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E-Filing

Don Pedro Hydroelectric Project
FERC Project No. 2299-082
La Grange Hydroelectric Project
FERC Project No. 14581-002

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, DC 20426

Subject: Don Pedro Hydroelectric Project, FERC Project No. 2299-082
La Grange Hydroelectric Project, FERC Project No. 14581-002
Districts' Response to June 26, 2018 Comments Filed by California
Sportsfishing Protection Alliance, Tuolumne River Trust, and
Golden West Women's Flyfishers

Dear Secretary Bose:

Turlock Irrigation District and Modesto Irrigation District (collectively, the "Districts") herein respond to the June 26, 2018 comments filed jointly by California Sportsfishing Protection Alliance ("CSPA"), Tuolumne River Trust ("TRT"), and Golden West Women's Flyfishers ("GWWF") (collectively, "CSPA et al.") in the Don Pedro Hydroelectric Project No. 2299 ("Don Pedro") relicensing proceeding and the La Grange Hydroelectric Project No. 14581 licensing proceeding in response to a June 8, 2018 letter from U.S. Senator Dianne Feinstein to Secretary of the U.S. Department of Commerce ("Commerce") Wilbur Ross. Senator Feinstein's letter referenced a letter from the Districts to the Senator dated May 31, 2018. The June 26, 2018 CSPA et al. letter purports to clarify certain "inaccuracies" and "unsubstantiated opinions" they claim are contained in the Districts' May 31, 2018 letter. The CSPA et al. letter contains numerous errors which are addressed herein.

Senator Feinstein's letter to Secretary Ross is commenting on Federal Power Act ("FPA") Section 10(j) recommendations filed with the Federal Energy Regulatory Commission ("FERC") by a single federal resource agency—Commerce's National Marine Fisheries Service ("NMFS"). The Districts' May 31, 2018 letter to Senator Feinstein summarizes and describes the impacts to the Districts and the City and County of San Francisco ("CCSF") of Section 10(j) recommendations filed with FERC by both the U.S. Department of the Interior's Fish & Wildlife Service ("USFWS") and NMFS. The Districts' May 31, 2018 letter explained that the measures proposed by these two federal agencies would have severe water supply and financial impacts on the Districts and the broader Central Valley region, and would impact CCSF and its 2.6 million customers in the Bay Area. The Districts' May 31, 2018 letter was prepared for the purpose of responding to the Senator's request to understand the full range of potential effects that would be wrought by the federal agencies' proposed measures, including the effects of those measures on

water supplies, fisheries, regional economies, and local communities. The CSPA et al. letter raises the concern that Senator Feinstein and/or NMFS may be attempting *ex parte* communications with FERC, but then directly declares that it is “unaware of any such communication” in this proceeding.

DISCUSSION

A. Good Faith Participation in FERC’s Integrated Licensing Process

1. Failure to Use Information Developed in the ILP Shows a Lack of Good Faith

CSPA et al. identifies as the “most problematic” issue with the Districts’ letter (and the Senator’s letter as well) an apparent “inference” that by neglecting to avail themselves of the seven interrelated simulation models developed as part of the multi-year Integrated Licensing Process (“ILP”), the two federal agencies demonstrated “a lack of good faith”. The reference to “good faith” contained in the Districts’ letter (and the Senator’s as well) is a quote taken directly from the ILP Final Rule. FERC used a collaborative rulemaking process to develop the ILP and in so doing sought and received the direct input and advice of the federal resource agencies, notably NMFS and USFWS. While FERC cannot control or limit the authority of the federal agencies, it was reasonable for FERC and licensees to expect “good faith” participation in the collaboratively-developed ILP process. FERC went on to define that “good faith” participation by federal resource agencies meant that the record established through the ILP will “serve as the basis for the decisions of entities with conditioning authority”. Therefore, the definition of “good faith” regarding participation in the ILP applicable to federal entities is to rely on the record developed during the process. To the extent information developed as part of the ILP is ignored or unused “as the basis for the decisions” made by federal agencies, then there is a lack of “good faith” participation in the ILP.

CSPA et al. claims the federal agencies did participate in the ILP in “good faith”. As evidence, CSPA et al. points out that “agencies” made use of the “water balance model”. The Districts assume that this is a reference to the Tuolumne River Operations Model (“Ops Model”). The Ops Model was developed in collaboration with relicensing participants through the Consultation Workshop process and is a comprehensive model of the water resources of the entire Tuolumne River watershed run on a daily time step. The model scope and output includes daily reservoir storage volumes for both Don Pedro Reservoir (which is owned by the Districts) and the Hetch Hetchy system (which is owned by CCSF) covering a 42-year period, daily water supply availability for both the Districts’ service territory and the Bay Area, and daily flows released to the lower Tuolumne River. The Ops Model is specifically designed to depict the trade-off that occurs between instream flows and water supplies during all water year types, especially extended dry years which occur frequently over the hydrologic record. Model development took place with active involvement by relicensing participants. Following model development, calibration, and validation, the Districts provided the model to all interested parties, and even trained relicensing participants on its use, so all parties intending to develop a new set of proposed instream flows would also understand the effects of these flows on the water supplies to the Districts’ customers and to CCSF’s 2.6 million customers in the Bay Area.

