of record under these demand scenarios, at minimum under base case operations.

### A. A 200 mgd demand scenario for CCSF and BAWSCA warrants analysis both as the most recent operation of CCSF's Tuolumne River diversions in non-drought conditions and on a policy basis.

Both SFPUC and BAWSCA disagree with the use of a 200 mgd demand scenario for CCSF and BAWSCA to analyze impacts to Bay Area water supply. CCSF's Response states that it does not know the origin of Conservation Groups' recommendation for use of 200 mgd both as a baseline and as a planning tool.[12] Figure 1 below, a graph produced by the SFPUC,[13] clarifies that origin:

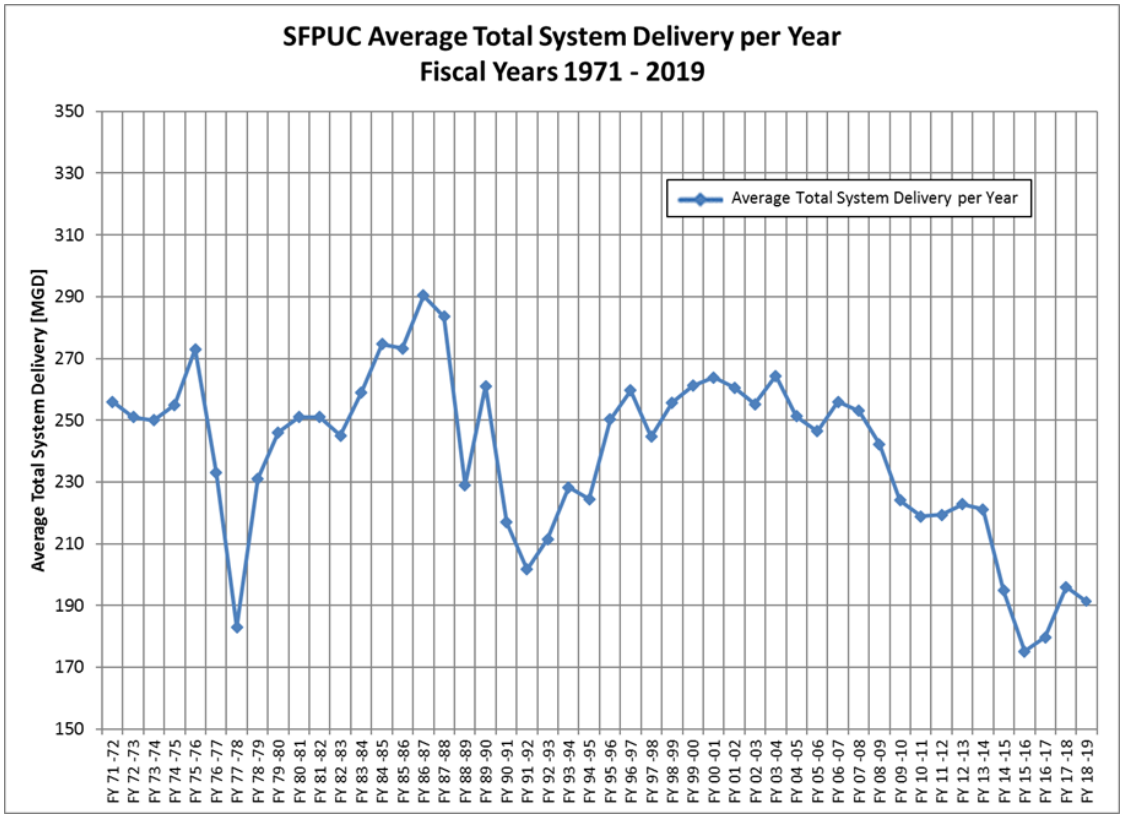


***Figure 1: Regional Water System Deliveries by SFPUC and BAWSCA 1972-2019***

Conservation Groups selected 200 mgd because it is a conservative estimate based on actual demand in 2017-2018; this number is further supported by demand in 2018-2019, a wetter water year.

[12] CCSF Response, p. 5.
[13] Graph provided directly to TRT by SFPUC staff.

CCSF dismisses these recent figures as inaccurate, arguing: "it appears to represent the highest levels of historical use reductions achieved by San Francisco when the RWS was recovering from extreme drought."[14] CCSF argues instead for a "normalized" demand figure of 238 mgd.[15]

CCSF appears to suggest that Conservation Groups derived the 200 mgd figure by looking at a range of post-drought demand figures and choosing the lowest demand. This is not true. Conservation Groups' recommendation accounted for the fact that demand is variable during and after droughts. More on point, Conservation Groups recognized that there is an overall downward trend in RWS demand since 1972.

Furthermore, Conservation Groups believe that the response of Bay Area water customers to the 2013-2015 drought and their growing awareness and response to climate change mean that it is no longer valid to base future demand patterns entirely on past demand patterns. During the drought, Bay Area water users not only conserved at a required level, but achieved levels of conservation in excess of requirements. Except for the final year of the drought (2015), per capita water use in San Francisco has been stable since 2014 (Figure 2).[16]

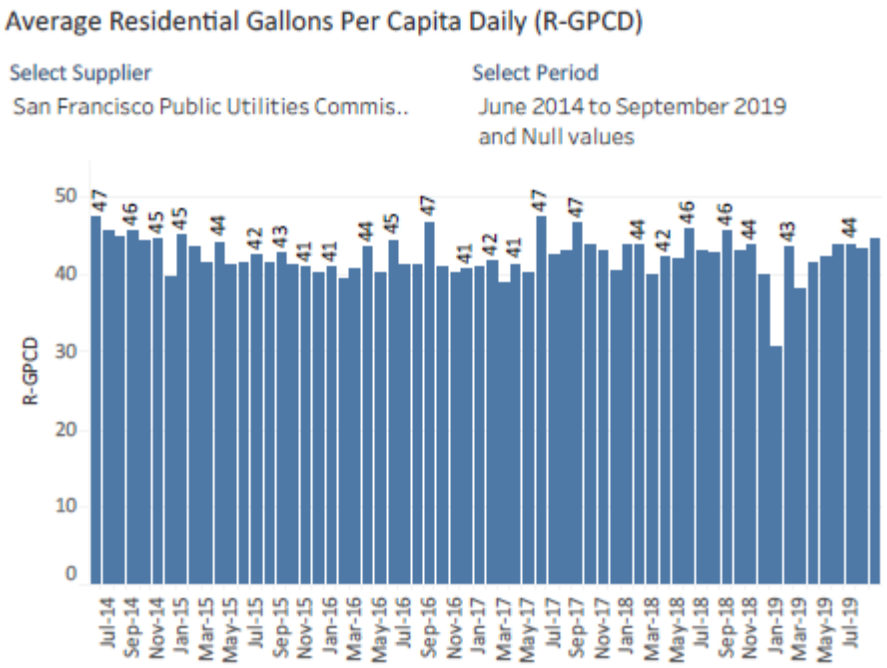


***Figure 2. SFPUC residential gallons per capita day, July 2014- July 2019***

[14] CCSF Response, p. 5.
[15] *Id.*, p. 6.
[16] Average Residential Gallons per Capita Daily data retrieved from State Water Resources Control Board interactive webpage at:
https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.html

