SOUTHERN CALIFORNIA EDISON

Kern River No. 1 Hydroelectric Project
(FERC Project No. 1930)

DRAFT LICENSE APPLICATION

VOLUME 1: INITIAL STATEMENT, GENERAL CONTENT REQUIREMENTS, EXHIBITS A, B, C, D, G, H

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December 2025

SOUTHERN CALIFORNIA EDISON

Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

Draft License Application

Volume 1: Initial Statement, General Content Requirements, Exhibits A, B, C, D, G, H

Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

December 2025

Support from:

Stantec

LIST OF EXHIBITS

SOUTHERN CALIFORNIA EDISON

Kern River No. 1 Hydroelectric Project
(FERC Project No. 1930)

Draft License Application
Initial Statement

Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

December 2025

SOUTHERN CALIFORNIA EDISON®
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Initial Statement

Before the
Federal Energy Regulatory Commission

Application for License for Major Project—Existing Dam

The Code of Federal Regulations, Title 18, Section 5.18(a)(5)(iii) (18 CFR § 5.18(a)(5)(iii)) refers to Section 4.51 (License for Major Project–Existing Dam) for a description of information that an applicant must include in the initial statement of its license application.

(1) (Name of applicant) applies to the Federal Energy Regulatory Commission for a (license or new license, as appropriate) for the (name of project) water power project, as described in the attached exhibits. (Specify any previous FERC project number designation.)

(2) The location of the project is:
State or territory:_____
County:_____
Township or nearby town:_____
Stream or other body of water:_____

(3) The exact name and business address of the applicant are:

_____

_____

The exact name and business address of each person authorized to act as agent for the applicant in this application are:

_____

_____

(4) The applicant is a [citizen of the United States, association of citizens of the United States, domestic corporation, municipality, or state, as appropriate] and (is/is not) claiming preference under section 7(a) of the Federal Power Act. See 16 U.S.C. 796.

(5)

(i) The statutory or regulatory requirements of the state(s) in which the project would be located that affect the project as proposed, with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes, and with respect to the right to engage in the business of developing, transmitting, and distributing power and in any other business necessary to accomplish the purposes of the license under the Federal Power Act, are: [provide citation and brief identification of the nature of each requirement; if the applicant is a municipality, the applicant must submit copies of applicable state or local laws or a municipal charter, or, if such laws or documents are not clear, other appropriate legal authority, evidencing that the municipality is competent under such laws to engage in the business of developing, transmitting, utilizing, or distributing power.]

(ii) The steps which the applicant has taken or plans to take to comply with each of the laws cited above are: (provide brief description for each law).

(6) The applicant must provide the name and address of the owner of any existing project facilities. If the dam is federally owned or operated, provide the name of the agency.

(1) Southern California Edison (SCE or Applicant) applies to the Federal Energy Regulatory Commission (FERC) for a new license for the existing Kern River No. 1 Hydroelectric Project (Project), FERC Project No. 1930, as described in the attached exhibits.

(2) The location of the Project is:

State: California
County: Kern
Township or nearby town: Bakersfield
Stream or other body of water: Kern River

(3) The exact name and business address of the Applicant are:

Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

The exact name and business address of each person authorized to act as agent for the Applicant in this application are:

Wayne P. Allen
Principal Manager, Regulatory Support Services
Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770
Phone: (626) 302-9741
E-mail: wayne.allen@sce.com

Meg Richardson
Project Lead, Regulatory Support Services
Southern California Edison
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Rosemead, CA 91770
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Kelly Henderson
Senior Attorney
Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770
Phone: (626) 302-4411
E-mail: kelly.henderson@sce.com

(4) Applicant's Organizational Status:

The Applicant is a public utility corporation incorporated in the State of California and serving customers in central, coastal, and southern California. The Applicant is not claiming preference under Section 7(a) of the Federal Power Act. See the United States Code, Title 16, Section 796 (16 USC § 796). SCE is claiming preference as the incumbent licensee under Section 15(a)(2) of the Federal Power Act, 16 USC § 808(a)(2).

(5) California Statutory and Regulatory Requirements

(i) The statutory or regulatory requirements in California, the state in which the Project is located, that affect the Project with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes and with respect to the right to engage in the business of developing, transmitting, and distributing power and in any other business necessary to accomplish the purposes of the license under the Federal Power Act are:

A. *California Water Code § 102* – allows for appropriation and use of water for power purposes.

B. *California Water Code § 13160* – regulates the federally required filing of applications for water quality certification with the State Water Board, pursuant to Section 401 of the federal Clean Water Act, 33 USC § 1341.

C. *Public Utilities Code § 201, et seq.* – regulates the right of the public utility to produce, generate, transmit, or furnish power to the public.

D. *Public Resources Code § 30000, et seq.* – regulates activities that may affect the coastal zone pursuant to the federal Coastal Zone Management Act, 16 USC § 1451.

(ii) The steps which the Applicant has taken or plans to take to comply with each of the laws cited above are:

A. The Applicant has the water rights necessary to operate the Project.

B. In compliance with FERC's regulations at 18 CFR § 5.23(b), the Applicant will request a water quality certification, including proof of the date on which the certifying agency received the request, no later than 60 days following FERC's issuance of the Notice of Acceptance and Ready for Environmental Analysis.

C. The California Public Utilities Commission has authorized the Applicant to produce, generate, transmit, or furnish power to the public.

D. The Applicant obtained confirmation from the California Coastal Commission that the Project is located outside California's coastal zone and would not have reasonably foreseeable coastal effects.

(6) Owner of Project Facilities

SCE is the owner and existing licensee of the Project. There are no federal facilities associated with the Project.

SOUTHERN CALIFORNIA EDISON

Kern River No. 1 Hydroelectric Project
(FERC Project No. 1930)

Draft License Application
General Content Requirements

Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

December 2025

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General Content Requirements

The Code of Federal Regulations, Title 18, Section 5.18(a) (18 CFR § 5.18(a)) describes general content requirements that an applicant for a new license (License for Major Project–Existing Dam) must include in its license application.

a) ***General content requirements***. Each license application filed pursuant to this part must:

(1) Identify every person, citizen, association of citizens, domestic corporation, municipality, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the project;

(2) Identify (providing names and mailing addresses):

(i) Every county in which any part of the project, and any Federal facilities that would be used by the project, would be located;

(ii) Every city, town, or similar local political subdivision:

(A) In which any part of the project, and any Federal facilities that would be used by the project, would be located; or

(B) That has a population of 5,000 or more people and is located within 15 miles of the project dam;

(iii) Every irrigation district, drainage district, or similar special purpose political subdivision:

(A) In which any part of the project, and any Federal facilities that would be used by the project, would be located; or

(B) That owns, operates, maintains, or uses any project facilities that would be used by the project;

(iv) Every other political subdivision in the general area of the project that there is reason to believe would likely be interested in, or affected by, the application; and

(v) All Indian tribes that may be affected by the project.

(3)

(i) For a license (other than a license under section 15 of the Federal Power Act) state that the applicant has made, either at the time of or before filing the application, a good faith effort to give notification by certified mail of the filing of the application to:

(A) Every property owner of record of any interest in the property within the bounds of the project, or in the case of the project without a specific project boundary, each such owner of property which would underlie or be adjacent to any project works including any impoundments; and

(B) The entities identified in paragraph (a)(2) of this section, as well as any other Federal, state, municipal or other local government agencies that there is reason to believe would likely be interested in or affected by such application.

(ii) Such notification must contain the name, business address, and telephone number of the applicant and a copy of the Exhibit G contained in the application, and must state that a license application is being filed with the Commission.

(4)

(i) As to any facts alleged in the application or other materials filed, be subscribed and verified under oath in the form set forth in paragraph (a)(3)(B) of this Section by the person filing, an officer thereof, or other person having knowledge of the matters set forth. If the subscription and verification is by anyone other than the person filing or an officer thereof, it must include a statement of the reasons therefor.

(ii) This application is executed in the:

State of: _____
County of:_____
By: _____
(Name): _____
(Address): _____
being duly sworn, depose(s) and say(s) that the contents of this application are true to the best of (his or her) knowledge or belief. The undersigned Applicant(s) has (have) signed the application this ___ day of _____, 2__.

(Applicant(s))
By: _____

Subscribed and sworn to before me, a [Notary Public, or title of other official authorized by the state to notarize documents, as appropriate] this ___ day of _____, 2__.

/SEAL [if any]
(Notary Public, or other authorized official)

(5) Contain the information and documents prescribed in the following Sections of this chapter, except as provided in paragraph (b) of this Section, according to the type of application:

(i) License for a minor water power project and a major water power project 10 MW or less: § 4.61 of this chapter (General instructions, initial statement, and Exhibits A, F, and G);

(ii) License for a major unconstructed project and a major modified project: § 4.41 of this chapter (General instructions, initial statement, Exhibits A, B, C, D, F, and G);

(iii) License for a major project–existing dam: § 4.51 of this chapter (General instructions, initial statement, Exhibits A, B, C, D, F, and G); or

(iv) License for a project located at a new dam or diversion where the applicant seeks PURPA benefits: § 292.208 of this chapter.