Based on our review of the USFWS and NMFS filings of January 2018¹, neither agency provided any indication that it considered the water supply effects of their recommended instream flows. Indeed, neither of the USFWS' and NMFS' recommendations are based upon information derived from the Tuolumne River site-specific models. Furthermore, as support for their recommendations, both agencies cite to either draft or outdated studies--for which numerous concerns were raised in previous comments in the FERC Record (e.g. Mesick et al 2008)--or studies on other rivers (e.g., studies of the Yolo Bypass on the Sacramento River) not remotely similar to the Tuolumne River. The agencies selectively used only the instream flow portion of the Ops Model and did not consider the water supply effects portion of the Ops Model output. Contrary to the CSPA et al. claim that the "agencies" used the Ops Model to inform the development of their proposed license conditions and therefore participated in the ILP in "good faith", the agencies' selective use of the Ops Model further substantiates a lack of "good faith" by the agencies due to their apparent lack of interest in understanding the effects of their proposed license conditions on water supplies, which is one of the key purposes of the Ops Model.

2. Agency Participation in Model Development

The chief objective of the CSPA et al. letter is to attempt to diminish the usefulness of the models developed during the Don Pedro Project's ILP. CSPA et al. appears to take particular aim at the two fish population models by selectively citing a few quotes from among the hundreds of pages of comment letters, which quotes purport to show the "*assumptions and conclusions*" of the Districts' fish population models have been in dispute since *2012*" (emphasis added).

CSPA et al.'s suggestion that there is a long and continuing "dispute" about the studies is a mischaracterization of the record and the model development process. The Districts held two fish population modeling Consultation Workshops in 2012 associated with study W&AR-05: Salmonid Populations Information Integration and Synthesis; the first was held on April 10, 2012, and the second on June 26, 2012. These Workshops were intended to identify, discuss, and rank the relevance of the available scientific and technical information concerning Tuolumne River salmonids in a collaborative manner. Subsequent to the two Consultation Workshops, in November 2012, the Districts distributed to relicensing participants the Final Meeting Notes, which updated the list of available technical information and citations, provided revised schematics of conceptual models and fish life cycle inputs, and provided a *preliminary* ranking of key factors affecting Tuolumne River salmonids. The two W&AR-05 study Consultation Workshops did not produce or identify any specific fish population model "assumptions", and certainly did not result in any "conclusions", since the actual development of the fish population models themselves had not even begun.

¹ On June 14, 2018, NMFS and USFWS jointly sought a stay in the FERC proceedings to allow them "sufficient time to review flow recommendations previously submitted to [FERC]" and to review the modeling of their Section 10(j) recommendations done by the Districts at the behest of FERC. Although no new or revised Section 10(j) recommendations have yet been filed, and may never be filed, the water supply impacts and anticipated fishery benefits of their proposals are being considered using information and models developed in the ILP. FERC dismissed the stay request as moot on September 6, 2018.

The California Department of Fish and Wildlife (“CDFW”) did raise a number of concerns about the Information Integration and Synthesis process in a letter dated August 31, 2012. Core issues raised in the letter related to CDFW’s desire to make certain that flow and temperature variables were specifically incorporated into the population models. In the November 15, 2012 filing of the Final Meeting Notes, the Districts clarified that the issues raised by CDFW, including those related to flow and temperature, would be considered in the development of the two species-specific fish population models. CDFW disagreed with the preliminary rankings table developed in the Consultation Workshops and the Districts requested that CDFW provide specific citations to support alternative rankings; but, no additional supporting information was provided by CDFW.

In contrast to CDFW’s concerns, the USFWS stated the following with respect to the preliminary rankings in an August 24, 2012 letter (emphasis added):

*The Service had an opportunity to comment on and work with other relicensing participants to rank key issues or limiting factors affecting Chinook salmon and steelhead. **We concur with the current rankings and have no further comment at this time.***

With regard to the conceptual fish population models developed through the 2012 W&AR-5 Consultation Workshops, the USFWS offered the following comment (emphasis added):

*The Service had an opportunity to comment on and work with other relicensing participants to refine the draft conceptual models for Chinook salmon and steelhead. **We concur with the current model and have no further comment at this time.***

In contrast to CSPA et al.’s characterization about model assumptions being in dispute, the USFWS concurred with the model development process conducted in 2012. The USFWS’ August 24, 2012 letter concluded with the following statement about the collaborative process associated with the Workshops:

The Service has attended both W&AR-5 - Salmonid Populations Information Integration and Synthesis workshops and has worked closely with other resource agencies and the Applicant to provide the best available information that will help inform the development of Project license conditions as required by CFR 18 § 5.11 (b)-(e). The Service has worked with the Applicants in seeking solutions to Study Plan deficiencies and we appreciate the collaborative discussions in which all participants have engaged.

