

**DON PEDRO HYDROELECTRIC PROJECT
FERC NO. 2299**

AMENDMENT OF APPLICATION

EXECUTIVE SUMMARY



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EXECUTIVE SUMMARY

The Don Pedro Project provides water storage for irrigation and municipal and industrial (M&I) use, flood control, hydroelectric generation, recreation, and natural resource protection (hereinafter, the Don Pedro Project). The Don Pedro Project was originally conceived as a water supply project, and is currently operated for the following primary purposes and needs: (1) provide water supply for the co-licensees, Turlock Irrigation District and Modesto Irrigation District for irrigation of over 200,000 acres of prime Central Valley farmland and for M&I use, (2) provide flood control benefits along the Tuolumne and San Joaquin rivers, and (3) provide a water banking arrangement for the benefit of the City and County of San Francisco water supply system, which serves 2.6 million people in the Bay Area.

When it was completed in 1971, the New Don Pedro Project represented the fulfillment of two decades of comprehensive water resource planning on the Tuolumne River. Parties to this planning included Turlock Irrigation District, Modesto Irrigation District, the City and County of San Francisco, and the US Army Corps of Engineers. California state agencies were involved as well, including the California Department of Water Resources and the California Department of Fish and Game (now, Department of Fish and Wildlife). The New Don Pedro Project, now simply referred to as the Don Pedro Project, substantially enlarged the water storage capacity on the Tuolumne River by replacing the original Don Pedro Dam built 1.5 miles upstream of the new Don Pedro Dam by the two irrigation districts in 1923. Because the new Don Pedro Project included hydropower generation and inundated federal lands, a license from the Federal Power Commission, predecessor agency to the Federal Energy Regulatory Commission (FERC), was required. License number 2299 was issued with an effective date of April 1966 for a term of 50 years.

On April 28, 2014, the co-licensees of the Don Pedro Hydroelectric Project, Turlock Irrigation District (TID) and Modesto Irrigation District (MID) (collectively, the Districts), timely filed with FERC the Final License Application (FLA) for the Don Pedro Hydroelectric Project. As noted in the filing and acknowledged by FERC at the time, several studies were ongoing which were likely to inform the development of additional protection, mitigation, and enhancement (PM&E) measures. The Districts have now completed these studies and herein submit this amendment to the Final License Application (AFLA or Amended Final License Application). For ease of review and reference, this AFLA replaces the Districts' April 2014 filing in its entirety.

Upon receipt of this application, FERC will consider whether, and under what conditions, to authorize the continued generation of hydroelectricity by the Districts at the site. This AFLA is the culmination of over six years of working with a broad group of interested parties, referred to herein collectively as relicensing participants, under the regulatory framework established by FERC's Integrated Licensing Process, or ILP. At the behest of several relicensing participants, the Districts went well beyond the basic requirements of the ILP by conducting 20 separate Workshops on studies where computer models depicting operations and resources were being developed. More than 35 individual studies of the potential direct, indirect, and cumulative effects of Project operations and maintenance activities have been undertaken as part of relicensing, including extensive studies covering the resources of the lower Tuolumne River.

Studies were cooperatively scoped with relicensing participants, then conducted by the Districts with draft results and findings made available for review, comment, and discussion. Comments provided were subsequently addressed by the Districts by either amending the study reports or explaining why a particular comment was not adopted by the Districts. Many relicensing participants devoted a considerable amount of time participating in the expanded ILP, and the Districts extend their sincere appreciation to all the parties involved.

Since the filing of the FLA in April 2014, the following studies involving the resources of the lower Tuolumne River were completed in accordance with FERC's Study Plan Determination or were completed voluntarily by the Districts. The results of these studies, along with the aforementioned models and existing studies, were used to assess Project impacts on aquatic resources and conduct the analysis of proposed PM&E measures contained in this AFLA.

