



BILLING CODE 6717-01-P  
DEPARTMENT OF ENERGY  
Federal Energy Regulatory Commission

[Project No. 2426-227]

California Department of Water Resources and Los Angeles Department of Water and Power; Notice of Application Tendered for Filing with the Commission and Establishing Procedural Schedule for Relicensing and a Deadline for Submission of Final Amendments

Take notice that the following hydroelectric application has been filed with the Commission and is available for public inspection.

- a. Type of Application: New Major License
- b. Project No.: 2426-227
- c. Date filed: January 30, 2020
- d. Co-Applicants: California Department of Water Resources and Los Angeles Department of Water and Power
- e. Name of Project: South SWP Hydropower Project
- f. Location: Along the West Branch of the California Aqueduct, and along Piru Creek and Castaic Creek, tributaries to the Santa Clara River, in Los Angeles County, California. The project currently occupies 2,790 acres of federal land administered by the U.S. Department of Agriculture, Forest Service, as part of the Angeles National Forest and the Los Padres National Forest; and 17 acres of federal land administered by the U.S. Department of Interior, Bureau of Land Management.
- g. Filed Pursuant to: Federal Power Act 16 U.S.C. §§ 791 (a) - 825(r)
- h. Applicant Contacts: Gwen Knittweis, Chief, Hydropower License Planning and Compliance Office, California Department of Water Resources, P.O. Box 924836, Sacramento, California 94236-0001, (916) 557-4554, or [Gwen.Knittweis@water.ca.gov](mailto:Gwen.Knittweis@water.ca.gov); and Simon Zewdu, Manager of Strategic Initiatives, Power Planning and Development, Los Angeles Department of Water and Power, 111 North Hope Street, Room 921, Los Angeles, CA 90012, (213) 367-0881, or [Simon.Zewdu@ladwp.com](mailto:Simon.Zewdu@ladwp.com).
- i. FERC Contact: Kyle Olcott at (202) 502-8963; or email at [kyle.olcott@ferc.gov](mailto:kyle.olcott@ferc.gov)

j. This application is not ready for environmental analysis at this time.

k. The project consists of two developments: Warne Development and Castaic Development. The average annual generation of the South SWP Project from 2007 to 2017 was 304 gigawatt-hours (GWh) at the Warne powerplant and 379 GWh at the Castaic powerplant.

### *Warne Development*

The major features of the Warne Development include: (1) Quail Lake, (2) Lower Quail Canal, (3) Peace Valley pipeline intake embankment, (4) Peace Valley pipeline, (5) Gorman bypass channel, (6) the William E. Warne powerplant (Warne powerplant), (7) switchyard, (8) the transmission line that interconnects Warne powerplant with the Southern California Edison (SCE) Pastoria-Pardee transmission line, and (9) appurtenant facilities.

Quail Lake is a small regulating reservoir along the State Water Project (SWP) that was created by constructing an embankment along a sag pond formed by the San Andreas fault. The lake is located 5 miles southwest of the bifurcation of the East and West branches of the SWP. Quail Lake has a maximum storage capacity of 8,790 acre-feet and a surface area of about 290 acres. The Quail Lake outlet into Lower Quail canal is a double-box culvert structure that passes beneath State Highway 138. Quail Lake and Lower Quail canal serve as a forebay to Warne powerplant. The Lower Quail canal has an emergency outflow weir that is described below, and a spillway is not required for Quail Lake.

Water released from Quail Lake through the Quail Lake outlet flows into the 2-mile-long Lower Quail canal. The concrete-lined canal serves as a conveyance to the Peace Valley pipeline intake and is the forebay for the Warne powerplant. Lower Quail canal has a bottom width of 24 feet, northern embankment height of approximately 50 feet, southern embankment height of about 40 feet, and maximum flow capacity of 3,129 cubic feet per second (cfs). The Lower Quail canal storage capacity is 1,150 acre-feet. An ungated emergency overflow weir is located on the north side of Lower Quail canal. If an unplanned release occurs, water can be discharged over the ungated weir into a detention basin located to the west and adjacent to the southernmost section of Lower Quail Canal.

The Peace Valley pipeline begins at the Peace Valley pipeline intake embankment. The Peace Valley pipeline intake embankment is a zoned earth and rockfill embankment at the downstream end of the Lower Quail canal. The Peace Valley pipeline intake

embankment is 50 feet tall, with a crest length of 350 feet, and crest elevation of 3,330 feet.

SWP water flowing from Quail Lake through Lower Quail canal is routed into the Peace Valley pipeline to Warne powerplant and then to Pyramid Lake. The Peace Valley pipeline, which has a 12-foot-diameter and is completely underground, serves as the penstock to the Warne powerplant. It extends about 5.5 miles from the Peace Valley pipeline intake structure to the Warne powerplant. In the event of a Peace Valley pipeline outage or scheduled SWP water releases exceeding the pipeline's capacity, the water is routed through the Gorman bypass channel directly into Pyramid Lake.

