
Chapter 1

Introduction

1.1 Project Overview

The Western Area Power Administration (Western), a power marketing administration within the U.S. Department of Energy (DOE), and the San Luis & Delta-Mendota Water Authority (Authority), a California joint powers agency, have prepared this joint Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) for the San Luis Transmission Project (SLTP or Proposed Project). In conformance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), this EIS/EIR is intended to inform decision makers, other agencies, and the public regarding the environmental and public safety effects that could result from the proposed construction, operation, maintenance, and decommissioning of the SLTP. Western is the federal lead agency under NEPA, and the Authority is the State lead agency under CEQA. The Bureau of Reclamation (Reclamation) is a NEPA Cooperating Agency. The California Department of Water Resources (DWR) is a CEQA Responsible Agency.

The SLTP would consist of:

- a new 500-kilovolt (kV) transmission line about 65 miles in length between the new Tracy East and Los Banos West Substations;
- a new 230-kV transmission line about 3 miles in length between the new Los Banos West Substation and Western's existing San Luis Substation;
- a new 230-kV transmission line about 20 miles in length between Western's existing San Luis Substation and Western's existing Dos Amigos Substation or a new 230-kV transmission line about 18 miles in length between the new Los Banos West Substation and Western's existing Dos Amigos Substation;
- an interconnection with the existing Western 500-kV Los Banos-Gates No. 3 transmission line just south of Pacific Gas & Electric's (PG&E) existing Los Banos Substation into the new Los Banos West Substation; and
- a new 70-kV transmission line about 7 miles in length between the existing San Luis and O'Neill Substations.

Western would construct, own, maintain, and operate the lines, which would be located mostly adjacent to existing transmission lines in Alameda, San Joaquin, Stanislaus, and Merced Counties in California.

Additional components of the SLTP would include new 230-kV line terminal bays at Western's San Luis and Dos Amigos Substations, which would be operated and maintained by DWR, as well as a new 230/70-kV transformer bank and interconnection facilities at the San Luis Substation.

1.2 Purpose and Need

~~The United States Department of Interior, Bureau of Reclamation (Reclamation) entered into a contract with Pacific Gas and Electric (PG&E) in 1965 for power transmission and distribution service between Western's Tracy Substation and Reclamation's San Luis Unit (SLU) facilities near Santa Nella, California and Los Banos, California including the Gianelli Pump-Generating Plant, Dos Amigos Pumping Plant, and the O'Neill Pump-Generating Plant, for delivery of Central Project Valley (CVP) water supply to its Federal water service contractors. The San Luis Unit is part of the Central Valley Project (CVP) CVP and is owned by the United States. On an annual basis, these~~ ~~These~~ SLU facilities pump up to 1.25 million acre-feet of

federal water out of the California Aqueduct and the Delta-Mendota Canal into the San Luis Reservoir for later use, including irrigation supply to about 600,000 acres of farmlands located in western Fresno, Kings, and Merced Counties. The SLU is a Joint Use Facility (JUF) between Reclamation and DWR. DWR operates the JUF as provided in the 1961 Agreement between the United States of America and the Department of Water Resources of the State of California for the Construction and Operation of the Joint Use Facilities of the San Luis Unit. Pursuant to this agreement, DWR and Reclamation share the costs of construction, operation, and maintenance related to the SLU. Under the agreement, DWR operates and maintains the JUF including the substations necessary for the SLTP.

As part of the original PG&E contract, the Federal Government paid PG&E \$2.6 million to provide 50 years of ~~230-kV~~ transmission and distribution service to deliver federal power to and from the SLU ~~Reclamation's Gianelli and Dos Amigos facilities.~~ The existing transmission contract with PG&E expires on March 31, 2016, and PG&E has stated it will not renew the existing contract. Without the contract or a federal transmission line to serve the primary SLU facilities, the Federal Government will have to take transmission service under the California Independent System Operator (CAISO) Tariff between Western's Tracy Substation and the SLU facilities using the same PG&E transmission and distribution lines that served the SLU for 50 years. The estimated increased cost to Reclamation in the first year by taking service under the CAISO Tariff is expected to be \$8,000,000 and to steadily increase each subsequent year. Reclamation's operating costs are paid by its water service contractors.