The CSPA et al. letter also attempts to buttress its claim that “disputes” existed with respect to the models since 2012 by stating that the “Districts rejected the input of NMFS ... regarding the salmon and *O. mykiss* population models”. This assertion is also incorrect. The full record of the 2012 Consultation Workshops of April 10, 2012 and June 26, 2012 both show that NMFS did not participate in either Workshop, nor did NMFS provide any comments on the Workshop materials. CSPA et al. does not explain how NMFS could “dispute” the model outputs or the process to develop the model since NMFS did not attend or participate in the Workshops.

The *first* Consultation Workshop that focused on the development of the two individual, species-specific population models was held November 15, 2012 at which time the Districts also presented the preliminary conceptual models for the fall-run Chinook and *O. mykiss* models that had been discussed at the earlier W&AR-05 Workshops. At the November 15, 2012 Workshop, possible modeling approaches and parameters to be used in the development of the species-specific models was also discussed among relicensing participants. There were no “assumptions” presented in this Workshop, and no model “conclusions” were available since the model code development had not yet begun.

The March 2013 Final Meeting Notes from the November 15, 2012 fall-run Chinook modeling Workshop No. 1 and the input received at and following the Workshop No. 1 once again do not support the CSPA et al. claims. In fact, neither USFWS nor NMFS provided any specific recommendations, input, or comments at or after Workshop No. 1. CDFW did provide input, and the final record of the Workshop clearly evidences that the Districts incorporated the input of CDFW into the model development process. The Conservation Groups² also provided input to the model development process at the Workshop as well, but they provided no additional follow-up information to support their assertions. In sum, there is not a single reference to any “assumptions or conclusions being in dispute” in 2012 and into 2013. Instead, the record shows that the model development process was proceeding with substantial progress being made.

The Districts agree with the CSPA et al. assertion that holding workshops and discussing information does not equate to “consensus”, but the Districts disagree with CSPA et al. when it contends the process was not collaborative. CSPA et al. confuses collaboration with agreement. Collaboration is a process to try to reach agreement. Collaboration does not guarantee agreement, but it does ensure discussion of important matters among the parties. Under this view of collaboration, the Workshops conducted were collaborative. A close review of the meeting notes from all of the fish population model Workshops in 2012 and 2013 demonstrates that the Districts either directly incorporated model input or responded as to why the model input provided would not be appropriate to incorporate.

With respect to items falling within the latter category, the overwhelming reason input was unable to be incorporated in the model was a failure of a party to provide any data or information to support the desired input parameters, which is not unusual in the process of developing a fish population model. The modelers need to insist on the use of applicable, supported data and they need to reject inferences, beliefs or opinions that lack such supporting data. Where recommendations from relicensing participants were not incorporated into the model parameters, a lack of relevant, supporting data was the overwhelmingly dominant reason. The Districts’ model development followed the guidance reiterated in the U.S. Court of Appeals for the D.C. Circuit case *Bangor Hydro-Electric Company v. FERC*, 78 F.3d 659, 663 (D.C. Cir. 1996), wherein the court rejected an agency’s conclusion as constituting a “finding” where it is merely a prediction based on opinions. Thus, the modelers relied on supported data and rejected unsupported opinions and beliefs. Another common reason for rejecting proffered information was because the articles

² The “Conservation Groups” are California Sportfishing Protection Alliance, Tuolumne River Trust, Trout Unlimited, American Rivers, American Whitewater, Merced River Conservation Committee, Friends of the River, Golden West Women Flyfishers, and Central Sierra Environmental Resource Center.

referenced by certain relicensing participants dealt with rivers with physical conditions or environment that is dissimilar to the Tuolumne River. Information about such rivers cannot be incorporated into a Tuolumne River-specific model unless it can be shown that the lack of similarity does not limit applicability. In these instances, and recognizing that such supporting information should be accompanied by some discussion of modeled mechanism or their mathematical representation, the burden of proof should fall on the party making the case for inclusion. None of the relicensing participants advocating for use of information from other rivers made this effort.

The CSPA et al. letter cites NMFS' March 3, 2014 comments (see CSPA et al. letter at page 3) as the "clearest example" of the models being in "dispute since 2012", because NMFS indicated that it disagreed with several aspects of the discussion of the Chinook Salmon Population Model, the *O. mykiss* Population Model, and the studies and literature that pertain to their development, application, and preliminary conclusion. However, the NMFS quote is unhelpful to CSPA et al.'s arguments that disputes have existed since 2012, and it instead serves as an example of a lack of "good faith" participation in the ILP by NMFS. As noted above, NMFS elected to not to participate at any of the 2012 W&AR-05 Workshops. While a NMFS staff member did attend the W&AR-06/W&AR-10 Workshop No. 1 in 2013, no disputes about "assumptions" or "conclusions" were raised by NMFS and NMFS provided no comments on the Workshop contents or Meeting Notes. If NMFS had such concerns and disputes, in the spirit of collaboration, NMFS surely would have raised these issues. The Districts have reviewed all of the fish population Consultation Workshop meeting notes, the Initial Study Report ("ISR") meeting notes, and the Updated Study Report ("USR") meeting notes and there is no evidence in any of these documents that NMFS disputed any specific model assumptions or conclusions. In the March 2014 comments on the USR meeting which included Population Model discussions, NMFS did raise questions about specific temperature parameters related specifically to use of U.S. Environmental Protection Agency ("EPA") (2003) guidelines.

