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Importance:

Here is a revised Project Description for the East Side Division of the CVP submitted by Oakdale Irrigation District, South San Joaquin Irrigation District and Stockton East Water District.

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East Side Division

1.0 Hydrology and Setting

The Stanislaus River is located on the Western slope of the Sierra Nevada Mountain Range and drains a watershed of approximately 900 square miles. The Stanislaus River Basin includes the North Fork Stanislaus River (NFSR), South Fork Stanislaus River (SFSR), and Middle Fork Stanislaus River (MFSR).

1.1 MFSR

The MFSR headwaters originate with Kennedy Creek in the Emigrant Wilderness Area at an elevation of about 9,650 feet. Major tributaries to the headwaters of the MFSR include Summit Creek and the Clark Fork of the Stanislaus River. From its headwaters, the MFSR flows generally southwesterly for about 50 miles where it joins the NFSR at an elevation of 1,230 feet to form the main stem of the Stanislaus River. The MFSR drains an area of approximately 212,400 acres and in normal water years, estimated unimpaired runoff is about 595,000 af. There are five (5) dams on the MFSR – Relief, Donnells, Beardsley, Beardsley Afterbay Dam and Sand Bar Diversion Dam. The combined storage of these five (5) dams is 178,085 af, or 30% of the MFSR.

1.2 SFSR

The SFRS headwaters also originate in the Emigrant Wilderness Area, near Bay Meadow at an elevation of about 8,800 feet. The only major tributary to the SFSR is Herring Creek. The SFSR flows southwesterly for about 35 miles, where it drains into the New Melones Reservoir. There are three (3) dams on the SFSR – Strawberry, Philadelphia Diversion Dam, and Lyons Dam. The combined storage of these three (3) dams is 24,541 af, or about 12% of the SFSR estimated unimpaired runoff of 200,000 af in a normal water year.

1.3 NFSR

The NFSR has its headwaters in Alpine, Tuolumne and Calaveras counties, at an elevation of approximately 10,000 feet and is the border between Calaveras and Tuolumne counties. The NFSR drains an area of approximately 1,075 square miles, and provides the water supply for the communities of Ebbetts Pass and Copper Cover/Copperopolis. There are four (4) main reservoirs on the NFSR – New Spicer Meadow, Utica, Union and Lake Alpine. The combined storage of these dams is 198,582 af.

1.4 Main Stem Stanislaus River

From the confluence of the MFSR and the NFSR, the main stem of the Stanislaus River flows southward for approximately 95 miles where it enters the San Joaquin River northwest of the City of Modesto. The Stanislaus River drains an area of about 986,000 acres to Goodwin Dam. In normal water years, the estimated unimpaired runoff is 1.1maf. There are three (3) dams on the main stem of the Stanislaus River – New Melones, Tulloch and Goodwin with a combined storage capacity of 2,487,468 af, or about 226% of the estimated unimpaired runoff.

1.5 Climate

The Stanislaus River Basin has mild, dry summers with little to no precipitation, and cold, wet winters with moderate to heavy precipitation. At elevations above 5,000 feet, winter precipitation is in the form of snow. Water flowing in the Stanislaus River and its tributaries is derived primarily from precipitation and snowmelt. The area receives high flows during the snowmelt period, which typically extends from March through early July. Low flows occur during the late summer and early fall, or during the late fall and early winter when temperatures are low and precipitation remains in the form of snowpack.

2.0 History of Water Development

2.1 Early Development by OID, SSJID and Their Predecessors

Prior to 1856, the San Joaquin Water Company, controlled by Abraham Shell, constructed a diversion dam on the Stanislaus River immediately downstream of the present day location of Tulloch Dam, and used the diversion dam to distribute water for irrigation and other uses in the Knights Ferry Area. Through a series of ownership transfers and/or defaults, the San Joaquin Water Company was eventually bought by the Tulloch family in the late 1800's. In 1909, OID and SSJID were formed, and the Districts bought the Tulloch water rights and physical distribution system in 1910.

In 1913, OID and SSJID jointly constructed Goodwin Diversion Dam, an 80 foot tall double concrete arch dam, to divert Stanislaus River water into their respective canals for distribution into their respective service areas for irrigation. Despite its height, Goodwin Diversion Dam provided no usable storage.