(1) Southern California Edison (SCE or Applicant) holds all the proprietary rights necessary to construct, operate, and maintain the Kern River No. 1 Hydroelectric Project (Project), FERC Project No. 1930.

(2)

(i) The Project is located in Kern County. The primary administrative office location is:

County of Kern
1415 Truxton Avenue
Bakersfield, CA 93301

No Federal facilities are used or proposed to be used by the Project.

(ii)

(A) No part of the Project is located within any city, town, or other similar local political subdivision.

(B) The Project dam (Democrat Dam) is located within 15 miles of the limits of the City of Bakersfield, which has a population of approximately 410,000 people. The primary administrative office location is:

City of Bakersfield
1600 Truxton Avenue
Bakersfield, CA 93301

(iii)

(A) There are no irrigation districts, drainage districts, or other similar special purpose political subdivisions located within the Project boundary.

(B) No irrigation district, drainage district, or other similar special purpose political subdivision owns, operates, or maintains any Project facilities.

(iv) There are no other political subdivisions in the general area of the Project that the Applicant believes would be interested in or affected by this application.

(v) The following Native American tribes may be affected by the Project:

Big Pine Paiute Tribe of Owens Valley
P.O. Box 700
Big Pine, CA 93514

Chumash Indian Council of Bakersfield
729 Texas Street
Bakersfield, CA 93307

Fort Independence Community of Paiute Indians/Fort Independence Reservation
P.O. Box 67
Independence, CA 93526

Kawaiisu Nation
P.O. Box 1547
Kernville, CA 93238

Kern Valley Indian Community
P.O. Box 1010
Lake Isabella, CA 93241

Kitanemuk and Yowlumne Tejon Indians
115 Radio Street
Bakersfield, CA 93305

Lone Pine Paiute-Shoshone Tribe
P.O. Box 40
Lone Pine, CA 93545

Santa Rosa Indian Community of the Santa Rosa Rancheria of Tachi-Yokut Tribe
P.O. Box 8
Lemoore, CA 93245

Tejon Indian Tribe
4941 David Road
Bakersfield, CA 93307

Tubatulabal Tribe of Kern Valley
P.O. Box 833
Weldon, CA 93283

Tule River Indian Tribe
P.O. Box 589
Porterville, CA 93258

Wuksache Indian Tribe/Eshom Valley Band
1179 Rock Haven Court
Salinas, CA 93906

(3) Because this Application is for a new license under Section 15 of the Federal Power Act, the reporting requirements of 18 CFR § 5.18(a)(3)(i) and 5.18(a)(3)(ii) do not apply.

(4) The sworn and subscribed statement required under 18 CFR § 5.18(a)(4) is included below.

(5) In accordance with 18 CFR § 5.18(a)(5), this Application contains the information and documents prescribed for a license for major project, existing dam, as outlined in § 4.51.

SCE is not seeking benefits under the Public Utility Regulatory Policies Act.

[THE FOLLOWING NOTARIZED STATEMENT WILL BE INCLUDED WITH APPLICANT'S FINAL LICENSE APPLICATION, AND IS ATTACHED BELOW FOR REFERENCE ONLY]

VERIFICATION

This Application for New License for the Kern River No. 1 Hydroelectric Project, FERC Project No. 1930, is executed in the State of California, County of Orange, by Wayne P. Allen, who, being duly sworn, deposes and says that the contents of this application are true to the best of his knowledge or belief and that they are authorized to execute this application on behalf of Southern California Edison. The undersigned has signed the application this _____ day of May 2026.

SOUTHERN CALIFORNIA EDISON

By: _____

WAYNE P. ALLEN
Principal Manager
Regulatory Support Services

Subscribed and sworn to before me, a Notary Public of the State of California, this _____ day of May 2026.

_____

Notary Public
in and for the County of Orange, State of California

My commission expires _____

(Notary Seal)

SOUTHERN CALIFORNIA EDISON

Kern River No. 1 Hydroelectric Project
(FERC Project No. 1930)

Draft License Application
EXHIBIT A: Description of the Project

Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

December 2025

SOUTHERN CALIFORNIA EDISON®
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Exhibit A: Description of Project

Under Code of Federal Regulations, Title 18, Section 5.18(a)(5)(iii) (18 CFR § 5.18(a)(5)(iii), License for Major Project–Existing Dam), this license application contains the exhibits and information described in 18 CFR § 4.51 (Contents of Application).

As required by 18 CFR § 4.51(b), Exhibit A is a description of the project. This exhibit need not include information on project works maintained and operated by the United States Army Corps of Engineers, the Bureau of Reclamation, or any other department or agency of the United States, except for any project works that are proposed to be altered or modified. If the project includes more than one dam with associated facilities, each dam and the associated component parts must be described together as a discrete development. The description for each development must contain:

(1) The physical composition, dimensions, and general configuration of any dams, spillways, penstocks, powerhouses, tailraces, or other structures, whether existing or proposed, to be included as part of the project;

(2) The normal maximum surface area and normal maximum surface elevation (mean sea level), gross storage capacity and usable storage capacity of any impoundments to be included as part of the project;

(3) The number, type, and rated capacity of any turbines or generators, whether existing or proposed, to be included as part of the project;

(4) The number, length, voltage, and interconnections of any primary transmission lines, whether existing or proposed, to be included as part of the project [see 16 U.S.C. 796(11)];

(5) The specifications of any additional mechanical, electrical, and transmission equipment appurtenant to the project; and

(6) All lands of the United States that are enclosed within the project boundary described under each paragraph (h) of this section (Exhibit G), identified and tabulated by legal subdivisions of a public land survey of the affected area or, in the absence of a public land survey, by the best available legal description. The tabulation must show the total acreage of the lands of the United States within the project boundary.

The Kern River No. 1 Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) Project No. 1930, is owned and operated by Southern California Edison (SCE). The Project is located on the lower Kern River on the western slope of the Sierra Nevada, approximately 15 miles east of the City of Bakersfield in Kern County, California. The Project occupies federal lands within the Sequoia National Forest, administered by the United States Forest Service (Forest Service). Map A-1 depicts the location of Project facilities, land ownership, and administrative responsibilities in the vicinity of the Project.

Exhibit A includes a summary of Project facilities, including the diversion dam and impoundment, water conveyance system, powerhouse, access roads and trails, communication and power lines, gaging stations, and ancillary or support facilities under FERC jurisdiction (Table A-1). A summary of the physical characteristics/specifications of

the primary Project facilities is provided in Table A-2. Refer to Maps A-2a–g for a depiction of Project facility locations.

(1) Existing Project Facilities

Diversion Dam and Impoundment

Democrat Dam is located on the Kern River approximately 10.2 miles upstream of the powerhouse. The dam is a 58-foot high cyclopean-concrete overflow gravity dam. The crest of the dam is at an elevation of 1,913 feet and approximately 29 feet is exposed above the stream bed. The dam crest is approximately 204-feet long and 7-feet wide. The crest of the dam also serves as a spillway and is designed to spill river flows that are not diverted for power production. A crane with claw attachment is mounted on the top of the dam and is used to remove large woody debris and maintain the intake racks. Democrat Dam is not a high hazard dam under the criteria defined in 18 CFR Part 12.

Water is diverted just upstream of the dam into the intake structure which includes two bar rack screens (trash racks). One screen is located immediately adjacent to the diversion dam and the other screen is located approximately 40 feet upstream. The screens are constructed of steel plates on two-inch centers with overall widths of 36 feet and 30 feet, respectively. They are designed to produce relatively low approach velocities. The two intake gates to the water conduit are hydraulically operated and are automatically controlled by pond and flume water controllers.

The Democrat Dam Impoundment (also referred to as the "pond") covers approximately 27 acres and has a gross storage capacity of 247 acre-feet (ac-ft) at an elevation of 1,913 feet. However, there is no usable storage at the diversion dam. Since Democrat Dam is a run-of-river dam and its whole crest is a spillway, the dam regularly spills and the impoundment and tailwater levels are governed by flows in the Kern River, as released from the upstream Isabella Dam.[1] A 329-foot-long drainage tunnel with a 72-inch electric motor operated sluice gate is located at the base of Democrat Dam. The gate is provided for draining the pond behind the diversion dam.

Water Conveyance System

The diverted water is conveyed through an approximately 8.5-mile-long water conveyance system consisting of a sandbox, flowline, forebay, and penstock which connects the intake structure at Democrat Dam with the powerhouse. The water conveyance system runs along the eastern hillslope above the Kern River. Two intake gates to the water conveyance system are hydraulically operated and are

[1] Lake Isabella is located approximately 20 miles upstream of the Project and is owned and operated by the United States Army Corps of Engineers. Water released from Isabella Dam enters the lower Kern River and is undiverted until reaching the Project diversion at Democrat Dam. Project inflow is almost entirely regulated by upstream operations at Isabella Dam, save for accretion flow from a few small tributaries between Isabella and Democrat dams.

automatically controlled by impoundment and flume water controllers. The diverted water flows under gravity from an elevation of approximately 1,913 feet at the diversion dam to the top of the penstock at an elevation of approximately 1,830 feet.