In its comments on the DEIS, CCSF presented a table showing "normalized" demand based on water years 2006-2007 through 2010-2011.[17] However, there is no evidence to show that RWS demand will return to the levels of 2006 and 2007. It appears much more likely that what was normal in 2006 is not likely to be normal in 2020 or in the future, and that "normalizing" needs to account for changes in urban water customer attitudes. Furthermore, the concept of "normalizing" to non-drought conditions suggests that droughts are outside the normal pattern of California hydrology. Part of the change of customer attitudes is the growing perception that droughts are relatively common.

In addition to appearing to be the best fit for recent water use, a 200 mgd RWS demand scenario merits analysis on a policy basis. CCSF and BAWSCA should be advancing a conservation ethic that is consistent with the values of its customers. BAWSCA suggests that "Conservation Groups don't account for water conservation efforts."[18] On the contrary, neither BAWSCA nor CCSF give due credit to the conservation efforts of their customers, assuming that these customers will return to more spendthrift ways after a series of non-drought years.

Analysis of a 200 mgd scenario is also warranted to inform a complete NEPA analysis. Reduced RWS demand is a feasible mitigation for water supply impacts to SFPUC and BAWSCA that may result from the licensing decision.

### B. Reliance on a demand scenario of 265 mgd by 2040 overstates water supply impacts.

The BAWSCA response states: "Demand studies conducted by BAWSCA and the SFPUC indicate that demand for the 265 mgd is realistic for the 20-year planning horizon. Put another way, by 2040—about half-way through the life of the considered license—projected RWS demand will reach 265 mgd."[19]

However, **t**here are no projections that forecast a demand of 265 mgd by 2040. If there were, the SFPUC and/or BAWSCA would have cited them. The CCSF Response (cited by BAWSCA) simply states: "As stated above and in prior comments, San Francisco's normalized base-year demand is 238 mgd, and that demand is projected to increase to 265 mgd by 2040. These figures are based on the SFPUC's expertise in water supply planning and this historical record of demands across a range of hydrologic conditions."[20]

CCSF's statement is contradicted by the SFPUC's 10-Year Financial Plan (FYE 2020 through FYE 2029).[21] The staff report for the Financial Plan states: "Sales volumes projected to decrease 0.5% annually over Plan period…Reflective of the actual long term trend of declining water sales—total average annual decline over 23 year period was 0.5%...Retail average annual

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[17] CCSF DEIS Comments, Exhibit 2, Attachment 1, Declaration of Matt Moses, pdf p. 63.
[18] BAWSCA Response, p. 4.
[19] BAWSCA Response, p. 4. (BAWSCA cites to page 8 of the CCSF Response).
[20] CCSF Response, p. 8.
[21] SFPUC 10-Year Financial Plan Update (staff presentation), March 12, 2019. Available at: https://sfwater.org/modules/showdocument.aspx?documentid=13520

decline was 0.7%, wholesale average annual decline was 0.4% over the same period…[i]ncorporates significant peak to trough declines in consumption experienced in the Great Recession, 2016 Drought…Prior 10-Year Plan sales volume assumption was flat."[22]

Figure 3 below, also included in the same SFPUC staff report, clearly delineates the projected decline in water sales.[23]