Currently, the CAISO Tariff includes high-voltage and low-voltage Transmission Access Charges (TAC). As of ~~March 1,~~ August 2015, the rate for the high-voltage TAC (which provides for regional transmission service across the CAISO system) was ~~\$9.79~~ \$10.16 per megawatt-hour (MWh) and the PG&E low-voltage TAC (which provides for service across PG&E's local transmission facilities) was \$7.64 per MWh. There are also other supplementary CAISO Tariff charges that average approximately \$6.00 per MWh. The following bullets provide a summary of Reclamation's estimated transmission costs under the CAISO Tariff:

- Assuming federal pumping load at Gianelli, O'Neill, and Dos Amigos range from 300,000 to 500,000 MWh per year, the high-voltage TAC cost estimate for these facilities ~~is starts at \$3,048,000~~ 2,940,000 to \$5,080,000 4,900,000 per year, and will escalate thereafter.
- The O'Neill facility will incur both the CAISO high-voltage and low-voltage TACs. Assuming a federal pumping load at O'Neill ranges from 60,000 to 90,000 MWh per year, the low-voltage TAC cost estimate for this facility ~~is starts at \$458,400~~ \$458,400 to \$687,600 per year, and will escalate thereafter.
- In addition to the high-voltage and low-voltage TAC charges listed above, Gianelli, O'Neill, and Dos Amigos will incur CAISO Tariff charges for other services such as scheduling, management, and ancillary services. The cost estimate for these services is estimated at \$1,800,000 to \$3,000,000 per year. The cost of providing capacity to meet CAISO Resource Adequacy requirements for the federal load in the CAISO BA is estimated to cost approximately \$850,000 per year.
- The total estimated range of CAISO Tariff service costs (summation of the ~~three bullet elements above~~) to be incurred by the Federal Government for these SLU facilities (Gianelli, O'Neill, and Dos Amigos) upon termination of the PG&E contract will range from ~~\$5,306,400~~ 6,000,000 to \$8,767,943 7,600 per year beginning April 2016.
- CAISO grid transmission users may also incur congestion charges when the scheduling capacity of existing transmission lines is exceeded, and customers must pay to mitigate for congestion. These costs have the potential to be negligible or several million dollars per year; there is currently no effective means to estimate future congestion costs.

In anticipation of PG&E's contract expiring and the substantial increase and uncertainty in transmission costs associated with scheduling federal power to these facilities under the CAISO Tariff, Reclamation submitted a transmission service request to Western. Under this request, Western is considering various transmission service arrangements, including the construction of new federal transmission lines (not part of to be included in the CAISO grid). Reclamation must continue to deliver federal water after the PG&E contract expires. Western must respond to Reclamation's request for transmission service consistent with Western's Open Access Transmission Tariff (OATT) and existing laws. Reclamation, on behalf of its water contractors, is evaluating options to pump, store, convey, and deliver federal water via the SLU at reasonable cost. While Western was exploring different options for meeting Reclamation's load, Western received a separate transmission service request from Duke American Transmission Company (DATC) under Western's OATT for between 1080 and 1600 megawatts (MW) of transmission service between the Tracy and Los Banos Substations. Western determined it could satisfy both requests by building a single 500-kV project.

Reclamation has determined that paying the cost of constructing, operating, and maintaining a new 230-kV transmission line outside of the CAISO grid over a 50-year analysis is more cost effective than paying the estimated cost of the CAISO Tariff charges that are likely to occur over the same period. Refer to the Appendix K (Cost Analysis) for details of this analysis. Furthermore, the federal transmission line will provide more cost certainty, in that it will continue to be used after that period of analysis where the capital cost of the Project would have been repaid and with just O&M costs as the only continuing cost, whereas costs of transmission service from the CAISO grid would be uncertain—continue to include additional new facilities and at rates that will be higher and uncertain. Having Western own and operate the transmission facilities provides Reclamation and its water customers with cost certainty that is not available under the CAISO. SLTP as a 500-kV Project provides additional economic savings compared to a federal-only 230-kV project.

The preliminary cost estimate to construct the Proposed Project in 2015 dollars, based on comparative cost estimates and a 25 percent contingency, would be approximately \$400 million. Reclamation would be responsible for a 25 percent share of the Proposed Project (500-kV) to accomplish their purposes and needs. This 25 percent share amount would be included in the Balancing Authority of Northern California. As such, its costs would be substantially below the anticipated costs that Reclamation would incur under the CAISO Tariff for the same 50-year period.

In addition to being more cost effective, the construction of a new transmission line by the Federal Government would provide more "cost certainty" for delivering federal power to the primary SLU loads.