The Gorman bypass channel flow capacity is 700 cfs and conveys SWP water from Lower Quail canal to Pyramid Lake, bypassing the Peace Valley pipeline and Warne powerplant, when necessary, with an alignment generally paralleling that of the Peace Valley pipeline. The man-made channel begins at the Peace Valley pipeline intake embankment and crosses Interstate 5 about 0.7 mile downstream from the embankment. Local drainage, if any, drains into the bypass channel near Interstate 5.

The Warne powerplant, an above-ground, steel-reinforced, concrete powerhouse, is located at the northern (upstream) end of Pyramid Lake, at the terminus of the Peace Valley pipeline. The powerplant has two 37.5-MW Pelton-type generating units. Each turbine has a rated head of 650 feet, runner speed of 200 revolutions per minute (rpm), rated output of 51,000 horsepower (hp), and a rated discharge of 782 cfs. The total combined flow capacity for the powerplant is 1,564 cfs.

The project includes a 3-mile-long, single-circuit, 220-kilovolt (kV) transmission line that connects output from the project through the Warne switchyard to SCE's Pardee-Pastoria transmission line. The line is built on steel lattice towers along a 150-foot-wide right-of-way. The Warne switchyard is located west and immediately adjacent to the Warne powerplant and contains two generator step-up transformers.

### *Castaic Development*

The major features of the Castaic Development include: (1) Pyramid dam, (2) Pyramid Lake, (3) the Angeles tunnel and seven penstocks, (4) the Castaic powerplant and switchyard, (5) the Elderberry forebay and dam, (6) storm bypass channel and check dams, (7) the transmission lines that interconnect Castaic switchyard with the Independent System Operator power grid, and (8) appurtenant facilities. DWR owns and operates the facilities above the surge chamber at the southeastern end of the Angeles tunnel, and LADWP owns and operates the remainder of the facilities, including the surge chamber.

Pyramid dam, at the southern end of Pyramid Lake, is a 1,090-foot-long, 400-foot-high zoned earth and rock fill dam. The crest of the dam is 35 feet wide with an elevation of 2,606 feet. Water is typically released from a low-level outlet to an 18-mile-long section of Piru Creek (Pyramid reach), which extends from Pyramid dam to the NMWSE of Lake Piru.

Pyramid dam has two spillways, a gate-controlled spillway, and an uncontrolled emergency spillway. The gated spillway is controlled by a single radial gate that measures 40 feet wide by 31 feet tall and consists of a concrete-lined chute terminating in a flip bucket. The low-level outlet works use the stream bypass tunnel (diversion tunnel) used during construction of the dam. This stream release facility is a 15-foot-diameter, concrete-lined tunnel about 1,350 feet long through the right abutment of the dam and is used for downstream releases to Pyramid reach. Seepage through the dam is also collected at the toe of the dam, where it is gaged before being released into Pyramid reach. The maximum safe, designed release from the low-level outlet of Pyramid dam to Pyramid reach is 18,000 cfs.

Pyramid Lake serves as regulated storage for the Castaic powerplant. At a NMWSE of 2,578 feet, Pyramid Lake has a storage capacity of 169,902 acre-feet and a usable storage capacity of 22,221 acre-feet. Pyramid Lake also serves as emergency storage for the SWP. The lake has a normal maximum surface area of approximately 1,300 acres, a shoreline length of approximately 21 miles, and a maximum depth of approximately 280 feet. Pyramid Lake receives natural inflow into the west arm of the lake from Piru Creek, and a combination of natural and SWP water inflows into the north arm of the lake from Gorman bypass channel and Gorman Creek.

Angeles tunnel, the principal outlet from Pyramid Lake, supplies water to the Castaic powerplant in the generating mode and returns water to the lake from Elderberry forebay when the powerplant is operating in the pumping mode. Angeles tunnel is 7.2 miles long, has a diameter of 30 feet, and has a maximum flow capacity of 18,400 cfs.

The penstock assembly for the six units in the Castaic powerplant consists of a double trifurcation immediately downstream of the south portal of Angeles tunnel, a penstock shutoff valve on each branch of the trifurcations, and six 2,200-foot-long steel penstocks ranging in diameter from 9 feet to 13.5 feet serving the six powerhouse units (Unit Nos. 1-6). Unit No. 7 powerplant is served by a 1,900-foot-long steel penstock ranging in diameter from 7 feet to 9 feet branching from a Y-connection between the tunnel portal and the main trifurcation. Combined flow capacity for all seven penstocks is 17,840 cfs.

The Castaic powerplant, an aboveground/ underground, steel-reinforced, concrete powerhouse, is located on the northern (upstream) end of Elderberry forebay and is a pump-generating plant with the ability to pump water back to Pyramid Lake using off-

peak energy when it is economical to do so. Elderberry forebay serves as an afterbay for the Castaic powerplant while in generating mode and as a forebay while in pumping mode. Pyramid Lake serves as the upper reservoir for the powerplant.