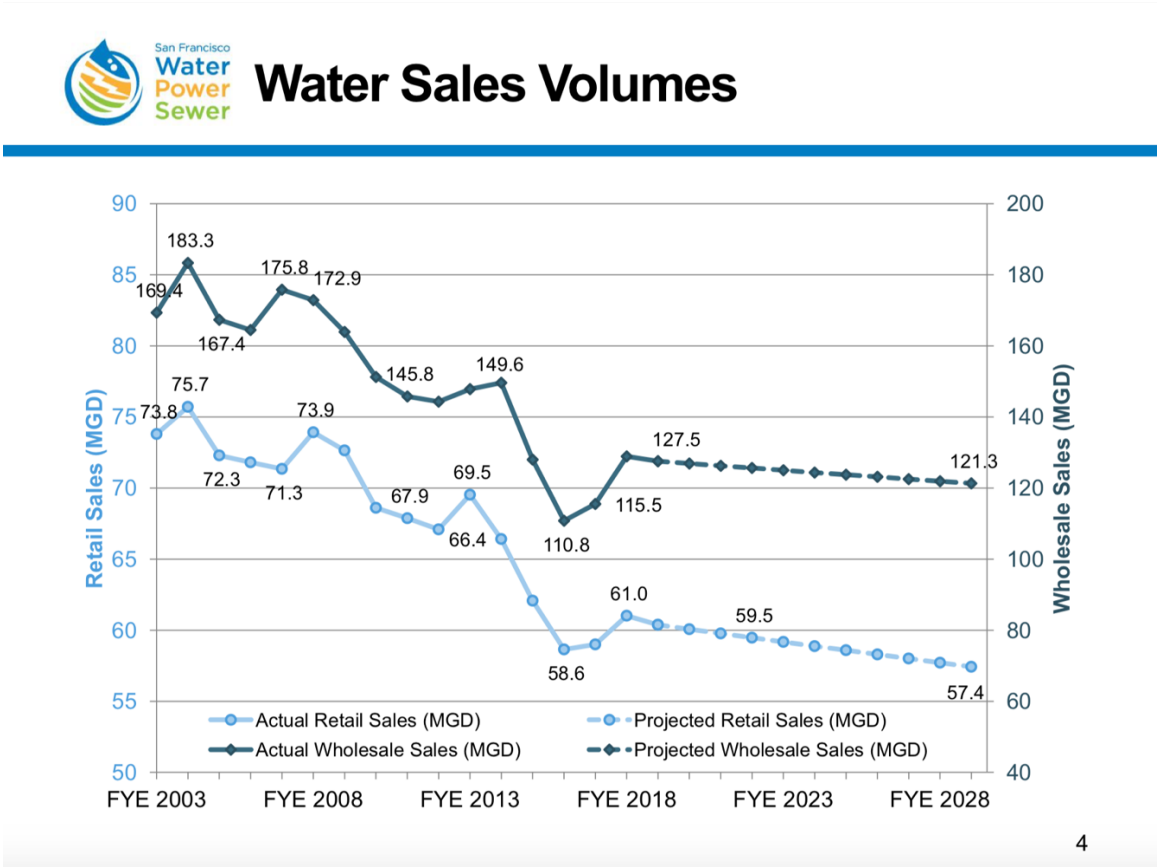


***Figure 3. SFPUC and BAWSCA actual (through 2018) and projected water sales***

### C. CCSF and BAWSCA have consistently over-predicted future water supply demand in their service areas.

The CCSF Response states that the Commission should rely on "San Francisco's expertise" in evaluating demand for its Regional Water System (RWS, combining SPFUC and BAWSCA deliveries). However, the SFPUC and BAWSCA have a long history of failing to accurately forecast future demand.

For example, when CCSF adopted its Water System Improvement Program (WSIP) in 2008, it stated demand projections for 2030 as being 300 mgd.[24] The SFPUC's 2010 Urban

[22] *Id*, p. 3.
[23] *Id*, p. 4.

Water Management Plan stated: "The Phased WSIP Variant would meet the projected 2018 purchase requests of 285 mgd from the RWS by capping purchases from the watersheds at 265 mgd; the remaining 20 mgd would be met through water efficiencies and conservation, water recycling and local groundwater use." [25]

Actual water demand in Water Year 2018/2019 was 192 mgd.[26]

The 265 mgd demand cited in SFPUC's 2010 Urban Water Management Plan is not a projection, but rather the sales cap adopted in the Phased WSIP. The 265 mgd sales cap is broken down into 184 mgd for BAWSCA and 81 mgd for San Francisco. The issue of whether 265 mgd is a reliable demand projection was raised at the SFPUC Commission meeting on October 22, 2019. Steve Ritchie, Assistant General Manager of the SFPUC's Water Enterprise, stated at that meeting: "We will be talking about demand projections, but we also have…the contractual obligation to deliver 184 million gallons per day (to BAWSCA) if that demand is there." [27]

At the same meeting, Nicole Sandkulla, BAWSCA's General Manager, informed the SFPUC Commission that BAWSCA was updating its regional demand projections. In concluding her comments, Ms. Sandkulla stated: "That said, there's a very good chance that for my agencies that number won't reach 184 (mgd) by 2045…That doesn't mean that you don't have a perpetual obligation for 184."[28]

This exchange is one example of how both SFPUC and BAWSCA have a vested interest in overstating their respective future water-supply demands. The managers of each agency wish to preserve the proportion of water allocated to his or her agency relative to the other agency. Similarly, these managers understandably share the same interest in assuring a high level of future supply so that they do not need to allocate responsibility for any future shortages.

### D. CCSF should specify how it would operate the Regional Water System under 200 mgd and 220 mgd demand scenarios.

TRT et al. disagrees with CCSF assertion that "[t]he Commission should rely on San Francisco's expertise"[29] to evaluate projections of future water use from the RWS system.

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[24] CCSF Planning Department, *Final Program Environmental Impact Report for San Francisco Public Utilities Commission Water System Improvement Program*, 2008, p. S-5. Available at: https://sfgov.org/sfplanningarchive/sfpuc-negative-declarations-eirs. Under the adopted "Phased Variant," SFPUC agreed to deliver no more than 265 mgd from its RWS through 2018.
[25] 2010 Urban Water Management Plan for the City and County of San Francisco, p. 22. Available at: https://sfwater.org/Modules/ShowDocument.aspx?documentID=1055
[26] SFPUC, "*Water Resources Division Annual Report*" for fiscal year 2018-2019. Available at: https://sfwater.org/Modules/ShowDocument.aspx?documentid=14560
[27] SFPUC Commission meeting, October 22, 2019. Audio transcript available at: https://sanfrancisco.granicus.com/MediaPlayer.php?view_id=22&clip_id=34347 (S*ee* 1:35:15)
[28] *Id*. at 1:43:00.
[29] CCSF Response, p. 6.

CCSF's track record in overstating water demand and its vested interest in doing so mean that analysis of other demand scenarios is also warranted.

A more appropriate deference to the SFPUC's expertise would be for SFPUC to describe how it would re-operate its overall system to deliver water to the Bay Area from the Tuolumne River watershed under reduced demand scenarios. As stated in the Declaration of Matt Moses, Water Resources Engineer for SFPUC:

> The methodology used for evaluating SFPUC water supply performance at a demand of 220 MGD is not explained in the DEIS, but it appears to involve some re-calculation of the information provided by the SFPUC for a demand of 238 MGD. This is not consistent with SFPUC drought planning practice, which is used to establish specific shortage estimates that are calibrated for each level of total system demand that is evaluated. The resulting levels of rationing can't be applied to a different level of system demand without re-calibrating water supply system operations for that level of demand.[30]

The same holds for non-drought scenarios. For different demand scenarios, it is necessary to "recalibrat[e] water system operations for that level of demand." As it stands, FERC staff is faced with the criticism that the DEIS does not accurately portray RWS operation under a reduced demand scenario. However, while the agency making the criticism is the agency best-placed to provide a more accurate portrayal, it declines to do so.

Conservation Groups, in preparing their DEIS comments, faced a similar absence of an SFPUC-approved representation of RWS operations under a 200 mgd demand scenario. As described in Conservation Groups' DEIS Comments, CSPA requested a Base Case model run from SFPUC under an assumed 200 mgd demand scenario. SFPUC declined to provide one. In response, CSPA attempted to synthesize numbers to populate such a scenario in the Districts' Operations Model.[31] However, after considerable effort, CSPA reluctantly concluded that there were too many unknown aspects of SFPUC's internal decision-making for CSPA to synthesize a reasonably accurate table to repopulate the Base Case table for operations in the User Input tab of the Operations Model.[32]

CCSF should not be allowed to hide the ball by withholding information that would evaluate a reduced level of impact to CCSF's RWS operations from various flow scenarios. The Commission should request that CCSF provide the Commission with inputs to the Don Pedro Operations Model that demonstrate how SFPUC would operate the deliveries from the Tuolumne watershed to the RWS under 200 mgd and 220 mgd scenarios.[33] SFPUC should provide this information to Commission staff and to relicensing participants forthwith. This is clearly a

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[30] CCSF DEIS Comments, Exhibit 2 (Declaration of Matt Moses) Attachment 1, pp. 7-8 (pdf pp. 63-64), (Apr. 12, 2019) eLibrary no. 20191412-5239.
[31] Conservation Groups' DEIS comments, p. 11.
[32] User Input tab, columns S through AF, lines 228 through 269.
[33] TRT et al. recommends that Commission Staff request 200 mgd and 220 mgd values for Operations Model User Input tab, columns S through AF, lines 228 through 269, for Base Case, Districts' Proposed Plan, and State Water Board's 40% flow scenarios.

feasible mitigation as defined under NEPA because SFPUC and BAWSCA have been operating this way for the past five years during a period of robust growth in the Bay Area economy.