Sandbox

A sandbox is located approximately 700 feet downstream of the diversion dam at the head of the flowline. The sandbox is 104 feet long and has a maximum width of 20 feet. The sandbox acts as a sediment trap, reducing the entrainment of sediment into the flowline and downstream powerhouse. Two slide gate valves with orifice plates are located on the bottom, downstream end of the sandbox. One of the valves is used to provide the continuous minimum instream flows required by FERC.[2]

Flowline

From the sandbox, water enters Flume No. 1 and is conveyed through the remaining series of tunnels, flumes, and conduits comprising the flowline. The water conveyance system is designed to carry a maximum of 412 cubic feet per second (cfs) under optimum conditions.

There are 19 below-ground tunnel segments totaling 42,884 feet, numbered sequentially north to south. Tunnel segments have concrete floors with a typical width of 8 feet and vertical walls with a typical height of 7 feet. Approximately 16,000 feet of tunnel has a concrete roof cap placed in areas judged during construction to have potentially unstable rock, while the remainder of the tunnel has a natural rock roof.

The above-ground sections of the conveyance system (i.e., flumes and conduits), are generally located where the flowline traverses topographical depressions, such as small canyons and drainages. Like the tunnel segments, they are also numbered sequentially from north to south. The flowline includes six flume structures, including 390 feet of rectangular flume and 904 feet of Lennon flume on steel structures. There is also a total of 612 feet of arched-concrete conduit along nine conduit segments.

Nine tunnel portal access points, or adits, are located at various tunnel or tunnel / flume junctions along the flowline and provide access for maintenance activities.

Forebay

The forebay is a 45-foot-long, 33-foot-wide, and 11-foot-deep concrete gravity structure that impounds water (less than 1 ac-ft) to regulate flow to the powerhouse. Water enters the forebay via Tunnel No. 19 and flows into the primary of two reinforced concrete bays. The primary bay contains the penstock intake that is fitted with a trash rack. Inflow into the forebay is controlled by two butterfly valves at the tunnel outfall. Inflow into the penstock is controlled by two more butterfly valves located just downstream of the trash rack. All the butterfly valves can be remotely

[2] FERC continuous minimum instream flow release requirements include release of 50 cfs or inflow, whichever is less, from June 1 through September 30 and 15 cfs from October 1 through May 31.

operated but normally are manually operated at the forebay. The secondary bay is immediately downstream of the primary bay and is partitioned from it by a wall that is several feet lower than the outer retaining wall that contains both bays. The secondary bay serves as a spillway by allowing water to overflow from the primary bay and exit the structure via a 1,362-foot spillway overflow pipe that discharges into the Kern River. The above-ground overflow spillway pipe is supported by concrete piers and varies in diameter from 65 inches at the forebay to 44 inches just prior to entering the river. The primary / secondary bay partition wall is also fitted with a slide gate that can be opened to drain the forebay.

Penstock

From the forebay, an approximately 1,693-foot-long buried steel penstock carries water to the powerhouse. To increase velocity and pressure, the inside diameter of the penstock decreases over the length of the pipe, with a diameter of approximately 108 inches at the forebay tapering down to approximately 71 inches at the powerhouse. The penstock conveys water to the turbines through a manifold system. The static head is 877 feet. An adit is located near the penstock to provide access for maintenance activities.

Powerhouse and Associated Equipment

The powerhouse is an approximately 71-foot by 170-foot concrete structure located on the east bank of the Kern River. Water to the powerhouse is supplied from the forebay through a single penstock. Water exiting the powerhouse enters a tailrace before being returned to the river.

The control room is located on the mezzanine floor level above the generator floor and houses the control equipment. The powerhouse is normally unattended. Start-up and shutdown of the turbine/generator equipment is manually performed by the operators based at the Kern River No. 3 Powerhouse (FERC Project No. 2290).

A machine shop equipped with a drill press, power hacksaw, and miscellaneous small tools is in a separate concrete building adjacent to the powerhouse. A small concrete building adjacent to the main gate serves as an office and lunchroom.

Turbines and Generators

The powerhouse contains four Allis-Chalmers turbines (double overhung, single-jet, impulse type) rated at a total of 43,000 horsepower (HP). The four main generators are horizontal shaft General Electric units with a total installed capacity of 26,280 kilowatts (kW) or 26.3 MW. Refer to Item (3), *Turbines and Generators*, for their installed ratings.

Tailrace

Water is returned to the Kern River via the tailrace on the upstream side of the powerhouse. The tailrace is a large concrete pool with two bays (approximate surface area of 4,350 square feet) that slows the water exiting the powerhouse as it

re-enters the river. Water from the tailrace is impounded behind the Kern Canyon Project (FERC Project No. 178) diversion structure immediately downstream.

Switchyard

The switchyard is located directly adjacent to and south of the powerhouse. The Project transformer banks are connected to two 66-kilovolt (kV) busses (non-project) through four, 3-pole, 66-kV, 1,200 amperes (amp), oil circuit breakers together with the necessary disconnecting switches, potential devices, and related equipment.

Controls

Necessary devices are installed to make the operation of the powerhouse semi-automatic. These consist of electrically operated alarm circuits for low-water pressure, alarms for generator and bearing oil temperature, automatic-trip oil circuit breakers, switchboards, meters, relays, instrument transformers, station light and power transformers, and selsyn water-level load control. This equipment transmits status signals, telemetering, and alarms to Kern River No. 3 Powerhouse, FERC Project No. 2290, and the Bishop Control Center.

The station load control equipment consists of a solid-state electronic controller which receives forebay level data via a transducer at the forebay and actuates motors to open or close the turbine power needles to regulate forebay level and unit loading.

Access Roads and Trails

The Project includes various access roads and trails, which are used for routine operation and maintenance of the Project. Descriptive information on each access road and trail is provided in Table A-3.

Communication and Power Lines

The Project includes the following communication and power lines:

- Erskine 12 kV Distribution Line: A 1,844-foot-long (0.35 mile) powerline that extends from the Democrat Dam Intake Gatehouse to an outlet box near the southern end of Flume No. 1 and provides power for appurtenances during tunnel outages.

- Camp 2.4 kV Distribution / Communication Line: A 1,665-foot-long (0.32 mile) communication line extends from the powerhouse to the forebay at the upper end of the penstock. The same poles which carry the communication line also carry a powerline which is used for the remote control of the gate at the upper end of the penstock.

Gaging Stations

The Project includes the following gaging stations that monitor and record water flow for compliance:

- United States Geological Survey [USGS] Gage No. 11192500; SCE Gage No. 409 (Kern River near Democrat Springs) – This gage is located about 0.4 mile downstream of the diversion dam. The streamflow is measured using a float and recorder. Data collected from this gage represents flow in the Kern River, below the diversion dam.

- USGS Gage No. 11192000; SCE Gage No. 410 (Kern River No. 1 Conduit near Democrat Springs) – This gage is located on the Kern River No. 1 Flowline near Cow Flat Creek. Streamflow is measured using a float and recorder. Data collected from this gage represents flow diverted for the Project.

The USGS also identifies USGS Gage No. 11192501 (Kern River near Democrat Springs) in its records. Data for this gage is computed by combining the data collected in the bypass reach[3] (USGS Gage No. 11192500) and the flowline (USGS Gage No. 11192000). For record keeping purposes, the USGS has numbered this gage 11192501 and compiles data as if it were an actual gage.

Ancillary and Support Facilities

Several detached ancillary buildings and features support the operation and maintenance of the Project. The location and function of each are described below by area.

Democrat Dam Area

- Buoy Line: Prevents debris from collecting in front of the intake grates and restricts recreationists from accessing the dam from the impoundment.

- Intake Gatehouse: Structure on the east side of the dam that contains the intake gates, valves, and control room.

- Drainage Tower, Tunnel, and Tunnel Outlet: Located on the east side of the dam, they facilitate draining of the impoundment during sediment management activities.

- Democrat Dam Access Walkway: Provides access from the southern end of Flume No. 1 to Democrat Dam. A portion of the walkway is built on top of the flume, the remaining is elevated steel walkway. A short spur segment of the walkway also extends from the end of Flume No. 1 Road to the flume.

[3] A bypass reach is a segment of a river downstream of a diversion facility where Project operations divert a portion of the water from the river. For this Project, the bypass reach is a 10.2-mile reach of the lower Kern River from Democrat Dam downstream to the Kern River No. 1 Powerhouse Tailrace.

- Sandbox Drainage Channel: Channel that extends from the two valves at the bottom of the sandbox and returns water to the Kern River. Continuous minimum instream flows are released back into the river from the sandbox via this channel.

- Gaging Cableway: A gaging cableway is located approximately 0.5 mile downstream of Democrat Dam and is used to take hydrological measurements during high flows to calibrate the stream gage (develop accurate stage-discharge relationship).

Water Conveyance

- Flume No. 6 Access Platform: Located at the end of Stark Creek Road, the platform provides access to Flume No. 6.

Forebay Operations Area

- Operations Area Buildings: Several buildings located on the east side of State Route 178 (SR 178) support forebay operations activities, including the admin building, two garages, and the old Ice House.