For NMFS to wait until March 2014, which was less than 60 days until the Final License Application ("FLA") was due to be filed with FERC, and fully two years into the model development process, to express its disagreement with "several aspects" of the fish population models does not meet the "good faith" criteria for participation in the ILP. Even in its comments on the Districts' November 26, 2013 Draft License Application ("DLA"), NMFS provided no description or specific reference to the "several aspects" of the models it disagreed with, other than noting that CDFW has raised "objections and comments" as well. Certainly the Districts cannot be expected to address comments which refer to "several aspects" of the model which go unnamed and unidentified. Worse yet, NMFS' single suggestion for improvement to the DLA was that the population models should be reviewed by "biologists experienced in the design and application of anadromous fish population models". NMFS has a large group of experienced biologists located on the west coast, including in California, at the NMFS' Regional Science Centers. Instead of participating in the model development and review process, NMFS merely quipped in its comments to the DLA that "we note that NMFS' staff working in this ILP have had no discussions about the Chinook salmon or *O. mykiss* Population Models with research staff in our West Coast Region Science Centers". Why NMFS staff did not avail itself of its own "experienced biologists" to participate in the development and review of the population models is unexplained.

The CSPA et al. letter attempts to paint a picture of the model development process as being a process where the suggestions and input of the relicensing participants were ignored, the Consultation Workshops were not held in “good faith”, and the models did not include any recommendations of the relicensing participants. Once again, a review of the meeting records for the Consultation Workshops shows this is not the case. As part of the record of each meeting, the changes discussed and agreed to with relicensing participants in the meeting were directly reflected in the final meeting notes by red-line mark-up of the meeting materials. This record demonstrates that the number of changes were significant as a result of input from relicensing participants during the conceptual model development stage.

There were also significant changes to the population models themselves as a result of input from relicensing participants. For example, the fall-run Chinook modeling approach was modified to directly address the association between flows, water temperature, changing habitat conditions, predation, and population response for specific in-river life stages. At the request of CDFW (and others), water temperature thresholds were incorporated into the models for mortality at all life stages, for habitat selection, as well as for smoltification. Water temperatures were also used in modeling egg incubation time and juvenile growth rates. These changes represented a significant modification from the Districts’ original modeling approach because spawning and rearing salmonid individuals experience different temperature and hydraulic conditions along a river-wide gradient as well as on a daily basis at any location. Incorporating all of the agency suggestions resulted in a change in modeling approach from a simpler “stock-production” model to an individual-based model approach that allowed tracking of individuals at various spatial and temporal scales. Following this change in modeling approach, there were additional discussions of the importance of flow and temperature in the Consultation Workshops. These comments prompted additional review of the scientific literature and refinements to the models related to selection of temperature thresholds for model parameterization based on comments from relicensing participants during the fall-run Chinook Consultation Workshop No. 2 held on August 6, 2013, as well as the *O. mykiss* model Consultation Workshop No. 2 held on November 5, 2013 (see the relevant Meeting Notes provided in the DLA).

As an example of a major change in model parameterization based on input received from relicensing participants, in May 2013 the USFWS and others requested and supported a study to develop improved floodplain habitat representation in the fall-run Chinook population model. The Districts agreed to undertake this extensive study of the entire 52-mile-long floodplain to improve model depiction of floodplain inundation and the resulting habitat. Scoping for this study, which involved 2-D modeling of the floodplain, occurred in 2013 with the support of relicensing participants and the study was conducted in 2014. Related to this study, there were model refinements adopted related to floodplain habitat use and growth assumptions, including the incorporation of higher food ration estimates and growth benefits for fish rearing in floodplains in comparison to in-channel habitats at downstream locations.

There are many other examples of active discussions about model structure and development in the population model Consultation Workshop meeting notes. It would be impossible to address every concern raised during the development of any fish population model because of the inherent

complexity of the model, the lack of perfect information, and the conflicting opinions held on to by relicensing participants. The extensive and intensive model development process using the Consultation Workshops was a good faith effort conducted by the Districts to arrive at a working model using the collective expertise of all relicensing participants and all relevant data available on Tuolumne River fisheries. CSPA et al.'s June 26, 2018 filing is a gross mischaracterization of the model development process conducted as part of the Don Pedro Project relicensing. The CSPA et al. letter attempts to refashion the dialogue and exchange of ideas that occurred during model development as one continuous disagreement. As explained above, this is far from the truth. CSPA et al. implies that the only way to produce an "acceptable" model would have been for the Districts to simply agree with all the various wishes and views of the relicensing participants so that a "consensus" would be achieved before any modeling had actually occurred. However, consensus is not a substitute for site-specific data and analyses, and the Districts insisted that the relicensing participants provide supporting data for the relationships advocated by them. Without such rigor, the resulting model no longer represents the real environmental circumstances of the Tuolumne River.