## II. The Commission should not rely on Dr. Sunding's analyses of the economic impacts of the flow increases.

### A. There is no substantial evidence in the record that economic activity in the RWS area was impacted by water supply rationing during the 2013-2016 drought.

Mr. William L. Martin and Mr. David Warner made comments on the record regarding the apparent disconnect between the economic impacts of water shortages to the Bay Area predicted by Dr. David Sunding and the economic growth that occurred during the 2013-2016 drought.[34] Mr. Martin and Mr. Warner's respective comment letters made reasonable factual arguments that CCSF and BAWSCA's predicted economic impacts under drought conditions did not materialize.

BAWSCA and CCSF argue that there were "steep" and "extensive" economic effects in their service areas of reduced water availability

The BAWSCA Response states:

> During the recent drought, within the State mandated cutback window (June 2015–May 2016), residential per capita use in the BAWSCA service area was a very low 55.9 gallons per capita per day ("GPCPD"). This very low demand, however, came at a steep economic cost that was borne by BAWSCA customers.[35]

The CCSF Response states:

> There were extensive economic impacts of reductions in water consumption during the last drought. These impacts were confined to the residential sector since commercial and industrial rationing was not required to balance supply and demand. The residential losses occurring during the last drought were entirely consistent with the impacts measured in CCSF's comments.[36]

Neither BAWSCA nor CCSF make any showing of the alleged economic impacts. They simply rely on Dr. Sunding's statement that it was so. In fact, as discussed below, job growth was dramatic during the time water demand decreased.

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[34] Comments of William L. Martin (Apr. 8, 2019), eLibrary No. 20190408-5089; Comments of David (Dave) Warner (Apr. 12, 2019), eLibrary No. 20190412-5180

[35] BAWSCA Response, p. 5.

[36] CCSF Response, Exh. 1, Att. 1, ("*Response to the Comments of Mr. Bill Martin and Mr. Dave Warner On The Socioeconomic Effects Analysis Contained In The February 2019 Draft Environmental Impact Statement (DEIS) For Hydropower Licenses (FERC/DEIS-0293)*"), p. 2/ pdf p. 20.

### B. Reduced water use in the SFPUC and BAWSCA service areas between 2006 and 2016 drought do not bear out Dr. Sunding's projections of dire economic impacts of water shortages.

The BAWSCA Response states: "[T]he modeling efforts on which BAWSCA relies for its water shortage analysis are publicly available. More specifically, this analysis relied on Dr. David Sunding's 2018 report entitled 'Socioeconomic Impacts of Water Shortages within the Hetch Hetchy Regional Water System Service Area.'"[37]

Dr. Sunding has provided services to the SFPUC for more than 10 years. Over this time period, his socioeconomic analyses have performed poorly under the scrutiny of real-world experience. His projections of economic impacts from water shortages also varied substantially among the 2009, 2014 and 2018 iterations.

Dr. Sunding first testified on behalf of the SFPUC during an administrative proceeding that FERC ordered in 2009.[38] He stated that the SFPUC service area would lose 6,562 jobs at 20% rationing, 139,146 jobs at 41% rationing, and 188,000 jobs at 51% rationing. Lost sales would be $3.1 billion at 20% rationing, $37 billion at 41% rationing, and in excess of $49 billion at 51% rationing.[39]

On March 21, 2013, the SFPUC testified before the State Water Resources Control Board during a hearing on the Bay Delta Water Quality Control Plan. SFPUC staff cited Dr. Sunding's projections from 2009.[40]

On March 13, 2014, Dr. Sunding released a draft report titled, "*Socioeconomic Impacts of Water Shortages within the Hetch Hetchy Regional Water System Service Area*."[41] Dr. Sunding's 2014 Study projected that the SFPUC service area would lose 7,510 jobs at 20% rationing, 24,510 jobs at 30% rationing, 54,030 jobs at 40% rationing, and 71,390 jobs at 50% rationing.[42] Lost business sales would be $2.03 billion at 20% rationing, $6.5 billion at 30% rationing, $15.35 billion at 40% rationing, and $20.56 billion at 50% rationing.[43]

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[37] BAWSCA Response, p. 6.
[38] The proceeding took place pursuant to 128 FERC ¶ 61,035, *Order on Rehearing, Amending License, Denying Late Intervention, Denying Petition, and Directing Appointment of a Presiding Judge for a Proceeding on Interim Conditions*, (July 16, 2009).
[39] *See Answering Testimony of the City and County of San Francisco, California, Public Utilities Commission*, (Sept. 22, 2009), *Answering Testimony of David L. Sunding on Behalf of San Francisco Public Utilities Commission.* eLibrary no. 20090922-5093, pdf pp. 23 ff.
[40] See final slide at https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/dsedoc/sanfranciscocity.pdf
[41] David Sunding, *Socioeconomic Impacts of Water Shortages within the Hetch Hetchy Regional Water System Service Area*, 2014. Available at: http://www.donpedro-relicensing.com/Lists/Meetings/Attachments/79/CCSF%20Draft%20Socioeconomic%20Study_3_13_2014.pdf
[42] *Id.*, Table 5-4, p. 64.
[43] *Id.*, Table 5-3, p. 62.