- Water Tank: A 5,000-gallon water tank located above the Aerial Tram Lower Landing draws water from the penstock and provides domestic water for the powerhouse.

- Aerial Tram: An aerial tram is used to transport personnel and materials from the forebay operations area (lower landing on the east side of SR 178) up to the forebay (upper landing). The aerial tram hangs and travels on an approximately 1,050-foot-long aerial cable. The aerial tram cable is attached to a winch that is attached to the aerial tram cart and pulls the aerial tram up the hill.

- Aerial Tram Upper Landing to Forebay Walkway: A 230-foot-long steel walkway from the Aerial Tram Hoist Upper Landing provides access to the forebay.

- Communication Site: A communication site located southwest of the forebay allows communication between the forebay and the powerhouse.

- Perimeter Fencing: Perimeter fencing around the forebay operations area and the forebay provides public safety and secures Project facilities.

Powerhouse Area

- Powerhouse Area Buildings: Several buildings located on the west side of SR 178 support powerhouse operations activities, including a machine shop, office / lunchroom, and restroom.

- Perimeter Fencing: Perimeter fencing around the powerhouse and switchyard provide public safety and secure Project facilities.

(2) Storage Capacity

The Democrat Dam Impoundment covers approximately 27 acres and has a gross storage capacity of 247 acre-feet at an elevation of 1,913 feet. However, there is no usable storage at the diversion dam. Since Democrat Dam is a run-of-river dam and its whole crest is a spillway, the dam regularly spills and the impoundment and tailwater levels are governed by flows in the Kern River, as released from the upstream Isabella Dam.[1]

(3) Turbines and Generators

The Project includes one powerhouse as described in Item (1) and in Table A-2. A summary of the number, type, and rated capacity of the turbines and generators associated with the Project is provided below. No new turbines or generators are proposed for the Project.

Turbines

The powerhouse contains four Allis-Chalmers turbines (double overhung, single-jet, impulse type) rated at a total of 43,000 HP. Individual turbine installed ratings are as follows:

- Unit 1: 10,750 HP, design head 865 feet and 300 revolutions per minute (RPM)
- Unit 2: 10,750 HP, design head 865 feet and 300 RPM
- Unit 3: 10,750 HP, design head 865 feet and 300 RPM
- Unit 4: 10,750 HP, design head 865 feet and 300 RPM

Generators

The four main generators are horizontal shaft General Electric units. The main generator installed ratings as follows:

- Unit 1: 6,570 kW, 0.9 power factor, 2.7 kV, three-phase, 60 hertz (Hz)
- Unit 2: 6,570 kW, 0.9 power factor, 2.7 kV, three-phase, 60 Hz
- Unit 3: 6,570 kW, 0.9 power factor, 2.7 kV, three-phase, 60 Hz
- Unit 4: 6,570 kW, 0.9 power factor, 2.7 kV, three-phase, 60 Hz

The powerhouse has a total installed capacity of 26,280 kW or 26.3 MW.

(4) Transmission Lines

There are no transmission lines included in the Project license. However, electricity produced by the Project powerhouse enters SCE's bulk electric grid on the 66-kV bus at the substation located outside the powerhouse. This includes the Gorman and Banducci 66-kV transmission lines (both are non-Project facilities).

(5) Mechanical, Electrical, and Transmission Equipment

Specifications of additional mechanical, electrical, and transmission equipment not previously described are included below.

Mechanical Equipment and Systems

Oil Storage and Handling System

Bearing lubrication oil is totally self-contained in the journal bearing reservoirs for each turbine shaft bearing. A single central governor oil system is used with the main oil supply located in the powerhouse. The system consists of two motor-driven pumps, an oil sump, pressure tank, and piping and valves to and from the governors.

Cooling Water System

Cooling water for the bearing oil heat exchangers is taken from the penstock and returned to the tailrace.

Valves

Each turbine is supplied with a 28-inch, motor-driven, slide-gate, main turbine shut off valve located inside the powerhouse. This valve can only be operated electrically.

There are additional turbine shut off (TSO) valves located outside the powerhouse upstream of each main motor operated TSO valve. These external valves can only be operated manually and would be used in the event of failure or power loss to the electrically operated main TSO valves located inside the powerhouse. They are also used to isolate the main valves for service.

A twin set of 10- by 11-foot, motor-operated, revolving-head gates control flow into the penstock forebay.

Governors

Normal turbine operating control is maintained by a Woodward governor system for each unit. Oil pressure for governor operation is obtained from a twin set of motor-operated gear pumps with a common pressure tank and sump.

During a unit trip, the water jet is removed from the turbine runner by pivoting the nozzle body downward. The governors are controlled either manually or by automatic devices.

The governor oil system consists of two identical governor oil pumps, motors, main pressure tank, and interconnecting pipes and valves.

Transformers

Unit nos. 1, 2, 3, and 4 three-phase, 6 megavolt amperes (MVA), 71.45-41.25/2.7 kV, forced oil and forced air (FOA), 60 Hz transformers are in the powerhouse and adjacent to their respective generators. Cooling for each transformer is provided by forced-oil, forced-air heat exchangers located outside the powerhouse.

Station Service

Power Distribution Equipment

Station light and power are obtained from three single-phase 2,400-240/120 volt (V), 37.5 kilovolt-amperes (kVA) transformers located in the powerhouse. Powerhouse direct-current (DC) control power is provided by a 60-cell, 200 ampere-hour, 135 V, lead-acid storage battery charged with a solid-state battery.

Heating, Ventilating and Air Conditioning System

The powerhouse is ventilated by natural draft. Portable fans may be used for additional forced ventilation. Comfort heating for powerhouse occupancy is provided as needed by portable heaters. The control room and equipment temperature are maintained by mechanical air conditioning equipment.

Compressed Air System

The powerhouse contains one motor-driven stationary air compressor with receiver and piping, which supplies the powerhouse with compressed air at 90 pounds per square in gauge.

Fire Protection System

One 150-pound Halon extinguisher and one portable 150-pound Ansul wheeled extinguisher located on the generator floor, and one portable 150-pound Ansul wheeled extinguisher located in the switchyard are provided for fire protection. Portable carbon dioxide extinguishers, fire hoses, reels and hydrants are provided in strategic locations within and outside the powerhouse.

Lighting

Normal powerhouse lighting is supplied from the station bus through three single-phase 2,400-240/120 V, 37.5 kVA transformers. Emergency lighting is supplied by DC lighting from the station battery.

Station Crane

The powerhouse is equipped with one 50-ton motor-operated overhead crane with a 5-ton secondary hoist, which provide hoisting capability for all major equipment.

Switching

The switchyard is adjacent to the powerhouse. The Project transformer banks are connected to two 66 kV busses (non-project) through four, 3-pole, 66 kV, 1,200 amp, oil circuit breakers together with the necessary disconnecting switches, potential devices, and related equipment.

Transmission Facilities

There are no transmission lines within SCE's transmission system that are regulated under the Project license. Refer to Item (4), above.

(6) Lands of the United States within the Project Boundary

The Project is almost entirely on land owned by the Forest Service, Sequoia National Forest. Land ownership within the existing FERC Project boundary consists of:

- Federal land: 116.79 acres
- SCE-owned land: 4.48 acres

Information regarding lands of the United States that are within the FERC Project boundary, including legal subdivisions and acreage, will be included in the Final License Application.

TABLES

Table A-1. Kern River No. 1 Hydroelectric Project Facilities

Diversion Dam
Democrat Dam
Impoundment
Democrat Dam Impoundment
Water Conveyance System
Sandbox
Tunnels, Flumes, Conduits, and Adits
Forebay
Forebay Overflow Spillway
Penstock
Powerhouse and Switchyard
Kern River No. 1 Powerhouse
Kern River No. 1 Switchyard
Access Roads
Willow Spring Creek Road (also referred to as Democrat Dam Road)
Powerline Road
Flume No. 1 Road
Dougherty Creek Road
Stark Creek Road
Forebay Operations Area Road
Lower Powerhouse Road
Upper Powerhouse Road
Access Trails
Democrat Gage Trail
Conduit No. 3 Trail
Cow Flat Creek Trail
Cow Flat Creek to Conduit No. 6 Trail
Lucas Creek Trail
Dougherty Creek Trail
Stark Creek Trail
Forebay to Conduit No. 9 Trail
Overflow Spillway Trail
Forebay Operations Area to Aerial Tram Upper Landing Trail
Access Trail to Aerial Cable Upper Mount
Communication and Power Lines
Erskine 12 kV Distribution Line
Camp 2.4 kV Distribution / Communication Line
Gages and Stilling Wells
USGS Gage No. 11192500 / SCE Gage No. 409 (Kern River near Democrat Springs)
USGS Gage No. 11192000 / SCE Gage No. 410 (Kern River No. 1 Conduit near Democrat Springs)
USGS Gage No. 11192501 (Kern River near Democrat Springs; calculated 11192500+11192000)
Ancillary and Support Facilities
Democrat Dam Area
Buoy Line