B. FERC Ordered the Districts to Develop the Fish Population Models

The CSPA et al. letter states that it disagrees not only with the Districts' "general characterization" of the various models but the entire relicensing process. CSPA et al. does not think use of the terms "FERC-ordered" or "FERC-approved" are appropriate when referring to the two population models developed during the Don Pedro ILP. In fact, CSPA et al. specifically asserts that "FERC did not 'order' the Districts to develop a salmon or *O. mykiss* population model." CSPA et al. goes further when it declares that it was the Districts which submitted proposals for each model as a separate study in the Districts' Revised Study Plan ("RSP").

As with its recharacterization of the model development process, CSPA et al. again is mischaracterizing the FERC relicensing process. The FERC ILP begins when the applicant for a new FERC license issues a Pre-Application Document ("PAD") in response to which the resource agencies and interested parties submit *their* requests for studies and needed information. The applicant then responds to the various requests for studies with a Proposed Study Plan ("PSP") that addresses the relicensing participants' requests for studies. In the case of the Don Pedro Project relicensing, relicensing participants submitted requests for over 100 studies, many of which requested the development of similar information. Contrary to the CSPA et al. assertion that the Districts first submitted "proposals for each model", it was NMFS which first requested that FERC require the Districts to develop separate population models for fall-run Chinook salmon and *O. mykiss* (see NMFS June 10, 2011 Study Request "NMFS-8, Element 1: Fall-run Chinook Salmon Model and Element 2: Central Valley Steelhead Model"). The Districts responded to NMFS' request for development of a population model in their November 22, 2011 Revised Study Plan. On December 22, 2011, FERC issued its Study Plan Determination ("SPD") wherein FERC states that the "Districts' revised study plan is *approved* with staff's recommended modifications" (emphasis added). Both of the NMFS' requests for fish population models were "approved with modifications" (see Appendix A, page 4, of FERC's December 22, 2011 SPD).

FERC did specifically approve development of the two population models, as well as other computer-based models. The CSPA et al. contention that the “content of the models is the product of the Districts” is at least partially accurate in that it is the Districts which are ultimately held responsible by FERC for performing the detailed model development work. However, CSPA et al. once again mischaracterizes the FERC relicensing process under the rules of the ILP. It is precisely the intent of the ILP pre-filing process that the full suite of information necessary to “inform the development of license requirements” (see ILP study criteria #5) is properly prepared by the applicant with the active involvement of relicensing participants and FERC staff during study execution. This active involvement ensures that at the point of study completion, the scientific and technical information needed to develop license terms and conditions is available. This was specifically the case for the Don Pedro Project. Beyond the required ISR and the USR meetings, the Districts, as required under the FERC-approved model study plans, conducted more than a dozen additional Consultation Workshops associated with development of the various technical models. Furthermore, as CSPA et al. is aware, FERC moves forward with its environmental review only when it has established that it has in the record sufficient information to conduct its detailed environmental review and analysis. In the case of the Don Pedro Project, FERC issued its Ready for Environmental Analysis (“REA”) notice on November 30, 2017.

In sum, in response to CSPA et al.’s contention that FERC did not “order” the Districts to develop the two population models, FERC states quite clearly in the ILP Final Rule of 2003 that “*orders regarding study plans are binding on potential license applicants, and we expect that they will comply with them*” (emphasis added). And, FERC clearly stated in its December 22, 2011 SPD that the “*Districts revised study plan is approved*” (emphasis added) and the revised study plan included the development of the two population models. In response to CSPA et al.’s contention that FERC has yet to “opine” on the “relative value of the models”, the Districts point out that the FERC-approved and FERC-ordered studies are to be used to “*inform the development of license requirements*”. On November 30, 2017, FERC issued the REA notice, which indicated that FERC has sufficient information to conduct the environmental analysis and develop license conditions. Furthermore, FERC issued an Additional Information Request (“AIR”) to the Districts as recently as February 16, 2018 requiring the Districts to evaluate all of the various alternative flow and non-flow proposals submitted by relicensing participants, including proposals submitted by the Conservation Groups, (of which CSPA, TRT, and GWWF are members), “*using the various models, including the two population models, developed under the ILP*” (emphasis added).