On October 9, 2016, the General Managers of the SFPUC and BAWSCA published a guest editorial in the San Francisco Chronicle. For consumption by the general public, they reverted to the figures from Dr. Sunding's 2009 Study. General Manger Kelly and General Manager Sandkulla wrote in the Chronicle: "Our initial economic analysis of the first iteration of this plan forecast up to 51 percent rationing, resulting in 140,000 to 188,000 jobs lost in the Bay Area. These same forecasts also show between $37 billion and $49 billion in decreased sales transactions."[44] Recall that in 2014, Dr. Sunding had substantially reduced his 2009 projections at 50% rationing, from $49 billion in projected business sales losses to $20.56 billion (58% lower), and from 188,000 projected job losses from to 71,390 (62% lower).

| Rationing | Sunding 2009[1] | Sunding 2014[2] | Sunding 2018[3] |
|---|---|---|---|
| 20% | 6562 | 7510 | 7014 |
| 30% | N/A | 24,510 | 22,334 |
| 40/41% | 139,146 | 54,030 | 56,094 |
| 50/51% | 188,000 | 71,390 | 71,667 |

***Figure 4: Comparison of Sunding projections for job losses (Compiled from sources cited in footnotes 39, 41 and 46)***

[1] Values for year 2010
[2] Values for year 2010
[3] Values for "current conditions"

| Rationing | Sunding 2009[1] | Sunding 2014[2] | Sunding 2018[3] |
|---|---|---|---|
| 20% | $3.1 B | $2.03 B | $1.38 B |
| 30% | N/A | $6.5 B | $5.90 B |
| 40/41% | $37 B | $15.35 B | $15.24 B |
| 50/51% | $49 B | $20.56 B | $20.90 B |

***Figure 5: Comparison of Sunding projections for business sales losses (Compiled from sources cited in footnotes 39, 41 and 46)***

[1] Values for year 2010
[2] Values for year 2010
[3] Values for "normalized current conditions"

On January 3, 2017, the SFPUC made a presentation on a panel before the State Water Board at a hearing on the Bay-Delta Water Quality Control Plan. In front of this sophisticated audience, the SFPUC did not present its socioeconomic analysis of potential impacts from the Bay-Delta Plan. This prompted a question from Board Member Dorene D'Adamo: "The question that I have for you has to do with your economic analysis. So, I will just be very up

[44] "*San Francisco to State on water-use cutbacks: How low can we go*?" San Francisco Chronicle, October 9, 2016. Available at: https://www.sfchronicle.com/opinion/article/San-Francisco-to-state-on-water-use-cutbacks-How-9940351.php

front that there have been questions about the analysis that the City had submitted in the last round, and I know that you're updating it, and so I just want to give you an opportunity here to maybe shed some light on the analysis that you've already submitted and any changes in methodology or approach that you'll be using in the most current SED that's before us."[45] The SFPUC representatives responded that the SFPUC was updating its socioeconomic analysis, and that SFPUC would submit a revised version with their written comments.

Dr. Sunding's most recent report on behalf of CCSF was included as an Appendix to CCSF's Motion to Intervene.[46] This 2018 Study forecasts that the SFPUC service area would lose 7,014 jobs at 20% rationing, 22,334 jobs at 30% rationing, 56,094 jobs at 40% rationing, and 71,667 jobs at 50% rationing.[47] Lost business sales would be $1.38 billion at 20% rationing, $5.9 billion at 30% rationing, $15.24 billion at 40% rationing, and $20.9 billion at 50% rationing.[48] *See* Figures 4 and 5 above. The estimated economic losses at 20% rationing are the most substantially lowered (32% lowered than the 2014 projection; 55% lower than the 2009 projection).

Dr. Sunding's work has failed to hold up under the scrutiny of real-world experience. For example, between 2006 and 2016, water deliveries in the SFPUC service area decreased by 30%, the equivalent of 30% rationing. Yet, rather than losing jobs and business sales as projected, the economy grew stronger than ever. Between 2006 and 2016, San Francisco added 161,200 jobs, San Mateo County added 54,900 jobs, Alameda County added 59,800 jobs, and Santa Clara County added 171,400 jobs.[49]

SFPUC water deliveries during FY 2018/19 (three years after the drought ended) were 192 mgd: 20% below Dr. Sunding's "normalized" demand of 238 mgd. Yet, the SFPUC and BAWSCA service areas did not experience the loss of 7,104 jobs nor $1.38 billion in business sales. The economy grew even stronger, despite low water demand.

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[45] Video available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2016_sed/hearing_presentations.shtml (click on "Video" at the top under the Sacramento hearing on January 3, 2017) – 6:40:00.

[46] CCSF, *Motion to Intervene and Comments and Recommendations of the City and County of San Francisco*, Exhibit 2: David L. Sunding PhD., *Socioeconomic Impacts of Water Shortages within the Hetch Hetchy Regional Water System Service Area*, (Jan. 29, 2018), eLibrary no. 20180129-5254.

[47] *Id.*, Table 5-4, p. 58.

[48] *Id.*, Table 5-3, p. 56.

[49] Source: California Employment Development Department. Available at: https://www.labormarketinfo.edd.ca.gov/data/employment-by-industry.html

## III. The EIS should not rely on SFPUC's Design Drought to evaluate different drought scenarios.

### A. SFPUC's Design Drought is historically unprecedented.

The CCSF Response states: "The DEIS appropriately rejected the Conservation Groups' flow proposal," explaining:

> The SFPUC would be required to impose rationing of 40% throughout the RWS service area under the Conservation Groups' Flow Proposal, assuming the reoccurrence of hydrological conditions experienced in fiscal years 1990-93 and 2014-16 and the current RWS demand of 238 million gallons per day ("mgd"). … At a projected RWS 2040 demand level of 265 mgd, the SFPUC would have to impose rationing of 50% during a reoccurrence of the hydrology experienced in 1990-93, and 55% during the hydrology experienced in 2014-16."[50]

In addition to the issues in this statement that arise from the demand figures, as discussed above, these projected levels of rationing are highly dependent on the SFPUC's use of an 8.5-year "Design Drought." This Design Drought envisions the hydrology of the 6-year 1987-1992 drought immediately followed by the hydrology of the 2.5-year 1976-1977 drought.

There is no historical basis for this Design Drought. The California Department of Water Resources provides publicly available reconstructions of Tuolumne River flows since the year 900 A.D. based on local watershed tree ring data.[51] This data shows that the 6-year 1987-1992 drought was the driest 6-year period over this 1100-year record. The 1976-1977 drought was the second driest two-year drought on record (the 1579-1580 drought was the driest).

Stated differently, the tree-ring data show that the 1987-1992 drought, the driest on record, was a 1-in-1100-year occurrence. No drought of the severity of the SFPUC's 8.5-year design drought occurred in those 1100 years. In fact, after reducing the flow data to offset statistical variability[52] and then applying the SFPUC's drought planning model at 265 mgd demand[53] to all of the other recorded droughts, it is TRT el al.'s calculation that there was no drought in the 1100-year period whose hydrology would have required more storage than would be needed in the first 5 years of the 8.5-year model.

