DON PEDRO HYDROELECTRIC PROJECT
FERC NO. 2299

AMENDMENT OF APPLICATION

EXHIBIT D – STATEMENT OF COSTS AND FINANCING



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List of Acronyms

AFLA .....Amendment to the Final License Application
CAISO.....California Independent System Operator
CB&W .....California Division of Boating and Waterways
CCSF.....City and County of San Francisco
CFR.....Code of Federal Regulations
cfs.....cubic feet per second
FERC.....Federal Energy Regulatory Commission
FLA .....Final License Application
FPA .....Federal Power Act
ft .....feet
IG .....Infiltration Gallery
kWh.....kilowatt-hour
M&I.....Municipal and Industrial
MID.....Modesto Irrigation District
MW .....megawatt
MWh .....megawatt hour
NEPA .....National Environmental Policy Act
O&M .....operation and maintenance
PM&E .....Protection, Mitigation and Enhancement
PMF.....Probable Maximum Flood
TID.....Turlock Irrigation District
U.S.C.....United States Code

EXHIBIT D - STATEMENT OF COSTS AND FINANCING

The following excerpt from the Code of Federal Regulations (CFR) at 18 CFR § 4.51 (e) describes the required content of this Exhibit.

Exhibit D is a statement of costs and financing. The statement must contain:

(1) If the application is for an initial license, a tabulated statement providing the actual or approximate original cost (approximate costs must be identified as such) of:

(i) Any land or water right necessary to the existing project; and

(ii) Each existing structure and facility described under paragraph (b) of this section (Exhibit A).

(2) If the applicant is a licensee applying for a new license, and is not a municipality or a state, an estimate of the amount which would be payable if the project were to be taken over pursuant to section 14 of the Federal Power Act upon expiration of the license in effect [see 16 United States Code (U.S.C.) 807], including:

(i) Fair value;

(ii) Net investment; and

(iii) Severance damages.

(3) If the application includes proposals for any new development, a statement of estimated costs, including:

(i) The cost of any land or water rights necessary to the new development; and

(ii) The cost of the new development work, with a specification of:

(A) Total cost of each major item;

(B) Indirect construction costs such as costs of construction equipment, camps, and commissaries;

(C) Interest during construction; and

(D) Overhead, construction, legal expenses, taxes, administrative and general expenses, and contingencies.

(4) A statement of the estimated average annual cost of the total project as proposed specifying any projected changes in the costs (life-cycle costs) over the estimated financing or licensing period if the applicant takes such changes into account, including:

(i) Cost of capital (equity and debt);

(ii) Local, state, and Federal taxes;

(iii) Depreciation and amortization;

(iv) Operation and maintenance expenses, including interim replacements, insurance, administrative and general expenses, and contingencies; and

(v) The estimated capital cost and estimated annual operation and maintenance expense of each proposed environmental measure.

(5) A statement of the estimated annual value of project power, based on a showing of the contract price for sale of power or the estimated average annual cost of obtaining an equivalent amount of power (capacity and energy) from the lowest cost alternative source, specifying any projected changes in the cost of power

from that source over the estimated financing or licensing period if the applicant takes such changes into account.

(6) A statement specifying the sources and extent of financing and annual revenues available to the applicant to meet the costs identified in paragraphs (e) (3) and (4) of this section.

(7) An estimate of the cost to develop the license application;

(8) The on-peak and off-peak values of project power, and the basis for estimating the values, for projects which are proposed to operate in a mode other than run-of-river; and

(9) The estimated average annual increase or decrease in project generation, and the estimated average annual increase or decrease of the value of project power, due to a change in project operations (i.e., minimum bypass flows; limits on reservoir fluctuations).

PREFACE

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 the Federal Energy Regulatory Commission (Commission or FERC) the Final License Application (FLA) for the Don Pedro Hydroelectric Project, FERC No. 2299. 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 of Application (Amendment to the Final License Application or AFLA). For ease of review and reference, this AFLA replaces the Districts' April 2014 filing in its entirety.