C. Substantive Disagreement with Models is Ill-Founded and Does Not Render Models Themselves, or Use and Reliance Upon Them, Inappropriate

CSPA et al. cites to the USFWS having “5 pages of specific comments disagreeing with...population studies”. This is a serious mischaracterization of the USFWS comments. The USFWS’ comments covered three pages of the USFWS’ 30-page letter and consisted of 15 individual comments on the DLA. The USFWS provided virtually identical comments in its letter commenting on the USR meeting held on January 16, 2014; thus, none of its comments raised in response to the DLA were new issues. The Districts’ final USR Report, filed on March 28, 2014, responded to each of these comments. Several of the USFWS comments requested further description of details about density-dependent relationships in the population models. These

comments were subsequently addressed and the information was provided in the Districts' final USR Report. Many of the USFWS comments expressed support for using EPA (2003) temperatures, Stanislaus River data instead of Tuolumne River data, or citations with little or no relationship to the Tuolumne River. Two of the comments suggested modeling the potential effects of disease, and two dealt with perceived shortcomings in rotary screw trap ("RST") data collection. The Districts had previously explained the shortcomings of applying EPA (2003) temperature benchmarks to mortality and growth submodels within the Tuolumne River fish population models, and had explained a preference for using actual Tuolumne River data when it exists. Regarding disease, the USFWS' own disease studies show that Tuolumne River fall-run Chinook do not exhibit any significant levels of those diseases for which the USFWS California-Nevada Fish Health Center routinely studies. The two RSTs on the Tuolumne River have always operated in strict compliance with USFWS protocols. In Appendix A of the final USR Report, the Districts addressed each of the USFWS comments on the fall-run Chinook and *O. mykiss* models.

The CSPA et al. letter next piggy backs on CDFW. During model development, CDFW frequently opined that water temperature and floodplain rearing are important factors impacting fall-run Chinook salmon. CDFW's recommendation regarding the role of water temperature was to apply EPA (2003) guidelines. The Districts explained on numerous occasions that the temperature guidelines suggested by EPA (2003) are generally intended as regulatory safeguards for Pacific Northwest salmonids and stated that optimum or other performance criteria are not appropriate for modeling individual processes and mechanisms affecting individual life stages. Nevertheless, the salmon models in fact relied heavily upon temperature ranges and thresholds identified in laboratory and observational study results contained in the very same Issue Papers supporting the optimum water temperature recommendations contained within EPA (2003). Regarding floodplain rearing habitat being a significant factor affecting Tuolumne River fall-run Chinook salmon, the CSPA et al. letter refers to comments filed on the DLA by CDFW on February 28, 2014, which argued that floodplain inundation is significantly reduced during the rearing and outmigration life stage; and, by reducing floodplain inundation, Don Pedro Project operations reduce the ability of juvenile salmon to evade predators and undergo accelerated growth via access to higher quality food sources. The Districts' April 2014 responses to comments on the DLA disagreed with the assertion that floodplain inundation on the Tuolumne River will result in accelerated growth of juvenile Chinook salmon and stated there are no data supporting such a claim on the Tuolumne River. Nevertheless, the salmon population models in fact do contain floodplain related mechanisms allowing increased growth of rearing Chinook salmon within downstream floodplains as well as reduced predation mortality in proportion to floodplain inundation area. Although not recognized in CSPA et al., or by CDFW, inclusion and representation of these mechanisms directly addressed the stated concerns of relicensing participants that are parroted in the CSPA et al. comment letter.

CSPA et al. points out that the Conservation Groups also raised concerns regarding the fall-run Chinook population model. The concerns of the Conservation Groups focused on the "model's presumption that juvenile rearing habitat is not limiting" and that the model was biased "in favor of the theory that predation is the primary cause of low out-migrant success." The population models developed through the Don Pedro ILP do not contain "presumptions" about juvenile rearing habitat. A mathematical relationship between flow and habitat cannot be prepared based

on presumption. Estimates of in-channel and floodplain habitat availability in the Tuolumne River was based on rigorous study and analysis using accepted scientific methods of analysis; estimates were not based on presumptions. Likewise, the models do not contain “favorite theories” about predation of juvenile salmon by non-native predators that are based on out-of-basin studies with little relevance to the Tuolumne River. Long-term data records from the Tuolumne River of river-wide seining, relative passage at upstream and downstream RST locations, mark-recapture studies, acoustic and radio-tracking studies, as well as direct stomach content sampling of predatory fish species in the Tuolumne River all demonstrate the importance of predation and were used as the basis of modeling predation effects. The Districts have repeatedly asked for data and information specific to the Tuolumne River to support the Conservation Groups’ claims and none was forthcoming.

D. There is No Missing Node in the Ops Model

CSPA et al.’s gross mischaracterization of the model development process is further highlighted by its comments on pages five and six of its letter regarding the Ops Model and the river temperature model. CSPA et al. alleges that a “missing node” in the Ops Model made the model difficult to use and made application of the Tuolumne River temperature model “inherently inaccurate”. This is a serious accusation, which is both untrue and evidences CSPA et al.’s lack of understanding of the interaction and links between the Ops Model and the river temperature model. CSPA et al. claims that it is not possible to accurately model the Districts’ or any other proposed flow scenarios because of a “missing node” in the Ops Model that represents the diversion of water at the infiltration galleries. Further, CSPA et al. claims that “water temperature modeling would not be possible when the gallery was in use because of the absence of a diversion node for the gallery.” In a footnote, CSPA et al. goes so far as to assert that “FERC staff recognized the technical issue.” CSPA et al. uses this “missing node” claim to explain why “relicensing participants did not include water temperature model output with their flow proposals” and to express that they “welcome the opportunity to discuss modifications to these models with the Districts.”