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[50] CCSF Response, pp. 3-4.

[51] California Department of Water Resources, Paleo-Dendrochronological "Tree-Ring" Hydroclimatic Reconstructions for Northern and Southern California River Basins, "Northern California Nested Reconstructions" (https://data.cnra.ca.gov/dataset/paleo-dendrochronology-tree-ring-hyrdo-climatic-reconstructions)

[52] When comparing reconstructed flow data from tree rings to observed flow data for the period 1901-2012, the variance between the observed data and the reconstructed data for every 6-year period ranged from flows being understated by 16% to flows being overstated by 23%. To offset the statistical variability, all reconstructed flows were reduced by 23%.

[53] The version used is an annual simplification/approximation and reflects the losses from the Bay-Delta Plan and the model's rationing plan.

### B. Additional factors have reduced and can further reduce the risk that supported the development of the Design Drought.

In 1994, then-General Manger of the SFPUC Anson Moran wrote a short affidavit in which he described the genesis of the Design Drought. This affidavit is attached to these comments.[54] The affidavit stated in part:

> The City's "operation rule" was developed during the course of the recent 1987-1992 drought. Never before had such a sustained drought been experienced by the City. … Water deliveries to City customers at the time the drought began amounted to approximately 293 million gallons per day (MGD) (328,000 acre-feet per year). … The City learned the painful lesson as to the adverse impacts that are caused by not planning for a drought worse than any experienced to date.
>
> What makes San Francisco's situation unusual is the consequence of being wrong in our forecast. Because of our entitlement structure, and limited conveyance and treatment capacity, an additional, unforecasted year of drought could result in empty reservoirs ….
>
> Due to the extremely limited conveyance and treatment capacity system to bring other emergency sources of water to the City, the City must rely on storage in the Tuolumne River basin to ride out droughts. The city just does not have other sources to call on during droughts. …
>
> Situated within the drought, I weighed all the above factors and supported the operation rule that is currently used by the City in practice, and incorporated in the planning studies submitted to FERC. … When considering all the factors associated with the City's entitlements to water, its physical system, and the dire consequences of just being wrong in the forecasting of the length of drought that may hit the City, I can not agree with any comment that the City's operation rule is overly conservative.[55]

This affidavit brings forth both facts and conclusions. The important facts are:

- RWS demand at the onset of the 1987-1992 drought (a whopping 293 mgd, 150% of 2019 demand)
- SFPUC's reliance on the Tuolumne River during droughts
- The lack of alternative sources of water supply available to SFPUC
- SFPUC's limited conveyance and treatment capacity to make use of any alternative water supply that might be available

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[54] Affidavit of SFPUC General Manager Anson Moran, January 26, 1994, submitted by CCSF as Exhibit D to "*Initial comments of City/County of San Francisco on draft environmental assessment for Turlock/Modesto Irrigation Dist's, New Don Pedro Proj-2299,*" January 31, 1994, eLibrary no. 19940208-0116.
[55] *Id.*, pp. 2, 4, 5.

- Not planning for unprecedented drought can lead to painful consequences.

However, Mr. Moran in this affidavit draws only one major conclusion: the need to plan for more severe droughts than have happened in the past.

Since 1994, some aspects of SFPUC's operations have changed that have improved SFPUC and BAWSCA's ability to respond to and manage drought. Prior to the 1987-1992 drought, the SFPUC did not prioritize water supply over hydroelectric generation in its Hetch Hetchy system. After 1994, the SFPUC changed the policy to "water first," giving water supply a higher priority than power generation. SFPUC, and to a generally lesser degree BAWSCA's retail agencies, have implemented water conservation policies and incentives and reduced water demand in their service areas. In addition, San Francisco has invested about $4.8 billion in the Water System Improvement Program mentioned above. These improvements provide greater reliability of delivery of water from existing sources. The reconstruction of Calaveras Dam in eastern Alameda County has also restored storage to the RWS.

Twenty-five years have passed since SFPUC's then-General Manager and current Commissioner Mr. Moran called out the RWS's vulnerability to droughts because of its over-dependence on a single supply. However, SFPUC and BAWSCA have done little in those twenty-five years to reduce their dependence on the Tuolumne River. They have secured few alternative sources of water supply. They have not constructed new treatment plants to treat water that they might secure on a temporary basis through transfer or purchase. They still have limited conveyance capacity to move water from alternative sources into or within the greater RWS service area.

Even if one assumes for the sake of argument that planning for a Design Drought should consider drought events worse than those of the past, there should be consequences for CCSF's inaction in the face of Mr. Moran's caution in 1994 against "the dire consequences of just being wrong in the forecasting of the length of drought that may hit the City." Those consequences should not all fall to flows in the lower Tuolumne River. It is not known whether climate change or other factors will cause worse droughts in the future. It is completely known that failure to plan and act to secure redundant water supplies over the past quarter century was irresponsible. This choice has also placed SFPUC and BAWSCA in opposition to needed flow increases in the lower Tuolumne River in opposition to the values of their constituents.

Fortunately, as TRT and others have previously discussed in multiple filings, there are opportunities for SFPUC and BAWSCA to diversify their sources of water supply.[56]

[56] *See* for example Conservation Groups' REA Comments (January 29, 2018), eLibrary no. 20180129-5200, pp. 16-18, 21-22, 26-30; Conservation Groups' DEIS Comments, pp. 17-19; TRT and others, "Phase I SED Analysis of Potential Economic Impacts to CCSF resulting from Tuolumne Flow Alternatives," filed in the P-2299 docket (Oct. 9, 2014), eLibrary no. 20191009-5037.

## IV. The FEIS should evaluate mitigations for reductions in water available for water supply due to increased flows in the lower Tuolumne River.

### A. The FEIS should evaluate mitigations for SFPUC and BAWSCA's water supply.

In 1996, the Commission issued an EIS for the proceeding to set flow requirements from the Don Pedro Project after "[a]n environmental assessment previously [1993] prepared for this proceeding concluded that changes in minimum flows could significantly impact the human environment by reducing municipal and industrial water supplies and that the preparation of an environmental impact statement was required."[57]

In that proceeding, it was precisely the potential impact to Bay Area water supply that the Commission found to warrant the most extensive form of NEPA analysis. Yet the Commission has inexplicably disallowed discussion of mitigation in the instant proceeding for the water supply impacts that it previously identified in 1994 as the fulcrum that demanded the analysis. As discussed in Conservation Groups' comments on the DEIS, this posture is unlawful under both NEPA and the Federal Power Act.[58] But additionally, it flatly contradicts the conclusion the Commission came to in 1994. It defies understanding how mitigation for the very impacts that required an earlier EIS is outside the scope of analysis in the instant EIS.