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 environmental analysis contained in this AFLA considers all the components, facilities, operations, and maintenance that make up the Don Pedro Project and certain facilities proposed to be included under the new license. The Don Pedro Project is operated to fulfill the following primary purposes and needs: (1) to provide water supply for the Districts for irrigation of over 200,000 acres of Central Valley farmland and M&I use, (2) to provide flood control benefits along the Tuolumne and San Joaquin rivers, and (3) to provide a water banking arrangement for the benefit of the City and County of San Francisco (CCSF) and the 2.6 million people CCSF supplies in the Bay Area. The original license was issued in 1966. In 1995, the Districts entered into an agreement with a number of parties, which resulted in greater flows to the lower Tuolumne River for the protection of aquatic resources.

Hydroelectric generation is a secondary purpose of the Don Pedro Project. Hereinafter, the hydroelectric generation facilities, recreational facilities, and related operations will be referred to as the "Don Pedro Hydroelectric Project," or the "Project". With this AFLA to FERC, the Districts are seeking a new license to continue generating hydroelectric power and implement the Districts' proposed PM&E measures. Based on the information contained in this AFLA, and other sources of information on the record, FERC will consider whether, and under what conditions, to issue a new license for the continued generation of hydropower at the Districts' Don Pedro Project. The Districts are providing a complete description of the facilities and operation of the Don Pedro Project so the effects of the operation and maintenance of the hydroelectric facilities can be distinguished from the effects of the operation and maintenance activities of the overall Don Pedro Project's flood control and water supply/consumptive use purposes.

Being able to differentiate the effects of the hydropower operations from the effects of the flood control and consumptive use purposes and needs of the Don Pedro Project will aid in defining the scope and substance of reasonable PM&E alternatives. As FERC states in Scoping Document 2 in a discussion related to alternative project operation scenarios: "…alternatives that address the consumptive use of water in the Tuolumne River through construction of new structures or methods designed to alter or reduce consumptive use of water are…alternative mitigation strategies that could not replace the Don Pedro *hydroelectric* [emphasis added] project. As such, these recommended alternatives do not satisfy the National Environmental

Policy Act (NEPA) purpose and need for the proposed action and are not reasonable alternatives for the NEPA analysis."

1.0 INTRODUCTION

This Exhibit describes the recent operation, maintenance, and capital replacement costs for the Don Pedro Hydroelectric Project and the current estimated cost of hydropower generation at the Project. This AFLA also contains a number of specific proposals for new capital improvements; resource PM&Es; and associated operation and maintenance costs, all as summarized in this Exhibit D and contained in the Districts' Preferred Plan in Section 5 of Exhibit E. The resource-related, water-related, and power development-related programs proposed in this AFLA consist of the following measures:

- RPM-1 Coarse Sediment Management Program
- RPM-2 Provide Gravel Mobilization Flows
- RPM-3 Improve Instream Habitat Complexity
- RPM-4 Gravel Cleaning
- RPM-5 Contribute to CB&Ws Efforts to Remove Water Hyacinth
- RPM-6 Construct Fish Counting and Barrier Weir
- RPM-7 Predator Control and Suppression
- RPM-8 Superimposition Reduction Program
- RPM-9 Fall-run Chinook Salmon Restoration Hatchery
- Complete Construction of Infiltration Gallery (IG) 1 and Construct IG2
- Resource Management Plans
- Historic Properties Management Plan
- Recreation Resource Management Plan
- Riprap Protection for Upstream Dam Face to elevation 535 feet (ft)
- Turbine-Generator Upgrade Program

In this exhibit, the Districts have analyzed the economics of the Project using an approach that is consistent with FERC's practices (Mead Corp., 72 FERC ¶ 61,027 (1995)). Current and anticipated costs have been analyzed over a 30-year time period and annualized to develop an estimated current cost of generation and future cost of generation under the Districts' Preferred Plan.

2.0 ORIGINAL COST OF DON PEDRO PROJECT

The original cost of construction of the Don Pedro Project was $105 million.

3.0 PROJECT TAKEOVER COSTS

Both TID and MID are political subdivisions of the State of California. The Districts are also municipalities within the meaning of Section 3(7) of the Federal Power Act (FPA). Because the Districts are subdivisions of the state, the Don Pedro Hydroelectric Project is not subject to the takeover provisions of Section 14 of the FPA. Accordingly, FERC's regulations (18 CFR § 4.51(e)(2)) do not require the Districts to include an estimate of takeover costs.

4.0 ESTIMATED COSTS OF PROPOSED MEASURES AND NEW DEVELOPMENT

The Districts have developed cost estimates for each proposed new resource protection measures contained in the Districts' Preferred Plan. The estimated capital and annual operations and maintenance (O&M) costs are provided in Table 4.0-1 below.