2.2 Other Early Development

Beginning in 1856, a series of water and power companies constructed several water supply and power facilities in the Stanislaus River Watershed. The SFSR saw the construction of Big Dam, Herring Creek, Upper Strawberry and Lower Strawberry reservoirs in 1856, Lyons Reservoir in 1898 and Philadelphia Diversion Dam in 1916 (11 feet high concrete face rock masonry overflow spillway dam). The MFSR saw construction of Sand Bar Diversion Dam (24 foot high timber crib overflow spillway dam), Stanislaus Forebay (comprised of a 55 feet tall shotcrete face earthfill dam, and a 60 foot tall shotcrete face earthfill compacted rock overlay dam, removed after construction of New Melones) in 1908 and Relief Dam (144.5 feet high concrete face rock masonry dam) in 1910. In 1917, Lower Strawberry Reservoir was enlarged from 1,190 af to 17,900 af (Strawberry Dam is 133 feet high concrete face rock masonry dam).

2.3 1925-1930 Developments

To address their lack of storage, OID and SSJID joined with PG&E in 1925 to construct the Melones Dam and Powerhouse approximately 12.3 river miles upstream of the Goodwin Diversion Dam. Melones Dam was a concrete arch dam that was 163 feet tall and had a storage capacity of 112,500 af. Water released from Melones was diverted at Goodwin Diversion Dam for delivery into OID and SSJID's distribution systems.

In 1929, Spicer Meadow Dam was completed on NFSR. It had a capacity of 4,060 af.

In 1930, Lyons Reservoir was enlarged from 839 af to 5,508 af.

2.4 Tri Dam Project

In 1948, OID and SSJID agreed to investigate the cost and feasibility of constructing additional dams for purposes of increased water supply and power production. After years of study, in 1955 the districts agreed to construct three new facilities, including the Donnells Dam and Reservoir and Beardsley Dam and Reservoir on the MFSR upstream of Melones Dam, and the Tulloch Dam and Reservoir (capacity 67,000 af) located downstream of Melones Dam. Construction of the three facilities, collectively referred to as the Tri- Dam Project, was completed in 1957 and the facilities became operational in 1958. As part of the construction of the Tri-Dam project, Goodwin Diversion Dam was raised seven (7) feet to 87 feet high to create an afterbay to regulate discharge from Tulloch.

Donnells Dam is a concrete arch structure that is 483 high from the base of the dam. Its crest is 960 feet long and 10 feet wide. Donnells Reservoir is 2.2 miles long, 247 feet deep and has a gross storage capacity of 64,325 af.

Beardsley Dam is a rock-filled structure that is 280 feet high from the base of the dam. Its crest is 1,000 feet long and 30 feet wide. Beardsley Reservoir is 4.1 miles long, 250 feet deep, and has a gross storage capacity of 97,802 af.

Tulloch Dam is a concrete gravity structure that is 205 feet tall. Its crest is 1,600 feet long and 12 feet wide. Tulloch Reservoir is 7 miles long and has a gross storage capacity of 66,968 af.

2.5 New Spicer Reservoir

From 1985-1990, the Calaveras County Water District constructed the North Fork Stanislaus Hydroelectric Project which included the construction of New Spicer Reservoir in 1989. New Spicer Reservoir has a capacity of 189,000 af. The dam is 265 feet tall.

3.0 New Melones Dam and Reservoir

3.1 Authorization and Construction

In the Flood Control Act of December, 1944, Congress authorized construction of a dam to replace Melones Dam to help alleviate serious flooding problems along the Stanislaus and Lower San Joaquin Rivers. Given the limits purpose of the authorized dam, it was originally intended to be a 355 foot high concrete arch dam with a reservoir capacity of only 455,000 af.

In the Flood Control Act of October 1962, Congress reauthorized the project, and expanded it to be a multipurpose facility to be built by the USACOE and operated by the Secretary of Interior as the New Melones Unit of the Eastside Division of the CVP. The multipurpose objectives include flood control, irrigation, municipal and industrial water supply, power generation, fishery enhancement, water quality improvement, and recreation. In light of the expanded purposes of the reauthorized project, the design of the dam was changed to a 625 foot high earth and rockfill dam with a reservoir capacity of 2.4 maf and included the construction of a new powerhouse.