SFPUC and BAWSCA argue that potential mitigations for loss of water supply are "speculative." As noted above, if they are speculative, it is only because these agencies have been insufficiently responsible. The SFPUC has already identified opportunities to diversify its supply. A "Water Supply Planning Update" that SFPUC Assistant General Manager Ritchie presented to commissioners on October 22, 2019, SFPUC staff has identified a suite of projects that could provide alternatives to reliance on the Tuolumne. [59] Mr. Ritchie was direct about the need: "While we continue to maximize conservation and the development of nonpotable and potable supplies through our onsite water reuse, recycled water and groundwater programs, new supplies are needed to meet our projected needs."[60]

The opportunities Mr. Ritchie identified included groundwater banking in collaboration with the Districts, one of the many options that CCSF dismissed when proposed by Conservation Groups. ("An alternative is not 'reasonable' for NEPA purposes if it is impractical, infeasible, or too speculative.")[61] One of Mr. Ritchie's October 22, 2019 supporting documents describes the opportunity: "Groundwater banking in the Modesto Irrigation District and Turlock Irrigation District (the Districts) service areas could be used to provide some additional water supply to meet instream releases in dry years reducing water supply impacts to the SFPUC service area."

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[57] FERC, *Final Environmental Impact Statement for the Reservoir Release Requirements for Fish, New Don Pedro Project*, P-2299-024, (July, 1996) p. xxv, eLibrary no. 19960724-0394 ("1996 FEIS").
[58] *See* Conservation Groups' DEIS Comments, pp. 17-19.
[59] Steven Ritchie, SFPUC Assistant General Manager, "Water Supply Planning Update," October 22, 2019, available at: https://sfpuc.sharefile.com/share/view/sb19a630313a4826a
[60] *Id.*, pdf p. 25.
[61] CCSF Reply Comments to comments in response to the Notice of Ready for Environmental Analysis, (Mar. 15, 2018), eLibrary no. 20180315-5138, p. 22/pdf p. 25.

The same supporting document points out: "Feasibility study of this option is included in the proposed Tuolumne River Voluntary Agreement."[62]

### B. The FEIS should evaluate a public interest finding protecting Bay Area water supply, such as the "Flow Allocation Agreement License Article" requested by CCSF in its comments on the DEIS.

In its comments on the DEIS, CCSF requests that the Commission order a continuation of the 1995 "Side Agreement" between CCSF and the Districts in the event that CCSF and the Districts do not negotiate a continuation of such an agreement themselves.[63] The 1995 "Side Agreement" allocates to the Districts the responsibility for meeting the additional instream flow required by the 1996 license amendment increasing streamflows in the lower Tuolumne River. In exchange, CCSF pays the Districts a fixed sum annually.

The Commission is not limited to a license article that would retain existing allocation of responsibility for meeting instream flow. The Commission could equally consider a public interest determination of drought rules that would assure a level of reliable Tuolumne River water supply to SFPUC and BAWSCA due to the economic impacts of prolonged drought on the Bay Area. Part of that public interest determination could be based on the relative water use efficiency of SFPUC, BAWSCA and the Districts.

The 1996 FEIS explicitly considered various arrangements to meet or share the responsibility for meeting flows in the lower Tuolumne River.[64] The instant FEIS should include the same type of analysis, but one that is more sophisticated and extensive, consistent with the greater data availability and the improved Operations Model currently available to the Commission.

### C. The FEIS should evaluate mitigations for the Districts' water supply.

In a set of reply comments 25 years ago, the City of San Francisco was less reticent about recommending water use efficiency by the Districts than the City has been in the instant proceeding. The City commented:

> The Districts' intention in attempting to avoid the EIS is clearly to circumvent a searching analysis of their water supply situation, including less than efficient irrigation practices and the abundant ground water supplies they have available to them. The Districts apparently are seeking to avoid an exposé of the stark contrast between their water utilization and San Francisco's lack of adequate water supply and storage.[65]

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[62] Water Supply Planning Update, *op. cit.*, pdf p. 29.
[63] CCSF Comments on the DEIS, pp. 33-42.
[64] 1996 FEIS, Appendix C.
[65] CCSF January 1994 Reply Comments, *op. cit.*, p. 6.

The 1996 FEIS produced by FERC at least looked at the issue of the Districts' water use efficiency, though the analysis was cursory and somewhat mooted by the very modest impact of the small flow increases agreed to in the 1995 Settlement Agreement.[66]

In the absence of any such analysis in the 2019 draft EIS, Conservation Groups' DEIS Comments recommended several lines of analysis.[67] These follow from the analysis in Conservation Groups' REA Comments.[68] The instant FEIS should mine the sources cited therein for data that would support analysis of the Districts' water use efficiency. The 2020 FEIS should then analyze opportunities for the Districts to mitigate reductions in water available to the Districts for water supply due to increases in instream flows.

## V. Conclusion

The FEIS should:

- Evaluate a range of water supply demand scenarios for CCSF and BAWSCA's combined Regional Water System that includes 200 mgd and 220 mgd scenarios.
- Disregard CCSF's overstatement of economic impacts that might result from hypothesized water supply shortages.
- Evaluate impacts to CCSF and BAWSCA water supply using an alternative drought scenario or scenarios that are less conservative than the drought scenarios that CCSF and BAWSCA use.
- Evaluate mitigations for reductions in the available water supply for SFPUC, BAWSCA, and the Districts that might arise due to increased flows in the lower Tuolumne River.

Thank you for the opportunity to offer reply comments to the comments of SFPUC and BAWSCA on the Draft Environmental Impact Statement and to their respective Responses to Comments on the Draft Environmental Impact Statement.

Respectfully submitted this 30th day of December, 2019.

[66] 1996 FEIS, pp. 3-26 to 3-32; also, Appendix B.
[67] Conservation Groups' DEIS Comments, pp. 68-71.
[68] Conservation Groups' REA Comments, esp. pp. 23-26.