Democrat Dam Intake Gatehouse
Democrat Dam Drainage Tower
Democrat Dam Drainage Tunnel
Democrat Dam Drainage Tunnel Outlet
Democrat Dam Access Walkway
Sandbox Drainage Channel
Gaging Cableway
Water Conveyance
Flume No. 6 Access Platform
Forebay Operations Area
Building No. 0110 (Admin Building)
Building No. 0146 (Garage)
Building No. 0133 (Garage)
Building No. 0118 (Ice House)
Water Tank
Aerial Cable Tower
Building No. 0111 (Aerial Tram Hoist House)
Aerial Tram Lower Landing
Aerial Tram
Aerial Tram Upper Landing
Aerial Tram Upper Landing to Forebay Walkway
Communication Site
Forebay Operations Area Perimeter Fence
Forebay Perimeter Fence
Chlorinator House
Powerhouse Area
Building No. 0112 (Machine Shop)
Office / Lunchroom
Building No. 0142 (Restroom)
Powerhouse and Switchyard Perimeter Fence

Table A-2. Kern River No. 1 Hydroelectric Project Facility Specifications

General Information	
Owner and Operator	Southern California Edison
FERC Project Number	1930
Current License Term	30 years, expires May 31, 2028
Commenced Commercial Operations	1907
County	Kern
Watershed	Kern River
Diversion Dam	
Dam Location	Kern River SW ¼ of NW ¼ of Section 5, T.28 S., R.31 E., Mount Diablo Meridian
Constructed	1901–1907
Drainage Area (mi2)	2,258 square miles (Kern River above Democrat Dam)
Type	Cyclopean-concrete overflow gravity dam
Height of Dam Crest above Streambed	29 feet
Dam Crest Length	204 feet
Dam Thickness	85 feet at base
Elevation of Dam Crest	1,913 feet
Spillway	Crest of Democrat Dam also serves as a spillway
Elevation of Streambed	1,884 feet
Impoundment above Democrat Dam	
Capacity (approx.)	27 acres at crest elevation of 1,913 feet
Drainage Tunnel Length	329 feet long
Drainage Tunnel Diameter	7 feet, 6 inches
Drainage Tunnel Controls	72-inch electric motor operated sluice gate
Elevation of Drainage Tunnel (bottom)	1,875 feet (upper end of unlined section)
Water Conveyance System	
Intake Structure	• Two steel bar rack screens (trash rack); 2-inch centers with overall width of 36 feet and 30 feet • Two intake gates measuring 6 feet, 7.5 inches wide by 7 feet high • Elevation invert: 1,902 feet
Sandbox (Sediment Trap)	• 104 feet long, 20 feet wide • Includes two 24-inch slide gate valves for draining and instream flow releases
Instream Flow Release	• One of the two 24-inch slide gate valves located in the bottom of the sandbox provides FERC continuous minimum instream flow release requirements
Flowline	• Overall length: 44,790 feet; 8.5 miles • 42,884 feet of concrete tunnel • 390 feet of rectangular flume • 904 feet of Lennon flume on steel structures • 612 feet of arched-concrete conduit • Capacity: 412 cfs

Forebay	• 45-foot-long, 33-foot-wide, 11-foot-deep concrete structure that discharges directly into penstock or spillway pipe • Capacity: 10,263 cubic feet
Penstock	• Single 1,693-foot-long buried steel pipe • Diameter varies from 108–71 3/8 inches inside diameter
Spillway	• 1,362-foot-long steel pipe • Diameter varies from 65–44 inches inside diameter
Powerhouse	
Dimensions	170-foot long, 71-foot wide
Type	Reinforced concrete
Turbines	
• Number	Four identical units
• Type	Double overhung, single-jet, impulse turbines
• Manufacturer	Allis-Chalmers
• Horsepower (HP) (each unit)	10,750 HP
• Design Head (each unit)	865 feet
• Revolutions Per Minute (RPM) (each Unit)	300 RPM
• Total Combined Rating	43,000 HP
• Static Head	374 psi
• Maximum Hydraulic Capacity	412 cfs
Generators	
• Number	Four identical units
• Type	Horizontal shaft
• Manufacturer	General Electric
• Installed Capacity (each unit)	6,570 kW, 0.9 power factor, 2.7 kV, three-phase, 60 Hz
• Total Installed Capacity	26,280 kW (26.3 MW)
Tailrace	Water is discharged into a concrete tailrace, with an approximate surface area of 4,350 square feet, before being released back into the Kern River

Notes: cfs = cubic feet per second
HP = horsepower
Hz = hertz
kV = kilovolt
kW = kilowatt
MW = megawatt
psi = pounds per square inch
RPM = revolutions per minute

Table A-3. Kern River No. 1 Hydroelectric Project Access Roads and Trails

Project Facility	Start	End	Overall Length		Width (feet)	Surface Treatment	Gated
			Feet	Mile			
Project Access Roads							
Willow Spring Creek Road[1]	Kern Canyon Road (SR 178)	Conduit No. 2	4,892	0.93	16	Paved/ Aggregate	Yes
Powerline Road	Willow Spring Creek Road	Intake Gatehouse to Flume No. 1 Powerline	484	0.09	16	Native	Yes
Flume No. 1 Road	Willow Spring Creek Road	Flume No. 1	497	0.09	20	Native	Yes
Dougherty Creek Road	Stark Creek Road	Dougherty Creek Trail	577	0.11	20	Native	Yes
Stark Creek Road	Kern Canyon Road (SR 178)	Flume No. 6 Stark Creek	4,338	0.82	20	Paved/ Aggregate	Yes
Forebay Operations Area Road	Kern Canyon Road (SR 178)	Forebay Operations Area	670	0.13	10	Paved	Yes
Lower Powerhouse Road	Upper Powerhouse Road	Switchyard	483	0.09	20	Paved/ Aggregate	Yes
Upper Powerhouse Road	Kern Canyon Road (SR 178)	Powerhouse	521	0.10	40	Paved	Yes
Project Access Trails							
Democrat Gage Trail	Flume No. 1 Road	Gaging Cableway	1,579	0.3	4	Native	No
Conduit No. 3 Trail	Kern Canyon Road (SR 178)	Conduit No. 3	266	0.05	4	Native	No
Cow Flat Creek Trail	Kern Canyon Road (SR 178)	Flume No. 2 Cow Flat Creek	727	0.14	4	Native	No
Cow Flat Creek to Conduit No. 6 Trail[2]	Cow Flat Creek	Conduit No. 6	3,246	0.61	4	Native	No
Lucas Creek Trail	Kern Canyon Road (SR 178)	Flume No. 4 Lucas Creek	2,758	0.52	4	Native	No
Dougherty Creek Trail	Dougherty Creek Road	Flume No. 5 Dougherty Creek	2,351	0.45	4	Native	No
Stark Creek Trail	Stark Creek Road	Adit 13 & 14	6,081	1.15	4	Native	No

Project Facility	Start	End	Overall Length		Width (feet)	Surface Treatment	Gated
			Feet	Mile			
Forebay to Conduit No. 9 Trail	Forebay	Conduit No. 9	3,580	0.68	4	Native	Yes
Overflow Spillway Trail	Forebay Operations Area Lot	Forebay Overflow Spillway	629	0.12	4	Native	No
Forebay Operations Area to Aerial Tram Upper Landing Trail	Forebay Operations Area Lot	Aerial Tram Upper Landing	2,719	0.51	4	Native	No
Access Trail to Aerial Cable Upper Mount	Aerial Tram Upper Landing to Forebay Walkway	Aerial Cable Upper Mount	234	0.04	4	Native	No

Notes: [1] Willow Spring Creek Road is also referred to as Democrat Dam Road

[2] The current Exhibit G maps on file with FERC indicate a trail extends from SR 178 up to Flume No. 3. However, during field reconnaissance staff confirmed this trail does not connect to SR 178. Instead, this trail runs along a portion of the Forest Service's Powerhouse Trail (from Cow Flat Creek to Conduit No. 6).