As shown in Table 4.0-1, the PM&E measures in the Districts' Preferred Plan have an estimated capital cost of $78 million and would increase annualized O&M costs by $2.7 million. The Districts are also proposing to increase the hydropower capacity of the Project from the currently authorized 168 megawatt (MW) to the proposed new authorized capacity of approximately 220 MW, with a maximum output of 244 MW compared to the current maximum of 203 MW at maximum head. The estimated cost of the upgrade is $48.9 million (2016 dollars). The expected increase in annual energy production is approximately 20 million kilowatt hours (kWh). From a water supply perspective, the Districts propose to change the minimum pool from the current elevation of 600 ft to 550 ft. The riprap protection on the upstream face of the dam will be extended from the current elevation of 585 ft to 535 ft at an estimated cost $5.3 million.

Including PM&E measures in the Districts' Preferred Plan, the unit upgrades, and the riprap protection of the upstream face of the dam, the total capital cost of all measures is $132 million. The annualized capital cost is $6.7 million.[1] Including the unescalated increased O&M cost, the total annualized cost of all new measures is $9.4 million.

[1] Amortized at 3 percent/30yr.

Table 4.0-1. Annual Capital Cost, O&M Cost, and Estimated Environmental Monitoring Cost in 2016 dollars (in thousands).

Resource Protection Measure (RPM)	Year (Y)																													Total
	Y1[1]	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29	Y30	
RPM-1 Coarse Sediment Management Program																															
Estimate Capital Cost	-	750	750	750	750	750	750	750	750	750	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,500
Estimate Annual O&M Cost	-	-	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	840
Estimated Environmental Monitoring Cost	-	-	-	-	150	150	150	150	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	750
RPM-2 Provide Gravel Mobilization Flows of 6,000 to 7,000 cubic feet per second (cfs)																															
Estimated Capital Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Estimated Annual O&M Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Estimated Environmental Monitoring Cost	-	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	1,015
RPM-3 Improve Instream Habitat Complexity																															
Estimated Capital Cost	-	500	500	500	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,000
Estimated Annual O&M Cost	-	-	-	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	810
Estimated Environmental Monitoring Cost	-	-	-	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	400
RPM-4 Gravel Cleaning																															
Estimated Capital Cost	-	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,200
Estimated Annual O&M Cost	-	-	500	500	500	500	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,500
Estimated Environmental Monitoring Cost	-	-	-	70	70	70	70	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	350
RPM-5 Contribute to CB&Ws Efforts to Remove Water Hyacinth																															
Estimated Capital Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Estimated Annual O&M Cost	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	1,500
Estimated Environmental Monitoring Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Complete Construction of Infiltration Gallery (IG) 1 and Construct IG2																															
Estimated Capital Cost	600	6,200	6,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13,000
Estimated Annual O&M Cost	-	-	-	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	8,100
Estimated Environmental Monitoring Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RPM-6 Construct Fish Counting and Barrier Weir																															
Estimated Capital Cost	500	500	5,500	5,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12,000
Estimated Annual O&M Cost	-	-	-	-	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	7,280
Estimated Environmental Monitoring Cost	-	-	-	-	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	7,800
RPM-7 Predator Suppression and Control																															
Estimated Capital Cost	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150
Estimated Annual O&M Cost	-	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	3,625
Estimated Environmental Monitoring Cost	-	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	2,030
RPM-8 Superimposition Reduction Program																															
Estimated Capital Cost	-	1,400	-	-	-	-	-	-	-	-	-	1,400	-	-	-	-	-	-	-	-	-	1,400	-	-	-	-	-	-	-	-	4,200
Estimated Annual O&M Cost	-	-	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	1,120
Estimated Environmental Monitoring Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fall-run Chinook Salmon Restoration Hatchery																															
Estimated Capital Cost	1,000	17,500	17,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36,000
Estimated Annual O&M Cost	-	-	-	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	-	-	-	-	-	-	-	20,000
Estimated Environmental Monitoring Cost	-	-	-	-	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	-	-	-	-	-	-	-	5,700