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# Attachment 1

# Affidavit of Anson B. Moran

# January 26, 1994

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Turlock Irrigation District
and
Modesto Irrigation District

Project No. 2299

AFFIDAVIT OF ANSON B. MORAN

I, Anson B. Moran, do hereby declare as follows:

1. I am General Manager of the Public Utilities Commission for the City and County of San Francisco, and have been so employed since December, 1993. Prior to my appointment to this position, I was General Manager of the Hetch Hetchy Water and Power Department since 1988. Prior to that position, I was Assistant General Manager, Finance for the San Francisco Public Utilities Commission. I Joined the Public Utilities Commission in 1980.

2. I serve on the Boards of the California Water Education Foundation and California Municipal Utilities Association, and am currently Chairman of the California Urban Water Agencies. I have a Bachelor of Science in Electrical Engineering from Worcester Polytechnic Institute and a Master of Arts in Urban Studies from Occidental College.

3. I am responsible for the actions of the Hetch Hetchy Water and Power Department and San Francisco Water Department which supply water to a population of approximately 2.3 million people within the counties of Tuolumne, Alameda, Santa Clara, San Mateo, and San Francisco.

4. In this affidavit, I address the subject of the planning and operation the City's water facilities during drought.

Specifically, I address the basis of the procedures the City used to determine the rationing that was implemented during the recent drought, and which are incorporated in the City's water supply planning studies.

5. The City's "operation rule" was developed during the course of the recent 1987-1992 drought. Never before had such a sustained drought been experienced by the City. The onset of the drought really began in 1986, the point in time when the City's reservoirs were last filled, and continued until June, 1993 when the City's reservoirs finally refilled to full capacity. This drought spanned approximately 7 years.

6. Water deliveries to City customers at the time the drought began amounted to approximately 293 million gallons per day (MGD)(328,000 acre-feet per year). During the 1987-1992 period the City received from Tuolumne River runoff an average of only 151,500 acre-feet per year, and from local Bay area water sources approximately 20,700 acre-feet per year. The deficit between water supplies and water demands during the drought became readily apparent as the drought progressed, requiring an extreme dependence on Tuolumne River reservoir storage to partially close the gap.

7. The City proceeded with operations at the onset of the drought in accordance with procedures based on the experience of many years of historical operation, including the knowledge of previous drought events such as had occurred in 1976-1977. The operation of the City's facilities in accordance with rules based only on historical data proved to be a mistake.

8. The City learned the painful lesson as to the adverse impacts that are caused by not planning for a drought worse than any experienced to date. This lesson was driven home when the hydrology of the Tuolumne River and the City's operations through 1990 and early 1991 had created a situation where a 45 percent rationing program among City customers was initiated - a level of rationing that was found to be intolerable and not achievable.

9. The City and its customers implemented numerous drought-related and long-term water conservation programs to lessen water demand, with water demand ultimately being reduced by approximately 30 percent as compared to pre-drought deliveries. The City also purchased water from other entities to narrow the gap between supplies and demands. These actions along with a fortuitous storm during the spring of 1991 allowed the City to regain control of its system and efforts moved forward to better plan for the reliability of the City's water deliveries.

10. Significant questions regarding how the City would operate its water system had to be addressed. Several of these questions were as follows:

- How much water should the City maintain in storage in one year to assure water deliveries during the next year?
- To what level and for what duration can the City expect its customers to reduce water use?
- How long a period should the City expect the drought to continue?
- During the drought period, what water supplies (e.g., inflow to City reservoirs) should be expected to occur?

The answers to these fundamental questions are intertwined, and result in the operation rule that the City now uses to guide City water delivery operations.

11. However, underlying the answers to these questions is an appreciation of the risk that is inherent in operating to any rule. In the case of the City's water deliveries, risk is the product of the probability (frequency) of water shortages and the consequences of those shortages.

12. The frequency of potential shortages is forecasted with modeling tools that integrate assumptions for each of the above questions.

13. The consequences of shortages include economic, socio-economic, environmental, and personal (human) impacts.

14. What makes San Francisco's situation unusual is the consequence of being wrong in our forecast. Because of our entitlement structure, and limited conveyance and treatment capacity, an additional, unforecasted year of drought could literally result in empty reservoirs, no entitlements, and little or no alternate source of water. We could have <u>no</u> water to serve our 2.3 million customers.

15. In the spring of 1991 these consequences achieve a sobering clarity. I became acutely aware of the physical constraints of the City's water conveyance, treatment and delivery facilities; the availability of, and limitations to movement of supplemental emergency water supplies into the City's system; and the uncertainty as to when the drought would finally end. Due to the extremely limited conveyance and treatment capacity system to

bring other emergency sources of water to the City, the City must rely on storage in the Tuolumne River basin to ride out droughts. The City just does not have other sources to call on during drought, such as turning on pumps. In addition, I had first-hand information as to the direct and indirect adverse impacts that were occurring to the City's customers as the result of water shortages.

16. Situated within the drought, I weighed all the above factors and supported the operation rule that is currently used by the City in practice, and incorporated in the planning studies submitted to FERC. That plan was tested as it was developed and is the direct product of real, on-the-line decision making. When considering all the factors associated with the City's entitlements to water, its physical system, and the dire consequences of just being wrong in the forecasting of the length of drought that may hit the City, I can not agree with any comment that the City's operation rule is overly conservative.

I declare under penalty of perjury that the foregoing is true and correct.

Date: Jan 26, '94

Anson B. Moran

**UNITED STATES OF AMERICA**
**FEDERAL ENERGY REGULATORY COMMISSION**

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|---|---|---|
| | ) | |
| Modesto Irrigation District | ) | |
| Turlock Irrigation District | ) | |
| | ) | |
| Don Pedro Hydroelectric Project | ) | P-2299-082 |
| La Grange Hydroelectric Project | ) | P-14581-002 |
| | ) | |

**Certificate of Service**

I hereby certify that the foregoing *Reply Comments of Tuolumne River Trust, California Sportfishing Protection Alliance, Golden West Women Flyfishers, David Warner and William Martin to Comments on the Draft Environmental Impact Statement and to Responses to Comments on the Draft Environmental Impact Statement* of Tuolumne River Trust, California Sportfishing Protection Alliance, Golden West Women Flyfishers, Mr. William L Martin and Mr. David Warner in the above-captioned proceeding has this day been filed online with the Federal Energy Regulatory Commission and served via email or surface mail upon each person designated on the Service List compiled by the Commission Secretary for this Project.

Dated at Berkeley, California on the 30th day of December, 2019.

Chris Shutes
FERC Projects Director
California Sportfishing Protection Alliance