CAISO cost recovery methodology is used to determine the high-voltage and low-voltage TAC. For instance, in January 2013, the CAISO high-voltage TAC was \$7.73 per MWh. In January 2015, the CAISO high-voltage TAC had increased to \$9.42 per MWh, and by March 2015, the CAISO high-voltage TAC was \$10.16 per MWh. It has since decreased to \$9.7986 in August 2015. In contrast, constructing the Proposed Project would limit any future cost increases to those necessary for operation, maintenance, and replacement of the Proposed Project instead of the entire CAISO grid.

In October 2013, an eligible Western transmission customer⁴DATC submitted a transmission service request in accordance with Western's OATT for transmission service within the same corridor as

⁴—Pending its decision to participate in the Project, the identity of this customer is confidential. Details on the interconnection request are available at: <http://www.oasis.oati.com/wasn/index.html> (see Transmission Queue page for updates)

requested by Reclamation. Western ~~is evaluating both requests jointly in order to determine~~ if it can satisfy Reclamation's need and the eligible customer's both requests ~~with~~ by building a single project. This Project would require at least a single-circuit 500-kV transmission line between the Tracy and Los Banos areas. Therefore, this EIS/EIR evaluates a 500-kV transmission line with ~~an~~ design voltage options to construct at 230-kV should ~~the eligible transmission customer~~ DATC decide not to participate. It is anticipated that ~~the eligible Western transmission customer~~ DATC will decide whether to participate by spring 2016.

If Western constructs the Proposed Project (500-kV) with DATC, 1200 MW of this 1600-MW line would be included in the CAISO Balancing Authority Area, where it would strengthen the capacity of the primary north-south extra high voltage transmission path in California, reduce congestion on that line, and facilitate export of renewable generation from the San Joaquin Valley to loads in urban areas of California. DATC would invest 75 percent of the capital cost of the Project, and receive a transmission payment from the CAISO as approved by the Federal Energy Regulatory Commission.

1.3 Project Objectives

The Project objectives for the SLTP are to:

- obtain durable, long-term, cost certain, and efficient transmission delivery of CVP power from federal power generation sites to the major pumping stations of the SLU to reliably deliver water to Reclamation and the Authority's member agencies (federal water service contractors);
- reinforce a critical link in the California transmission grid to reduce congestion, increase reliability, and facilitate the deliverability of renewable resources from the San Joaquin Valley to loads in urban areas of California;
- locate and install transmission facilities in a safe, efficient, and cost-effective manner that meets Project needs while minimizing environmental impacts;
- locate facilities to minimize the potential of environmental impacts resulting from damage by external sources;
- maximize the use of existing transmission corridors and rights-of-way in order to minimize effects on previously undisturbed land and resources; and
- obtain stable and reliable transmission that meets Project needs in a cost-effective and timely manner.

1.4 Agency Background

1.4.1 Western Area Power Administration

Western markets and delivers reliable, cost-based hydroelectric power and related services within the central and western United States. Western is one of four power marketing administrations within DOE that markets and transmits electricity from multi-use water projects, primarily to statutorily defined preference customers~~consumer-owned utilities~~. Western's mission is to market and deliver clean, renewable, reliable, cost-based federal hydroelectric power and related services within 15 central and western states. Western's 17,000-mile, high-voltage transmission system carries electricity from power plants operated by Reclamation, U.S. Army Corps of Engineers (USACE), and the International Boundary and Water Commission.

The SLTP is located within Western's Sierra Nevada Region (SNR). SNR maintains and operates numerous substations and more than 1,500 circuit miles of transmission lines in five geographic regions to ~~nearly 700~~ approximately 80 preference customers, non-profit utilities. By law, Western markets power that is in excess of federal project requirements to preference customers, such as federal and State agencies, Native American tribes, electric cooperatives, municipal utilities, public utility districts, irrigation districts, and water districts. Western sells wholesale electricity to more than 70 customers in central and northern California and Nevada from the CVP and Washoe Project.

As described in Section 1.1, Western is the lead federal agency under NEPA. Under Western's OATT, Western must respond to requests for transmission services. ~~The~~ is Draft EIS/EIR, together with ~~this~~ is Final EIS/EIR and other permitting requirements, is the means by which Western will comply with NEPA. Findings from the EIS/EIR and all comments received will become part of the administrative record and will be used to make decisions on whether and how to proceed on the SLTP.