- W&AR-11: Chinook Salmon Otolith Study
- W&AR-12: *Oncorhynchus mykiss* Habitat Survey (Study addendum)
- W&AR-14: Thermal Performance of Wild Juvenile *Oncorhynchus Mykiss* in the Lower Tuolumne River: A Case for Local Adjustment to High River Temperature
- W&AR-21: Lower Tuolumne River Floodplain Hydraulic Assessment
- Lower Tuolumne River Instream Flow Study – Evaluation of Effective Usable Habitat Area for Over-summering *O. mykiss*
- Lower Tuolumne River Instream Flow Study – Non-Native Predatory Bass 1-D PHABSIM Habitat Assessment
- Development of Tuolumne River Flow and Temperature Without Dams Model

On May 18, 2017, the Districts hosted a Modeling Tools Update Workshop with relicensing participants to provide a status update on several models developed to support the relicensing. The following studies were discussed during the meeting:

- W&AR-02: Project Operations/Water Balance Model,
- W&AR-03: Reservoir Temperature Model,
- W&AR-06: Chinook Salmon Population Model,
- W&AR-10: *O. mykiss* Population Model,
- W&AR-16: Lower Tuolumne River Temperature Model, and
- W&AR-21: Lower Tuolumne River Floodplain Hydraulic Assessment.

FERC has indicated its intent to prepare a single environmental document for the Don Pedro and the La Grange licensing proceedings. Because of this, and for ease of reference for the Commission and all other licensing participants, the Districts are filing the applications and supporting materials for each project in the eLibrary dockets for both license proceedings. While the projects are operationally distinct, many of the studies and technical materials prepared for the separate applications apply generally to the shared Tuolumne River and the resources located therein, and are pertinent to assessing the projects' cumulative impacts.

Many of the studies conducted as part of relicensing have focused on the resources of the lower Tuolumne River; that is, the lower 52 miles of the river extending from the Districts' La Grange Diversion Dam, located at river mile (RM) 52.2, to the confluence with the San Joaquin River. The resources of the lower Tuolumne River have been the subject of almost continuous study since the Don Pedro Project began operations in 1971. Over 200 individual studies, including those in relicensing, have been conducted since the early 1980s. Many of these studies were instrumental in supporting a Settlement Agreement in 1995 among many of the parties currently involved in relicensing. This Agreement resulted in new and greater flows being released from Don Pedro Dam to the lower Tuolumne River to benefit fall-run Chinook salmon. The Districts, with the support and cooperation of the City and County of San Francisco, have faithfully and dutifully implemented the terms of the Agreement.

The reality of the history of the lower Tuolumne River must be acknowledged if further progress is to be made. The lower Tuolumne River and its associated floodplain have been subjected to considerable adverse disruption and degradation dating back to the California gold rush of the 1850s, both upstream and downstream of the Don Pedro Project. These past and continuing impacts include in-river mining of gold and gravel resulting in extensive degradation of river habitats for fish; substantial modification to floodplains and overbank areas for gravel extraction and agricultural purposes; introduction of numerous non-native fish that actively prey on salmon smolts; the introduction of numerous chemical constituents associated with agricultural runoff; and the depletion of flows due to water resource development and water withdrawals. By equity and common sense, attempting to solve the problems caused by all these past and continuing actions cannot be the responsibility of any single party. Only through a cooperative, multi-party solution is there a realistic chance for substantial improvement to the lower Tuolumne River anadromous fisheries. The resource studies conducted through the relicensing process, along with the numerous prior resource investigations, provide a scientific basis to understand and potentially address the cumulatively affected resources of the lower Tuolumne River.

The Districts' Preferred Plan, presented in detail in Section 5.0 of Exhibit E, represents the integration of data and studies designed to achieve the following interconnected goals:

- protect and improve the natural resources of the lower Tuolumne River, with emphasis on the native fisheries, by applying the wealth of empirical biological and physical data available on the river's resources; and
- protect and sustain the water supplies essential to the welfare and the economies of the communities served by the water resources of the Don Pedro Project, especially during the extended drought periods frequently experienced in the southern Sierra watersheds.

The Districts' Preferred Plan ("Proposed Action"), described in detail in this AFLA, demonstrates that each of these goals can be achieved, but only by a rigid adherence to being informed by the empirical, site-specific data describing the resources of the Tuolumne River.

Given the comprehensive nature of the Preferred Plan, the costs of the licensing process, and, primarily, the critical role of the Don Pedro Project's water supplies to the communities and economies of the regions dependent on them – Stanislaus County, Merced County, and the San Francisco Bay Area – the Districts are seeking a new 50-year license for the Don Pedro Hydroelectric Project.