Construction of New Melones Dam by the USACOE began in 1966 and was completed in 1979, at which time the project was officially transferred to Reclamation. New Melones Dam is located approximately 3/4^{ths} of a mile downstream of the original Melones Dam site. The original Melones Dam was not removed, but is submerged in the reservoir created by New Melones Dam.

3.2 Water Supply Development

The 1962 reauthorizing legislation (1) prohibits Reclamation from diverting water outside of the Stanislaus River Basin until such time as the Secretary of Interior determined the quantity of water required to satisfy all existing and anticipated future needs of the Stanislaus River Basin, and (2) makes such out of basin diversions subordinate at all times to the quantities needed to meet the

in-basin needs. The appropriative water rights obtained by Reclamation from the SWRCB for the New Melones Unit restrict the use of water from the project to the four counties of San Joaquin, Stanislaus, Calaveras and Tuolumne.

In 1980, the Secretary of Interior issued his Record of Decision (ROD), in which he determined the boundaries of the Stanislaus River Basin, the anticipated project yield for 2020 conditions, the current and anticipated future needs of such basin, the determination of an available "interim" supply until the full build up of in-basin needs, and an anticipated "firm yield" once full in-basin demand was established. For the yield, the Secretary determined that New Melones would generate a water supply yield of 230,000 af in 2000, and 180,000 af in 2020. For the interim supply, the Secretary determined that 85,000 af would be available in the year 2000, diminishing to 0 at full in-basin demand. For the firm supply, the Secretary determined that there would be 49,000 af available in 2020 after in-basin demands were met. Based upon these findings, in 1983 Reclamation entered into a long-term water service contract for 49,000 af of firm water with Central San Joaquin Water Conservation District and an interim supply of 31,000 af and a long-term water service contract totaling 75,000 af of interim water with Stockton East Water District (SEWD). Since the issuance of the ROD, no "in-basin" demand has developed. As such, Reclamation maintains the long term water service contracts referenced above.

Following the issuance of the ROD, New Melones was approved for filling, and filled in 1983.

Reclamation's 1980 yield calculations were based upon historic hydrologic data collected from 1922 through 1978. However, the 1987-1992 drought provided additional hydrologic data that, in subsequent yield studies, indicated that Reclamation's 1980 yield calculations may be overly-optimistic.

3.3 Relationship With other Elements of the CVP

The 1962 legislation reauthorizing New Melones anticipated that New Melones would be an integral part of the CVP, and the project was originally targeted to serve the east side of the San Joaquin Valley. However, due to lack of demand at the time, the 1980 ROD determined that the interim or firm water available would be contracted to areas within or immediately adjacent to the Stanislaus River Basin. The New Melones Unit was never added to or made subject to the COA signed in 1986.

Although New Melones has been integrated as a financial component of the CVP, its operations have not been integrated into or coordinated with the operation of other units of the CVP or of the SWP. Given its limited yield, its location, and the restriction in its authorizing legislation to meet the needs of the Stanislaus River Basin and areas immediately adjacent thereto

before delivering water outside of the basin, New Melones is and has been operated as a stand-alone facility by Reclamation.

4.0 Requirements for New Melones Operations

The operating criteria for New Melones Reservoir are affected by (1) water rights, (2) in-stream fish and wildlife flow requirements (3) SWRCB D-1641 Vernalis water quality requirements, (4) dissolved oxygen (DO) requirements on the Stanislaus River, (5) SWRCB D-1641 Vernalis flow requirements, (6) CVP contracts, and (7) flood control considerations. Water released from New Melones Dam and Powerplant is re-regulated at Tulloch Reservoir and is either diverted for use by senior water right holders or CVP contractors at Goodwin Dam or released from Goodwin Dam to the lower Stanislaus River.

Flows in the lower Stanislaus River serve multiple purposes concurrently. Water from the Stanislaus River enters the San Joaquin River where it contributes to flow and helps improve water quality conditions at Vernalis. D-1422, issued in 1973, provided the original operational criteria for New Melones Reservoir and permitted Reclamation to appropriate water from the Stanislaus River for irrigation and M&I uses. D-1422 requires the operation of New Melones Reservoir include releases for existing water rights, fish and wildlife enhancement, and the maintenance of water quality conditions on the Stanislaus and San Joaquin Rivers.