MAPS

Poso Creek
Prefedio Creek
Tenant Creek
Democrat Diversion Dam
Intake Gatehouse
Saturday Spring Creek
Rattlesnake Creek
SEQUOIA NATIONAL FOREST
Democrat Spring
Cow Flat Creek
Rancheria Creek
178
Lucas Creek
Tailrace
Kern River
Dougherty Creek
Stark Creek
Kern River No. 1 Powerhouse
Forebay
Peachacho Creek
North Fork Cortonwood Creek
Penstock
155
Isabella Lake
SEQUOIA NATIONAL FOREST
Lake Isabella
178
Democrat Diversion Dam
Kern River No.1 Powerhouse
Kern River
178
204
99
Bakersfield
184
58

Facilities

- Dam
- Powerhouse
- Water Conveyence Feature
- Flowline
- Penstock
- FERC Boundary

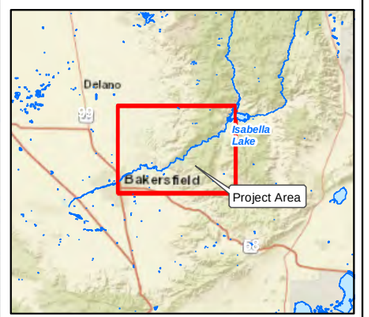
Other Features

- Highway
- Watercourse
- Water Body

Land Jurisdiction*

- U.S. Forest Service
- U.S. Bureau of Land Management
- U.S. Army Corps of Engineers
- Private (Blank)

*SOURCE: BLM 2021



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Energy for What's Ahead™

Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

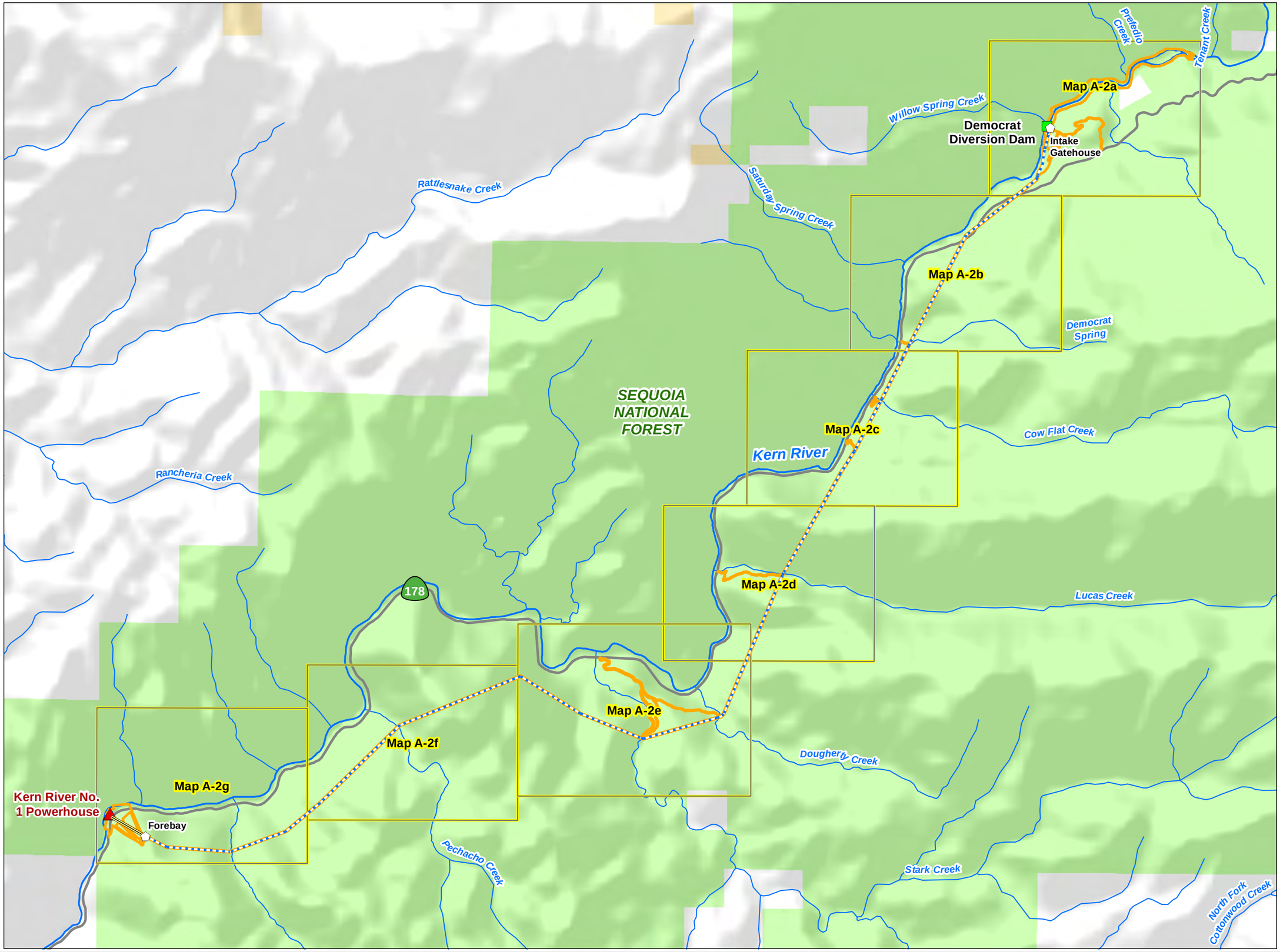
Map A-1

Project Vicinity and Land Jurisdiction

0 0.5 1 2 Miles

Projection: UTM Zone 11
Datum: NAD 83

Date: 10/9/2025



Facilities

- Dam
- Powerhouse
- Water Conveyence Feature
- Flowline
- Penstock
- FERC Boundary

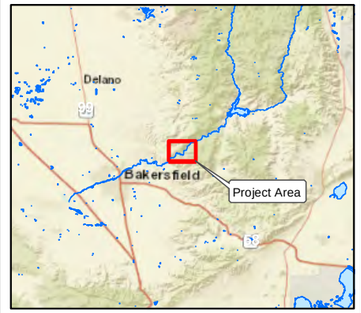
Other Features

- Watercourse
- Highway

Land Jurisdiction*

- U.S. Forest Service
- U.S. Bureau of Land Management
- Private (Blank)

*SOURCE: BLM 2021



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Energy for What's Ahead℠

Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

Map A-2

Project Facilities Map Index

0 0.25 0.5
Miles

Projection: UTM Zone 11
Datum: NAD 83

Date: 10/9/2025

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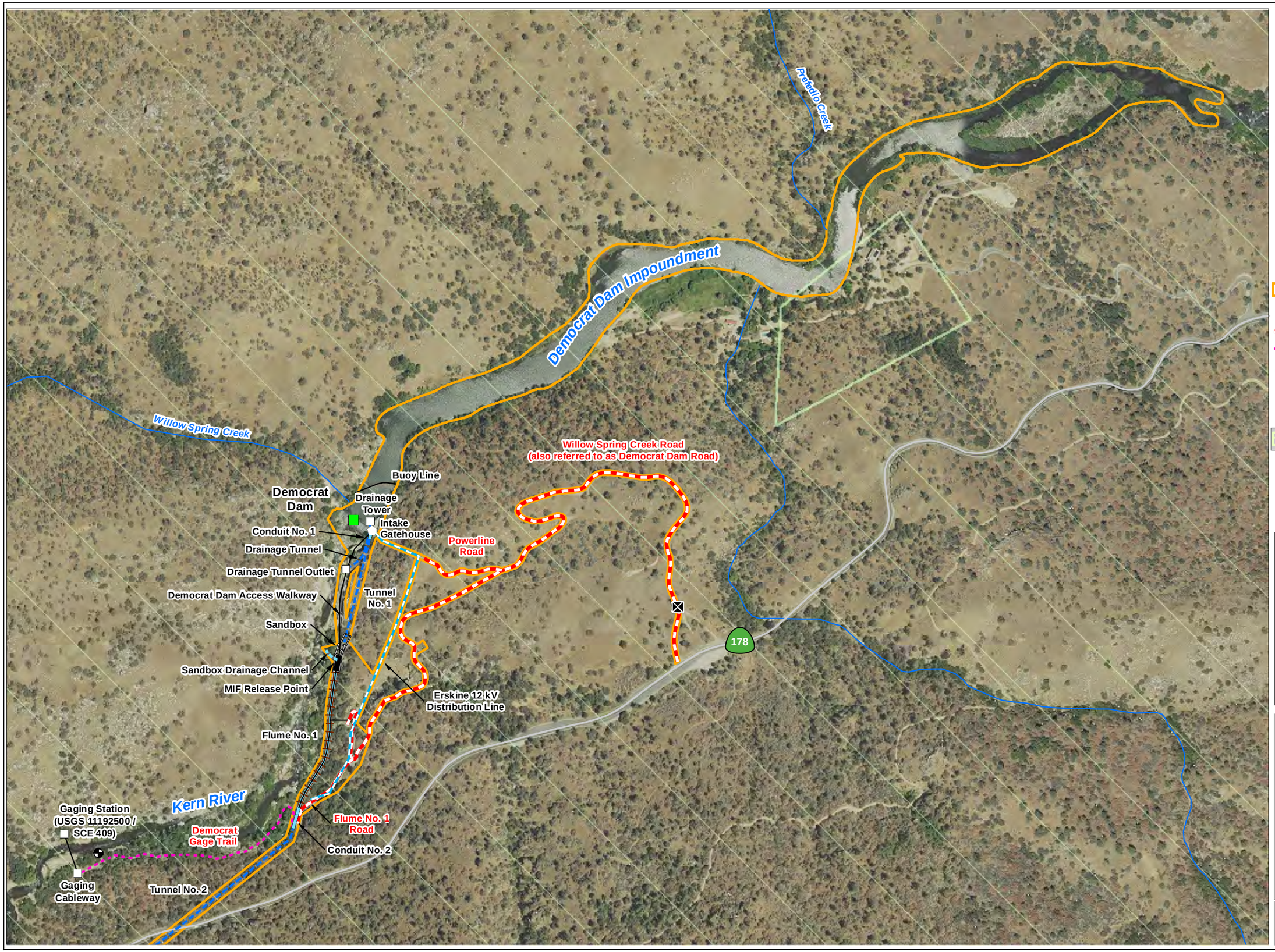