Portions of the Proposed Project may affect floodplains and wetlands. In accordance with DOE floodplain and wetland environmental review requirements (10 CFR part 1022), this EIS/EIR includes a floodplain and wetlands assessment (see the "Water Resources and Floodplains" section in chapters 3 and 4). A floodplain statement of findings will be included in the Record of Decision (ROD) (10 CFR 1022.14(c)).

1.4.2 San Luis & Delta-Mendota Water Authority

The Authority consists of 28 federal and San Joaquin River exchange water service contractors that provide water to more than 2.1 million acres of service territory within the western San Joaquin Valley, as well as San Benito and Santa Clara Counties. The Authority was established in 1992 and assumed the operation and maintenance (O&M) responsibilities of certain CVP facilities. The Authority operates and maintains the Delta-Mendota Canal, which delivers approximately 3 million acre-feet of water within the Authority's service area, the C.W. "Bill" Jones Pumping Plant (formerly Tracy Pumping Plant), O'Neill Pumping/Generating Plant, Tracy O&M Facilities, the San Luis Drain, and several other components of the CVP.

As described in Section 1.1, the Authority is the CEQA lead agency. This EIS/EIR is intended to inform the public, other agencies, and the Authority's 19-member governing board of directors of potential environmental impacts, mitigation measures, and alternatives prior to the Authority's decision to approve or disapprove the Project.

1.4.3 Bureau of Reclamation

Reclamation is the largest wholesaler of water in the United States, supplying more than 31 million people and providing irrigation water for 10 million acres of farmland. Reclamation is also the second largest producer of hydroelectric power in the western United States with 53 power plants that provide more than 40 billion kilowatt-hours annually and generate nearly a billion dollars in power sales revenue. Reclamation's mission is to assist in meeting the increasing water demands of the western United States while protecting the environment and the public's investments in these structures. Reclamation emphasizes fulfilling its water delivery obligations, water conservation, water recycling, and reuse goals; developing partnerships with customers, states, and Native American tribes; and finding ways to address the competing needs for limited water resources.

Reclamation owns, operates, and manages the dams, power plants, and canals of the CVP. The SLTP also passes through lands managed by the Reclamation. Under NEPA regulations, Reclamation is a cooperating agency involved in the preparation of the EIS/EIR for the SLTP.

1.4.4 California Department of Water Resources

DWR, established in 1956 by the California State Legislature, plays an important role in sustaining California's economy, environment, and quality of life. DWR's major responsibilities include overseeing the statewide-process of developing and updating the California Water Plan (Bulletin 160 series); protecting and restoring the Sacramento–San Joaquin Delta; regulating dams, providing flood protection, assisting in emergency management, educating the public about the importance of water and its proper use; providing technical assistance to service local water needs; and planning, designing, constructing, operating, and maintaining California's State Water Project (SWP).

SWP is the largest State-built multi-purpose, water project in the United States. In addition to supplying water to California's cities, industries, and farms, the SWP also provides flood control, hydroelectric power generation, recreation, and enhancement and protection of fish and wildlife habitat. The SWP provides water supply for an estimated 25 million Californians and about 750,000 acres of farmland, and includes 34 storage facilities, 20 pumping plants, five hydroelectric power plants, four pumping-generating plants, and approximately 700 miles of canals, tunnels, and pipelines. The JUF is an essential component of the SWP. Pursuant to the 1961 Agreement between the U.S. Bureau of Reclamation and DWR, DWR has a contractual obligation for operations and maintenance (O&M) of the JUF including the San Luis and Dos Amigos Substations. The SLTP interconnects to the facilities that are operated and maintained by the DWR. The SLTP would necessitate consultation with DWR and DWR concurrence related to interconnection design, protection, operations, maintenance, communications, and NERC/WECC compliance responsibilities. Under CEQA, DWR is considered a responsible agency for the SLTP based on its jurisdiction over certain facilities that may be affected by the Project, the approval authority it holds for interconnection at SWP-operated and maintained facilities, and approval of encroachment permits.

1.5 Public Participation

Public involvement is a vital part of the environmental review process under NEPA and CEQA. Western provided multiple opportunities for public involvement during the development of the ~~Draft Western~~ EIS/EIR. These opportunities intend to establish a collaborative, systematic, and inclusive process to gather and share information and identify public concerns and issues regarding the Project.