4.1 Water Rights Obligations

When Reclamation began operations of New Melones Reservoir in 1980, the obligations for releases (to meet downstream senior water rights) were defined in a 1972 Agreement and Stipulation among Reclamation, OID, and SSJID. The 1972 Agreement and Stipulation required Reclamation release annual New Melones Reservoir inflows of up to 654,000 af per year for diversion at Goodwin Dam by OID and SSJID, in recognition of their prior water rights. Actual historical diversions prior to 1972 varied considerably, depending upon hydrologic conditions. In addition to releases for diversion by OID and SSJID, water released from New Melones Reservoir is used to satisfy riparian water rights totaling approximately 48,000 af annually downstream of Goodwin Dam.

In 1988, following a year of low inflow to New Melones Reservoir, the Agreement and Stipulation among Reclamation, OID, and SSJID was superseded by an agreement that provided for conservation storage by OID and SSJID. The new agreement required Reclamation to release New Melones Reservoir inflows of up to 600,000 af each year for diversion at Goodwin Dam by OID and SSJID.

In years when annual inflows to New Melones Reservoir are less than 600,000 af, Reclamation provides all inflows plus one-third the difference between the inflow for that year and 600,000 af per year. The 1988 Agreement and Stipulation created a conservation account in which the difference between the entitled quantity and the actual quantity diverted by OID and SSJID in a year may be stored in New Melones Reservoir for use in subsequent years. This conservation account has a maximum storage limit of 200,000 af, and withdrawals are constrained by criteria in the agreement.

4.2 In-stream Flow Requirements

Under D-1422, as amended by D-1616, Reclamation is required to provide those interim instream flows as specified in a 1987 agreement between Reclamation and DFG. This agreement provided for releases from New Melones for fishery resources for an interim period, during which habitat requirements were to be better defined and a study of Chinook salmon fisheries on the Stanislaus River would be completed.

During the study period, releases for in-stream flows would range from 98,300 to 302,100 af per year. The exact quantity to be released each year was to be determined based on a formulation involving storage, projected inflows, projected water supply, water quality demands, projected CVP contractor demands, and target carryover storage. While not all of the required studies have been completed, FWS published the results of a 1993 study, which recommended a minimum in-stream flow on the Stanislaus River of 155,700 af per year for spawning and rearing (Aceituno 1993).

4.3 Vernalis Water Quality Requirement

SWRCB D-1422, as amended in D-1641, imposes upon all of the CVP permits under which Reclamation delivers water to the San Joaquin basin a requirement that Reclamation meet the 1995 Bay-Delta Plan salinity objectives at Vernalis of average monthly electric conductivity 0.7 milliSiemens per centimeter (mS/cm) (approximately 455 ppm TDS) during the months of April through August, and 1.0 mS/cm (approximately 650 ppm TDS) during the months of September through March. While the SWRCB in D-1641 directed Reclamation to consider sources of dilution water other than New Melones Reservoir and other means of reducing the salinity concentration in the southern Delta, Reclamation nevertheless continues to use New Melones for that purpose. This decision conforms Condition 5 of D-1422 to the southern Delta salinity objectives in the 1995 Bay-Delta Plan and to the current Basin Plan. Because releases have been made solely from New Melones and due to shortages in water supply and high concentrations of TDS upstream of the confluence of the Stanislaus River, the D-1422 objective was not always met during the 1987-1992 drought. Reclamation has always met the D-1641 salinity objective since 1995.

4.4 Dissolved Oxygen Requirements

D-1422 requires that water be released from New Melones Reservoir to maintain DO standards in the Stanislaus River. The 1995 revision to the WQCP established a minimum DO concentration of 7 milligrams per liter (mg/L), as measured on the Stanislaus River near Ripon. As part of the proposed action, Reclamation will be requesting the SWRCB to move the DO compliance point upstream to Orange Blossom Bridge. This location better corresponds to steelhead rearing in the spring and summer months.