Facilities

- Dam
- Powerhouse
- Water Conveyence Feature
- Tunnel
- Flume
- Conduit
- Sandbox
- Penstock
- Spillway
- Tailrace
- Gage
- Ancillary Facility
- Ancillary Feature
- Powerline
- Communication / Powerline
- FERC Boundary

Transportation

- Project Road
- Project Trail
- Other Road
- Gate

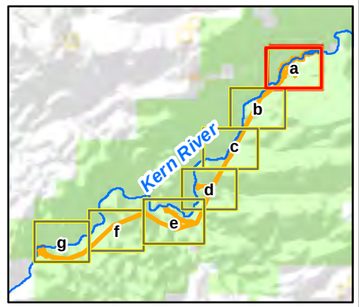
Other Features

- Watercourse

Land Jurisdiction*

- U.S. Forest Service

*SOURCE: BLM 2021



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Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

Map A-2a

Project Facilities

0 250 500
Feet
Projection: UTM Zone 11
Datum: NAD 83

Date: 10/10/2025

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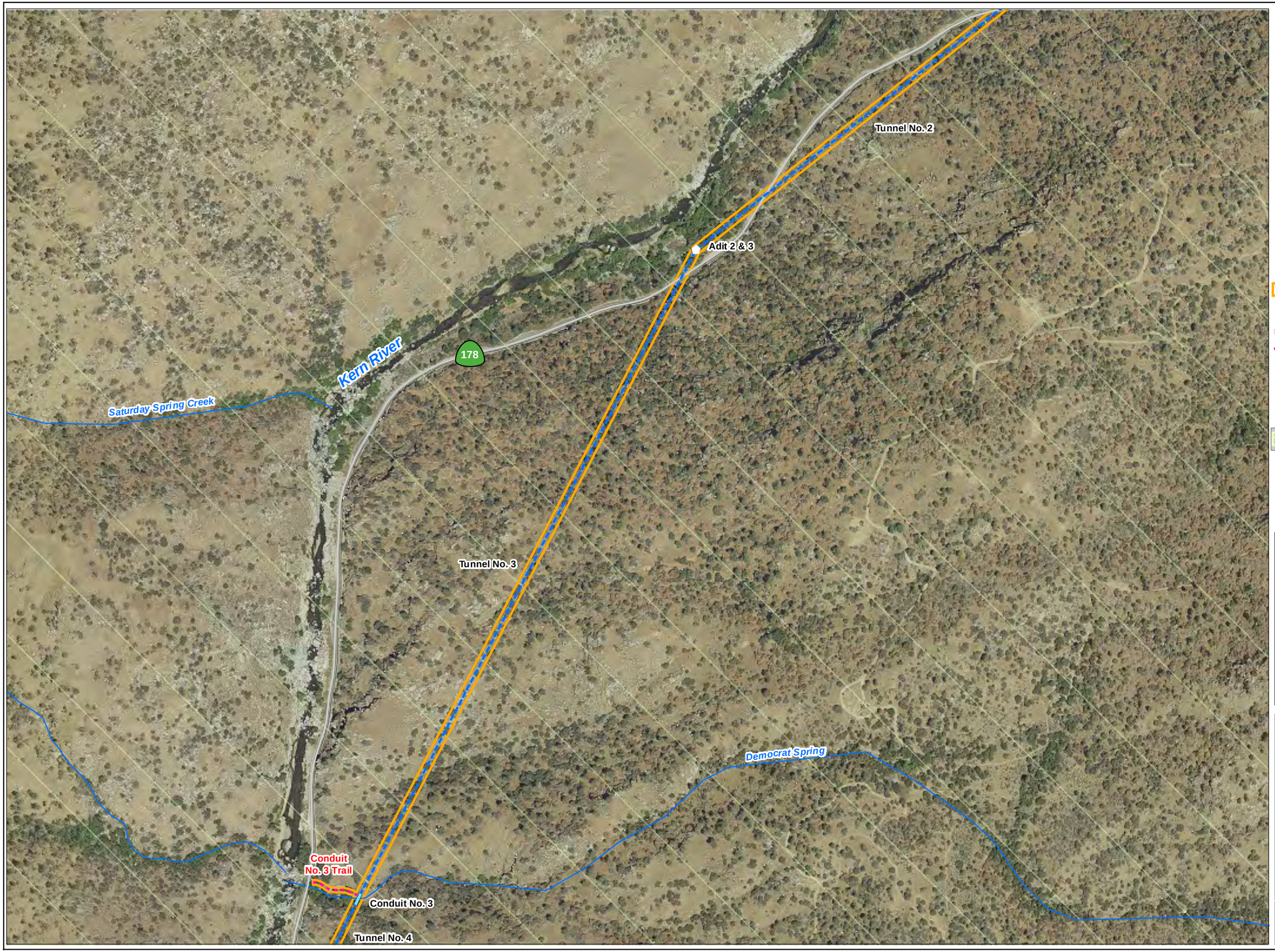


Facilities

- Dam
- Powerhouse
- Water Conveyence Feature
- Tunnel
- Flume
- Conduit
- Sandbox
- Penstock
- Spillway
- Tailrace
- Gage
- Ancillary Facility
- Ancillary Feature
- Powerline
- Communication / Powerline
- FERC Boundary

Transportation

- Project Road
- Project Trail
- Other Road
- Gate

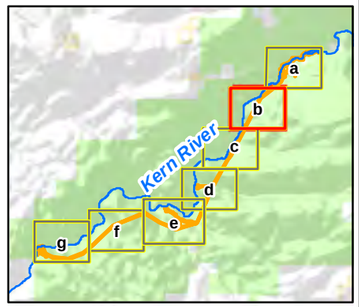
Other Features

- Watercourse

Land Jurisdiction*

- U.S. Forest Service

*SOURCE: BLM 2021



SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead™

Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

Map A-2b

Project Facilities

0 250 500
Feet
Projection: UTM Zone 11
Datum: NAD 83

Date: 10/10/2025

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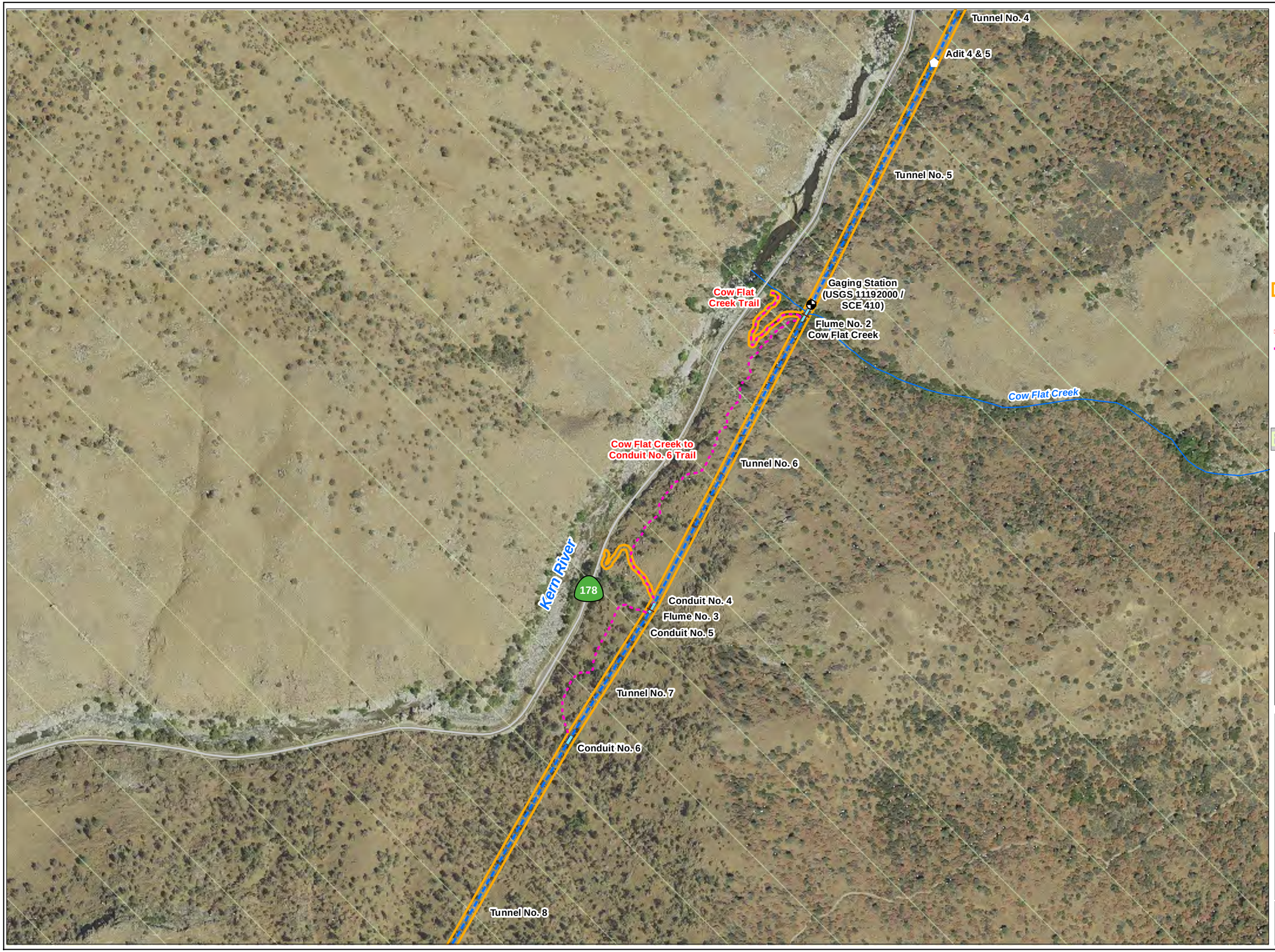