Resource Protection Measure (RPM)	Year (Y)																														Total
	Y1[1]	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29	Y30	
Resource Management Plans																															
Estimated Capital Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Estimated Annual O&M Cost	-	-	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	4,900
Estimated Environmental Monitoring Cost	-	-	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	4,900
Historic Properties Management Plan																															
Estimated Capital Cost	50	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	350
Estimated Annual O&M Cost	-	270	270	270	270	270	270	270	270	270	270	270	270	270	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,780
Estimated Environmental Monitoring Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recreation Resource Management Plan																															
Estimated Capital Cost	167	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,167
Estimated Annual O&M Cost	-	307	307	307	307	307	-	-	-	-	-	-	-	-	-	-	307	307	307	307	307	-	-	-	-	-	-	-	-	-	3,070
Estimated Environmental Monitoring Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Total (In Thousands)	
Capital	77,567
O&M	57,525
Environmental Monitoring	22,945
Annualized	
Capital	3,900
O&M	1,900
Environmental Monitoring	760
Total Annualized Cost	6,560

[1] Year one after license issuance. Capital costs for Year 1 expenditures are for permitting and design.

5.0 ESTIMATED AVERAGE ANNUAL COSTS OF THE DON PEDRO HYDROELECTRIC PROJECT

The current average annual cost of the Don Pedro Hydroelectric Project includes O&M, administration, legal, accounting, insurance, and amortization of capital costs. The annual Project O&M costs in 2016 were approximately $9.0 million, including O&M costs associated with providing recreation management at Don Pedro Reservoir. Assuming capital investment in 2016 were maintained at the 2012 level, approximately $6.1 million, the annualized capital cost computed assuming amortization at 3 percent over 30 years is estimated to be $310,000. Therefore, current total annualized costs of the Don Pedro Project are $9.3 million.

Adding the cost of the measures associated with the Districts' Preferred Plan increases the annualized O&M cost from $9.0 to $11.7 million. The annualized cost of the Preferred Plan's capital cost of $78 million is $3.9 million, bringing the total estimated annualized costs with the Preferred Plan in place to $15.9 million.

The power and water supply measures identified in section 4.0 are not included in the estimated future cost with the Districts' Preferred Plan in place because each of these items must be evaluated as a financial investment with appropriate returns at the time of license issuance and with knowledge of the all license conditions to be included in the new license.

5.1 Federal, State, and Local Taxes

The Districts are political subdivisions of the State of California. As municipal entities, the Districts are exempt from federal, state, and local taxes.

6.0 ESTIMATED PRESENT AND FUTURE ANNUAL COST OF POWER

The Districts provide Don Pedro Project flows to meet the irrigation and M&I water demand of their customers, provide flood flow management consistent with the U.S. Army Corps of Engineers Flood Control Manual, and meet the downstream flow requirements of the FERC license. The Districts also ensure dam safety and comply with all other requirements of the FERC license. Both TID and MID are also retail electric service providers to their designated service territories.

The Project's average annual energy production from 1997 through 2016 is approximately 550,000 megawatt-hours (MWh). Based on the 2016 total estimated annualized cost of power of $9.3 million, the current cost of the Project power is approximately $16.91/MWh. In accordance with California Health and Safety Code (38500-38599), Don Pedro's hydropower generation does not qualify towards meeting TID's or MID's 33 percent RPS standard established in California. Therefore, greenhouse gas allowances must be purchased as an offset. The present cost of the greenhouse gas allowances is approximately $7/MWh, raising the cost of hydropower production to the Districts to $23.91/MWh. Including the annualized costs of the Districts' proposed PM&E measures, the estimated future average annualized costs would increase to $15.9 million, or $28.90/MWh. Including the $7/MWh greenhouse gas allowance, the annualized cost of Project power would be $35.90/MWh.

7.0 SOURCES OF FINANCING AND REVENUE

As governmental entities, the Districts finance major capital expenditures by the issuance of long-term bonds. The Districts' Don Pedro Project costs are included in each district's rate base for water and power services as appropriate.

8.0 COSTS TO DEVELOP THE LICENSE APPLICATION

The cost of relicensing to date, exclusive of legal and internal management costs, is estimated to be approximately $20 million.

9.0 ESTIMATED VALUE OF ON-PEAK AND OFF-PEAK POWER

Rates for off-peak power and on-peak power in California vary widely by season. In the fourth quarter of 2016, average daily power prices in the day-ahead market ranged from $20 to $38, with peak spot prices reaching $250/MWh less than 1.5 percent of the time.[2]

[2] California Independent System Operator (CAISO), Q4 2016 Report on Market Issues and Performance, March 2017.