1.5.1 Scoping

Western and the Authority held public open-house meetings to answer questions and receive comments on the scope of the environmental analysis for the SLTP. These meetings were held on January 8, 2014, in Tracy, California and on January 9, 2014, in Santa Nella, California. The 60-day public scoping comment period began on November 22, 2013 when the Notice of Intent was published in the *Federal Register*, and the Notice of Preparation was filed with the California State Clearinghouse. The 60-day public scoping comment period ended on January 21, 2014.

Western distributed notices to 75 local agencies, 8 state agencies, 6 federal agencies, 21 organizations, and 39 elected officials. Western also sent postcards announcing the public scoping meetings and comment period to all property owners within or adjacent to the Proposed Project or alternative routes, and published advertisements on the meetings and comment period in five local newspapers. The postcards and advertisements also provided an overview map of the Project area, a brief summary of the SLTP, how to provide scoping comments, and where to find additional information on the Proposed Project.

A total of 21 unique commenters (8 individuals, 4 organizations, and 9 agencies) submitted 21 comment documents (letters, emails, faxes, and comment cards). Within these comment documents, a total of 81 individual scoping comments were submitted. These comments are summarized in the Scoping Report (Appendix B).

1.5.2 Public Review of the Draft EIS/EIR

The Notice of Availability (NOA) of the Draft EIS/EIR was published in the Federal Register, filed with the State Clearinghouse, and mailed to interested parties on July 17, 2015. The NOA included information on how to access the Draft EIS/EIR, the dates, times, and locations of the Draft EIS/EIR public meetings, and how to comment on the Draft EIS/EIR. Its distribution started a 45-day public comment period that ended on August 31, 2015.

Public hearings on the Draft EIS/EIR were held in Tracy on August 10, 2015 and Los Banos on August 11, 2015. These consisted of an open house where Project information was shared, followed by an opportunity to record verbal comments from the public. Notice of the public meetings was published in the Tracy Press and Los Banos Enterprise newspapers.

Four people provided verbal comments at the Los Banos meeting; no verbal comments were provided at the Tracy meeting. An additional 26 comment letters and emails were received during the 45-day public comment period (refer to Appendix L for a detailed list of commenters and copies of all comment correspondence).

1.5.3 Other Public Participation Efforts

Additionally, ~~two~~ three newsletters have been distributed to affected and interested landowners, organizations, and agencies. The first newsletter, distributed May 2014, announced the availability of the Scoping Report and the Alternatives Screening Report on the SLTP website.¹ It also provided a summary of the alternatives considered and eliminated in the Draft EIS/EIR. The second newsletter, distributed February 2015, announced that a new alternative corridor (the Billy Wright Road Alternative) and two proposed new substations (the Tracy East and Los Banos West Substations) would be evaluated in the Draft EIS/EIR. It also announced the availability of an updated Alternatives Screening Report on the SLTP website. The third newsletter was distributed in August 2015. It announced the availability of the Draft EIS/EIR, described how to comment on the Draft EIS/EIR, and provided the dates, times and locations of the Draft EIS/EIR public meetings.

Information about the project is available on two websites: <http://www.sltpcis-eir.com> and <https://www.wapa.gov/regions/SN/environment/Pages/san-Luis-transmission-project.aspx>. These websites provide general information about the Project and electronic versions of Project documents, including the Scoping Report, Alternatives Screening Report, public meeting materials, Project maps, newsletters, and the Draft and Final EIS/EIR.

1.6 Revisions to the Draft EIS/EIR

The Draft EIS/EIR, as revised in this document, comments received during the public comment period, and written responses collectively comprise the Final EIS/EIR. Where the Draft EIS/EIR has been revised,

¹ —<http://www.sltpcis-eir.com/>

the text has been marked in ~~striketrough~~ for deletions and underline for additions.² These revisions have been made in response to comments received on the Draft EIS/EIR, as presented in Appendix L. Portions of the Draft EIS/EIR were also revised for the purposes of clarifications, typographical corrections, and other editorial adjustments.

² Appendix J (Disclosure Statements), Appendix K (Cost Analysis), Appendix L (Draft EIS/EIR Comments and Responses), and Appendix M (Draft Conformity Determination) are new sections of the Final EIS/EIR that expand and clarify the information in the Draft EIS/EIR, but are not presented as underlined text. Appendix I (Air Quality Emission Calculations) has been updated in the Final EIS/EIR without strikethrough and underlined text.