There is no missing node and no modifications are needed to the models. CSPA et al. lacks an understanding of the Ops Model and the river temperature model and their linkages, even after the Consultation Workshops and the model training sessions held for relicensing participants on both models. The Ops Model is and has always been primarily a daily-time step water accounting model. One of its outputs is the net water released to the river that cannot be used for consumptive use purposes. It accounts for consumptive use water by adding into “canal deliveries” on a daily time step any water withdrawn by the infiltration galleries. In this way it accurately accounts for all water able to be used for consumptive use purposes, including water withdrawn by the infiltration galleries. In comparison, the river temperature model includes the concept of downstream “nodes”. Contrary to the CSPA et al. claim, there is most definitely a “node” at the infiltration galleries in the river temperature model. The river mile (“RM”) 26 node is one of the many locations in the lower Tuolumne River where flow and temperature are computed (see model runs provided in Exhibit E-1, Attachment H of the Districts’ October 11, 2017 AFLA). The Ops Model input to the river temperature model consists of daily flows to the river below La Grange Diversion Dam, inclusive of flows which will be withdrawn at the

infiltration galleries, thereby providing to the river temperature model the accurate amount of flow at La Grange gage. At RM 26, there is a node in the river temperature model representing the galleries where the withdrawn water is subtracted from the river flows for temperature modeling purposes. It is important to remember that the river temperature model is an hourly time step model. Instead of attacking the integrity and accuracy of both the Ops and River Temperature models in a filing with FERC that is based on an incomplete understanding of these models, CSPA et al. could have called or emailed the Districts and asked for help to clarify or confirm the details of the models, such as how the models take the gallery withdrawals into account. The Districts have specifically indicated on numerous occasions that they welcome any such inquiries. CSPA et al. made no such inquiries.

E. Agency and NGO Proposals Failed to Consider, Let Alone Balance, Impacts to Water Supply

CSPA et al. moves from accusations of “inaccurate” models to accusations of the Districts “over-watering their land by hundreds of thousands of acre-feet a year”. CSPA et al. also claims that federal agencies made “serious efforts to balance uses” in developing their instream flow proposals filed with FERC. How they know this is not made clear since neither the NMFS nor the USFWS indicate or discuss water supply effects in their proposals filed with FERC. CSPA et al. references NMFS’ flow proposal, which notes that “modification of flow requirements in sequential dry years is appropriate”. Yet, even as NMFS states this, it does not propose any dry year relief and prefers to deal with dry-year relief on an *ad hoc* basis. The Conservation Groups rejected this in their January 29, 2018 comment letter (at page 30) wherein they stated:

Conservation Groups consider Critically Dry years to be years of triage both for instream resources and for water supply. It is important to recognize when the system is in hydrological trouble, and to act decisively. It is important to have a water-year type designation that anticipates triage and that defines its level in advance, rather than punting flow requirements to ad hoc decision making” (see CGs’ January 29, 2018 comment letter, pg 30).

Neither the Conservation Groups’ nor the USFWS’ dry year relief proposal was accompanied by any explanation of how either proposal was derived, nor did either proposal include an explanation of the analysis to support their conclusion, nor did either proposal consider the effects of the proposal on water supply; those inadequacies make it difficult to understand what level of “relief” is proposed to be achieved under either proposal. While the Districts appreciate the apparent recognition that relief in sequential dry years is appropriate, the Districts utterly reject the notion that they are wasting hundreds of thousands of acre feet of water per year, or that merely recognizing that sequential dry year relief is appropriate demonstrates that the agencies and NGOs made a serious, good-faith effort to develop a proposal that balanced both instream improvements and water supply impacts.

F. Upstream Habitat

1. The Record Shows that Upstream Habitat for Salmonids is Marginal

The Districts believe that the most egregious mischaracterization of the record by CSPA et al. is the following (page 7, CSPA et al. letter):

Studies conducted by the Districts and by NMFS in cooperation with the Districts show that the habitat for salmon and trout in the Tuolumne River upstream of Don Pedro Reservoir is very good. Reliable cold water is available year-round. This habitat is already used for spawning by self-sustaining runs of Chinook salmon, sockeye salmon, brown trout and rainbow trout that spend most of their life histories in Don Pedro Reservoir. The pulsing operations of Holm Powerhouse are a complicating factor, but they are far from an impossible one. NMFS assumed that these pulsing operations would continue as at present, and still found suitable habitat for reintroduction. The existing resident trout fishery is very good.