4.5 Bay-Delta Vernalis Base Flow Requirements

SWRCB D-1641 sets flow requirements on the San Joaquin River at Vernalis from February to June. These flows are commonly known as San Joaquin River flows.

San Joaquin River flow objective-Vernalis

Water Year Class	February-June Flow (cfs)*
Critical	710-1140
Dry	1420-2280
Below Normal	1420-2280
Above Normal	2130-3420
Wet	2130-3420
*the higher flow required when X2 is required to be at or west of Chipps Island	

Since D-1641 has been in place, the San Joaquin River flow requirements have at times, been an additional demand on the New Melones water supply.

4.6 CVP Contracts

Reclamation entered into long-term water service contracts for the delivery of water from New Melones Reservoir, based on a 1980 hydrologic evaluation of the long-term availability of water in the Stanislaus River Basin. Based on this study, Reclamation entered into a long-term water service contract for up to 49,000 af per year of water annually (based on a firm water supply), and two long-term water service contracts totaling 106,000 af per year (based on an interim water supply) [See details above in Water Development section]. Reclamation and SEWD have entered into a binding agreement pursuant to CVPIA to renew SEWD's New Melones contract immediately upon the completion of the CVPIA PEIS. Because the PEIS for New Melones has not been completed, SEWD's CVP contract has not yet been renewed.

4.7 Flood Control

The New Melones Reservoir flood control operation is coordinated with the operation of Tulloch Reservoir. The flood control objective is to maintain flood flows at the Orange Blossom Bridge at less than 8,000 cfs. When possible, however, releases from Tulloch Dam are maintained at levels that would not result in downstream flows in excess of 1,250 cfs to 1,500 cfs because of seepage problems in agricultural lands adjoining the river associated with flows above this level. Up to 450,000 af of the 2.4 maf storage volume in New Melones Reservoir is dedicated for flood control and 10,000 af of Tulloch Reservoir storage is set aside for flood control. Based upon the flood control diagrams prepared by the Corps, part or all of the dedicated flood control storage may be used for conservation storage, depending on the time of year and the current flood hazard.

5.0 New Melones Operating Plan

Following the 1987-1992 drought, Reclamation, fishery agencies, OID, SSJID, SEWD and other stakeholders have met to develop an operating plan that would enable Reclamation, through an extended drought akin to the 1987-1992 drought, to 1) meet the superior needs of OID and SSJID, (2) satisfy all of Reclamation's water right permit terms, (3) provide water more often to SEWD and other CVP contractors, (4) make water available for additional fishery, temperature, flow rate and other goals. Such effort resulted in the Interim Plan of Operation ("IPO") which guided Reclamation's operations from 1997-2012. The IPO was intended to be a short-term operating plan, in place only during the time that the stakeholders continued to work to develop a long-term operating plan that would supplant the IPO. Reclamation has not proceeded with a long-term plan and the IPO has become a de-facto operations plan, without the support of the stakeholders.

In 2006, OID, SSJID and SEWD proposed a new operating plan to Reclamation ("Transitional Plan of Operation"),[1] which differed from the IPO in several key respects. First, the Transitional Plan of Operation is not designed and intended to meet the 1987-1992 drought, which studies have shown to be approximately a 1 in 400 year event, but rather the 1928-1934 drought, which is approximately a 1 in 50 year event. Second, the Transitional Plan of Operation requires Reclamation to meet the terms and conditions of its water rights in all years and under all conditions. Third, it provides at least some water to CVP contractors in all years, but full deliveries only in years when New Melones storage plus inflow is expected to be greater than 1.8 maf. Finally, it provides for more releases for fishery purposes in dry and successive dry years.

[1] Reclamation and SEWD are in litigation over New Melones operations [Court of Federal Claims No. 04-541 L Judge Christine Odell Cook Miller]. Nothing contained in the Transitional Plan of Operation shall constitute an admission or waiver of any claim, right or defense in the litigation.

Following years of review and negotiation, Reclamation adopted the Transitional Plan of Operation in 2012 and it will direct Reclamation's operation of New Melones beginning in Water Year 2013.