The powerplant has six Francis-type pump-turbine units each with a rated head of 1,048 feet, a runner speed of 257 rpm, a rated output of 355,000 hp, and an estimated rated discharge of 3,500 cfs. It also has one Pelton-type pump starting turbine unit with a rated head of 950 feet, a runner speed of 225 rpm, rated output of 69,000 hp, and an approximate rated discharge of 752 cfs. These seven units have a combined generating capacity of 1,275 MW with a plant hydraulic capacity of 17,840 cfs.

Elderberry forebay dam is a 1,990-foot-long, 200-foot-high zoned earthfill dam. The crest of the dam is 25 feet wide with an elevation of 1,550 feet. The outlet tower, located approximately 400 feet upstream of Elderberry forebay dam, includes: one 5-foot-wide by 6-foot-high main gate, six 8-foot-wide by 12-foot-high lower gates, two 8-foot-wide by 9-foot-high upper gates, twelve 13-foot-wide by 12-foot-high storm gates, and one 5-foot-wide by 6-foot-high guard gate. The outlet tower connects to a 21-foot-diameter conduit that runs under Elderberry forebay dam and releases water into Castaic Lake (a non-project facility).

An overflow weir built into a natural topographic saddle located approximately 300 feet east of the left abutment of the dam serves as an uncontrolled emergency spillway. The crest elevation of the overflow weir is 1,540 feet, with a capacity of at least 12,000 cfs. Elderberry forebay dam, including this emergency spillway, is the most downstream project facility.

Elderberry forebay serves as an afterbay for the Castaic powerplant when the plant is generating power, and as a forebay when the plant is pumping water back to Pyramid Lake. The forebay also receives a small amount of local inflow from Castaic Creek, which enters at the northern end of the reservoir. The remaining inflow to Elderberry forebay is SWP water from Pyramid Lake conveyed via the Angeles tunnel. At a NMWSE of 1,530 feet, Elderberry forebay has a storage capacity of 28,231 acre-feet, a surface area of 500 acres, and a shoreline length of 7 miles.

The Storm bypass channel is on Castaic Creek above Elderberry forebay and includes a series of three check-dam basins with a total area of approximately 21 acres, designed to capture sediment runoff during high flow events to reduce the accumulation of sediment near the powerplant and ensure the sustained efficiency of the Castaic powerplant operation.

The Castaic switchyard is a fenced switchyard located adjacent to the powerhouse. An 11.4-mile-long, 230-kV transmission line delivers energy from the Castaic switchyard

to the Haskell Junction substation and transmits energy to the Castaic powerplant when in the pump-back operating mode.

*Co-Licensees' Proposed Modifications*

In their Final License Application, the co-licensees propose to add the following facilities to the project license: the existing Quail Detention Embankment, segments of some existing roads necessary for project operation and maintenance, and an existing streamflow gage located on Piru Creek downstream of Pyramid Dam. Additionally, the co-licensees propose to remove the Warne Transmission Line from the project license.

The co-licensees also propose to modify the project boundary to reduce the amount of land from 6,928 acres to 4,563.8 acres. The project, as proposed by the licensee, would reduce the amount of federal land from 2,790 acres to 2,007 acres of federal lands: 1,336 acres administered by the U.S. Department of Agriculture, Forest Service, as part of the Angeles National Forest; 665 acres administered by the U.S. Department of Agriculture, Forest Service, as part of the Los Padres National Forest; and 6.5 acres administered by the U.S. Department of the Interior, Bureau of Land Management.

l. A copy of the application is available for review at the Commission in the Public Reference Room or may be viewed on the Commission's website at <http://www.ferc.gov> using the "eLibrary" link. Enter the docket number excluding the last three digits in the docket number field to access the document. For assistance, contact FERC Online Support. A copy is also available for inspection and reproduction at the address in item h above.

m. You may also register online at <http://www.ferc.gov/docs-filing/esubscription.asp> to be notified via email of new filings and issuances related to this or other pending projects. For assistance, contact FERC Online Support.

n. Procedural schedule and final amendments: The application will be processed according to the following preliminary schedule. Revisions to the schedule will be made as appropriate.

MILESTONE	TARGET DATE
Notice of Acceptance / Notice of Ready for Environmental Analysis	April 2020
Filing of recommendations, preliminary terms and conditions, and fishway prescriptions	June 2020
Commission issues Draft EIS	December 2020

Comments on Draft Environmental Impact Statement (EIS)	February 2021
Modified terms and conditions	April 2021
Commission issues Final EIS	July 2021

o. Final amendments to the application must be filed with the Commission no later than 30 days from the issuance date of the notice of ready for environmental analysis.

Dated: February 6, 2020.

Nathaniel J. Davis, Sr.,  
Deputy Secretary.

[FR Doc. 2020-02809 Filed: 2/11/2020 8:45 am; Publication Date: 2/12/2020]