This statement is devoid of factual information and is not supported by any publicly-available studies conducted by the Districts or any other party. The studies performed by the Districts show that habitat upstream of Don Pedro Reservoir is very limited and, at best, marginal for salmon and steelhead. Neither the Districts, nor any other party, has conducted any scientifically defensible studies of the size, composition, or population levels of the resident *trout* populations or even trout habitat in the accessible reach upstream of Don Pedro Reservoir. CSPA et al. tries to convert “observations” by a fishing guide into incontrovertible scientific evidence of self-sustaining runs of Chinook salmon and sockeye (actually kokanee). It is well known that these fish are planted regularly by CDFW and there is no evidence that spawning is successful or that any rearing juveniles successfully emigrate to Don Pedro Reservoir from upstream habitats. The only scientific paper on the matter (Perales et al. 2015) notes that a total of eight juveniles were observed in 2012 that might have been salmon. Perales et al. (2015) concludes by stating that “[d]etermining if these [adfluvial] populations are self-sustaining is an important next step.”

In fact, Perales et al. (2015) concludes further that it is important to understand if there may be self-sustaining populations because “the possibility of behavioral and genetic interactions may lead to complications of restoration efforts via trap and haul programs. The full extent of this phenomena needs to be documented *before* trap and haul programs are initiated to reintroduce salmon above reservoirs” (emphasis added). Therefore, the potential existence of any such self-sustaining adfluvial populations is relevant because they may adversely affect any restoration program. To the Districts’ knowledge, NMFS has not conducted the types of studies deemed as essential by Perales et al. (2015).

NMFS studies of “habitat” upstream of Don Pedro Reservoir did not entail an evaluation of the peaking operation of the Holm powerhouse by CCSF. This is significant because peaking operations affect hour-to-hour and day-to-day habitat suitability. CSPA et al. seems to claim that understanding the hydraulic characteristics and effects of this daily peaking is unimportant, and

only a complicating factor. In other relicensing processes involving peaking hydro plants, NMFS has required for purposes of protection of anadromous fish that hydro peaking operations avoid river stage fluctuations exceeding 1- to 2-inches in an hour. The Holm powerhouse produces within hour fluctuations of over 16 inches near Cherry Creek, 10-12 inches near Lumsden, and over 4 to 6 inches just upstream of Don Pedro Reservoir, all of which are orders of magnitude above NMFS' requirements for anadromous fish protection.

2. NMFS Did Not Plan or Conduct its Upstream Habitat or Passage Studies in Cooperation with Districts

Finally, the assertion that NMFS conducted its studies “in cooperation” with the Districts is false. NMFS reported to all licensing participants at the start of the La Grange licensing process in early 2015 that it was already in the process of undertaking a LiDAR and hyperspectral based habitat assessment of the upper Tuolumne River and a genetic study of upper river *O. mykiss*. NMFS indicated the results of the habitat study should be available to all licensing participants in the fall of 2015. The Districts requested the study plan and study scoping documents for these two NMFS studies; however, none were provided. The Districts requested study updates on a regular basis at licensing meetings, and NMFS responded that its studies would be available soon. The Districts requested, on behalf of all licensing participants, that a draft report of these studies be provided, but NMFS would not commit to sharing a draft, which is in stark contrast to what is customarily done in licensing proceedings. In fact, these NMFS studies were not provided to licensing participants until they were filed with FERC as final reports. The Genetic study was provided to licensing participants (and the Districts) as a **final** report in November 2017, the month *after* the Districts filed the La Grange Final License Application (FLA) in October 2017. NMFS' habitat study was provided to licensing participants in January 2018 as a **final** report.

NMFS also conducted its own fish passage “feasibility” study. NMFS contracted consultants to conduct the study in September 2016. The Districts became aware of this study inadvertently through industry contacts in late January 2017. NMFS arranged a site visit for its consultants in March 2017 and invited the Districts to attend. At the site visit, the Districts inquired about schedule and whether a draft report would be issued for review. NMFS responded that the report should be completed circa May/June 2017 and that NMFS would consider the Districts' request for a draft review copy. NMFS ignored the Districts' request and filed its **final** fish passage report with FERC in November 2017, the month after the La Grange FLA was filed. No draft report was made available for review. The interaction with NMFS related to the studies it has conducted cannot be characterized in any rational way as being “in cooperation” with the Districts.

CONCLUSION

For the reasons discussed above, the Commission should find the allegations and contentions contained in the June 26, 2018 comments of CSPA et al. to be without merit.

Kimberly D. Bose
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September 18, 2018

Respectfully submitted,



Steve Boyd
Turlock Irrigation District
P.O. Box 949
Turlock, CA 95381
(209) 883-8364
seboyd@tid.org



John B Davids
Modesto Irrigation District
P.O. Box 4060
Modesto, CA 95352
(209) 536-7564
john.davids@mid.org

cc: Don Pedro Project Relicensing Participants and La Grange Project Licensing Participants
Email Groups

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service lists compiled by the Secretary in these proceedings, in accordance with Rule 2010 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.2010.

Dated at Washington, D.C., this 18th day of September, 2018.

/s/ Kimberly Ognisty

Kimberly Ognisty
1700 K Street N.W.
Washington, D.C. 20006
(202) 282-5217
kognisty@winston.com