The Transitional Plan of Operation is premised on water quality and flow requirements at Vernalis being met under all conditions. Water allocated to meet water quality and flow requirements is not constrained. The unconstrained allocation of water for water quality and flow purposes is conditioned on an important change in the accounting methodology at New Melones. The Transitional Plan of Operation is premised on the condition that instream flows are the primary flows or foundation flows in the Stanislaus River. Any flows to meet water quality and Bay-Delta flows at Vernalis, or dissolved oxygen at Orange Blossom Bridge, would be added to the fish flows when needed.

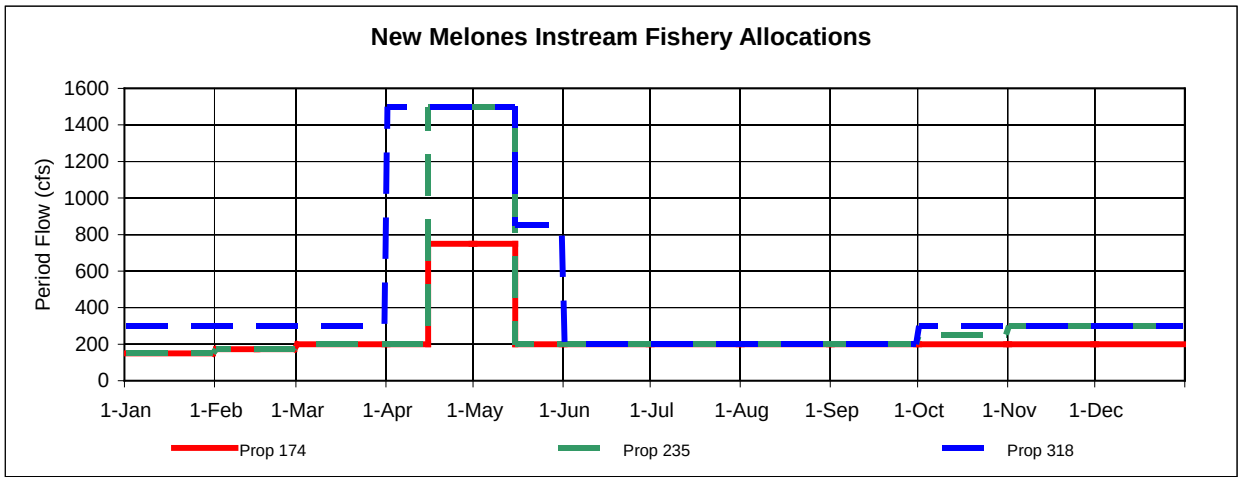
In accordance with the Transitional Plan of Operation, releases for fishery purposes[2] will be as follows:

New Melones Storage Plus Inflow		Fishery (TAF)
From	To	
0	1,800	174
1,800	2,500	235
2,500	6,000	318

The fishery schedule is designed to accomplish instream fishery protection on the Stanislaus River. Special consideration was given to the following factors: meeting Fall Run Chinook Salmon (FRCS) spawning, egg incubation/fry rearing, and juvenile rearing flows identified by an instream flow study (IFS) conducted by the USFWS (Aceituno 1993) and meeting temperature requirements for over-summering steelhead identified by NMFS in the 2004 OCAP Section 7 biological opinion[3]. The fishery schedule monthly distribution is as follows:

[2] CVPIA Section 3406 (b)(2) releases from New Melones Reservoir consist of the portion of the fishery flow management volume utilized that is greater than the 1987 DFG Agreement.

[3] NMFS 2004: Maintain Temperature from June 1 – November 30 at ≤65°F at Orange Blossom Bridge.



Deliveries to CVP contractors will be as follows:

New Melones Storage Plus Inflow		Contractors (TAF)
From	To	
0	1,400	10 (SEWD)[4]
1,400	1,800	59 (10 SEWD)
1,800	6,000	155

The Transitional Plan of Operation anticipates a change in the compliance point for dissolved oxygen that is contained in Reclamation's water right permits. The standard itself (7mg/L) and timing (June thru September) would be unchanged, but the point of compliance would be moved from Ripon upstream to Orange Blossom Bridge. Reclamation, OID, SSJID and SEWD are preparing a joint request to the SWRCB to approve this change.

[4] Allocation to meet emergency M&I public health and safety requirements.