Facilities

- Dam
- Powerhouse
- Water Conveyence Feature
- Tunnel
- Flume
- Conduit
- Sandbox
- Penstock
- Spillway
- Tailrace
- Gage
- Ancillary Facility
- Ancillary Feature
- Powerline
- Communication / Powerline
- FERC Boundary

Transportation

- Project Road
- Other Road
- Project Trail
- Gate

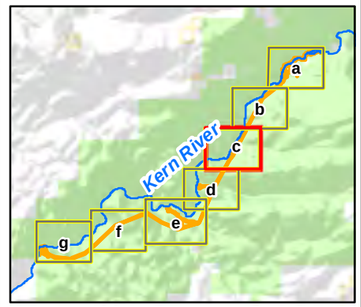
Other Features

- Watercourse

Land Jurisdiction*

- U.S. Forest Service

*SOURCE: BLM 2021



SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead™

Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

Map A-2c

Project Facilities

0 250 500
Feet
Projection: UTM Zone 11
Datum: NAD 83

Date: 10/10/2025

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Tunnel No. 8

Lucas Creek Trail

Flume No. 4
Lucas Creek

Lucas Creek

Kern River

178

Tunnel No. 9

Adit 9 & 10

Facilities

- Dam
- Powerhouse
- Water Conveyence Feature
- Tunnel
- Flume
- Conduit
- Sandbox
- Penstock
- Spillway
- Tailrace
- Gage
- Ancillary Facility
- Ancillary Feature
- Powerline
- Communication / Powerline
- FERC Boundary

Transportation

- Project Road
- Project Trail
- Other Road
- Gate

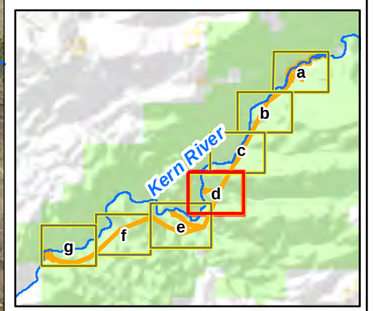
Other Features

- Watercourse

Land Jurisdiction*

- U.S. Forest Service

*SOURCE: BLM 2021



SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead™

Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

Map A-2d

Project Facilities

0 250 500
Feet
Projection: UTM Zone 11
Datum: NAD 83

Date: 10/10/2025

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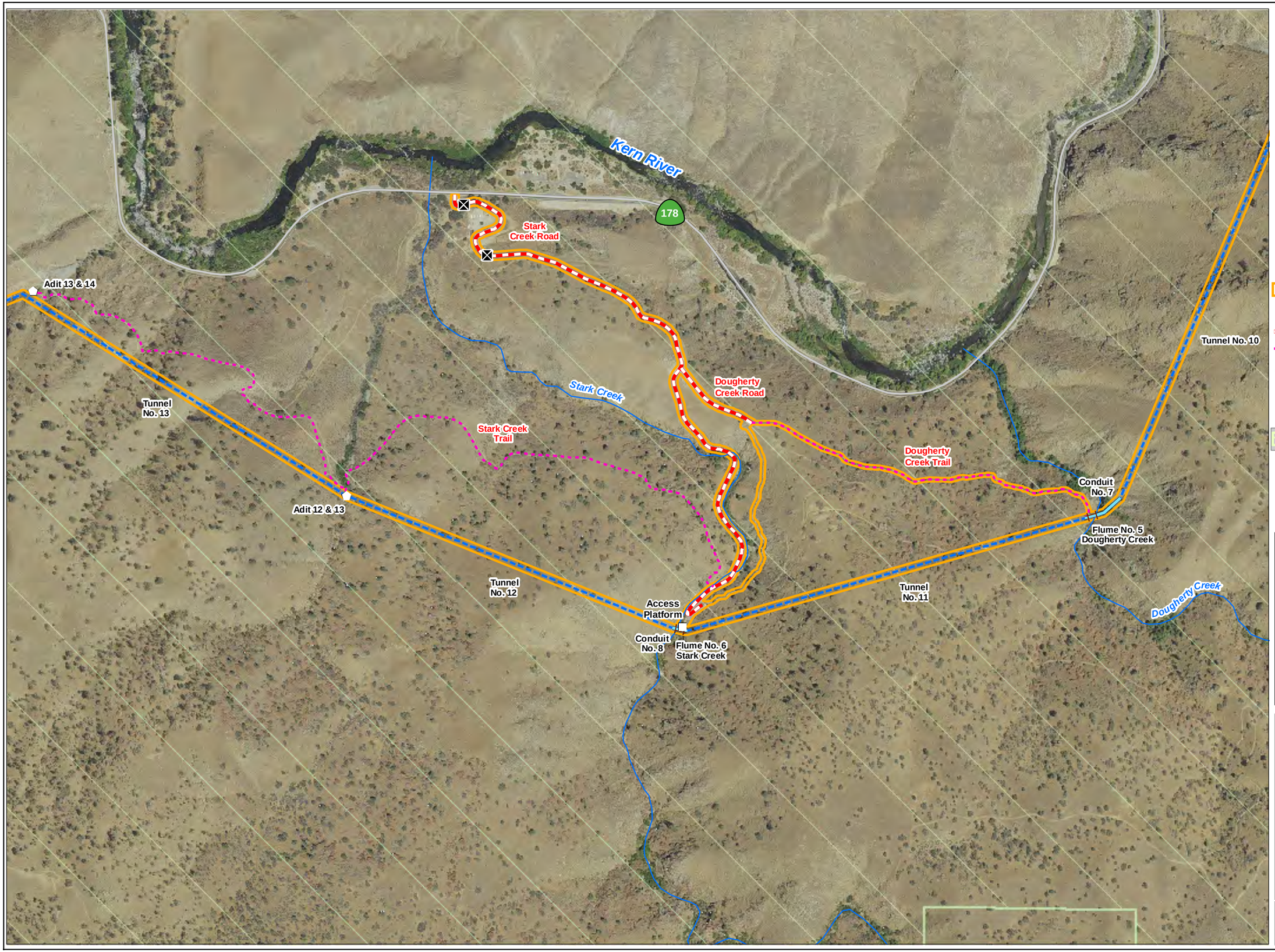


Facilities

- Dam
- Powerhouse
- Water Conveyence Feature
- Tunnel
- Flume
- Conduit
- Sandbox
- Penstock
- Spillway
- Tailrace
- Gage
- Ancillary Facility
- Ancillary Feature
- Powerline
- Communication / Powerline
- FERC Boundary

Transportation

- Project Road
- Project Trail
- Other Road
- Gate

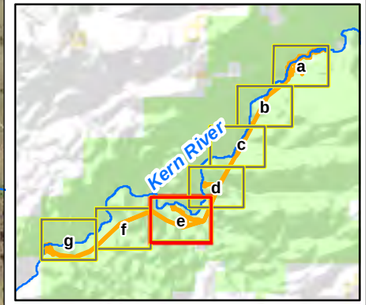
Other Features

- Watercourse

Land Jurisdiction*

- U.S. Forest Service

*SOURCE: BLM 2021



SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead™

Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

Map A-2e

Project Facilities

0 250 500
Feet
Projection: UTM Zone 11
Datum: NAD 83

Date: 10/10/2025

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Kern River
Pechacho Creek
178
Tunnel No. 14
Adit 14 & 15
Tunnel No. 15
Adit 15 & 16

Facilities

- Dam
- Powerhouse
- Water Conveyence Feature
- Tunnel
- Flume
- Conduit
- Sandbox
- Penstock
- Spillway
- Tailrace
- Gage
- Ancillary Facility
- Ancillary Feature
- Powerline
- Communication / Powerline
- FERC Boundary

Transportation

- Project Road
- Project Trail
- Other Road
- Gate

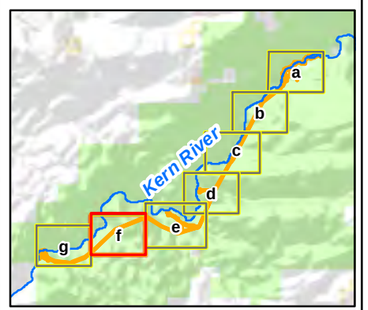
Other Features

- Watercourse

Land Jurisdiction*

- U.S. Forest Service

*SOURCE: BLM 2021



SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead℠

Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

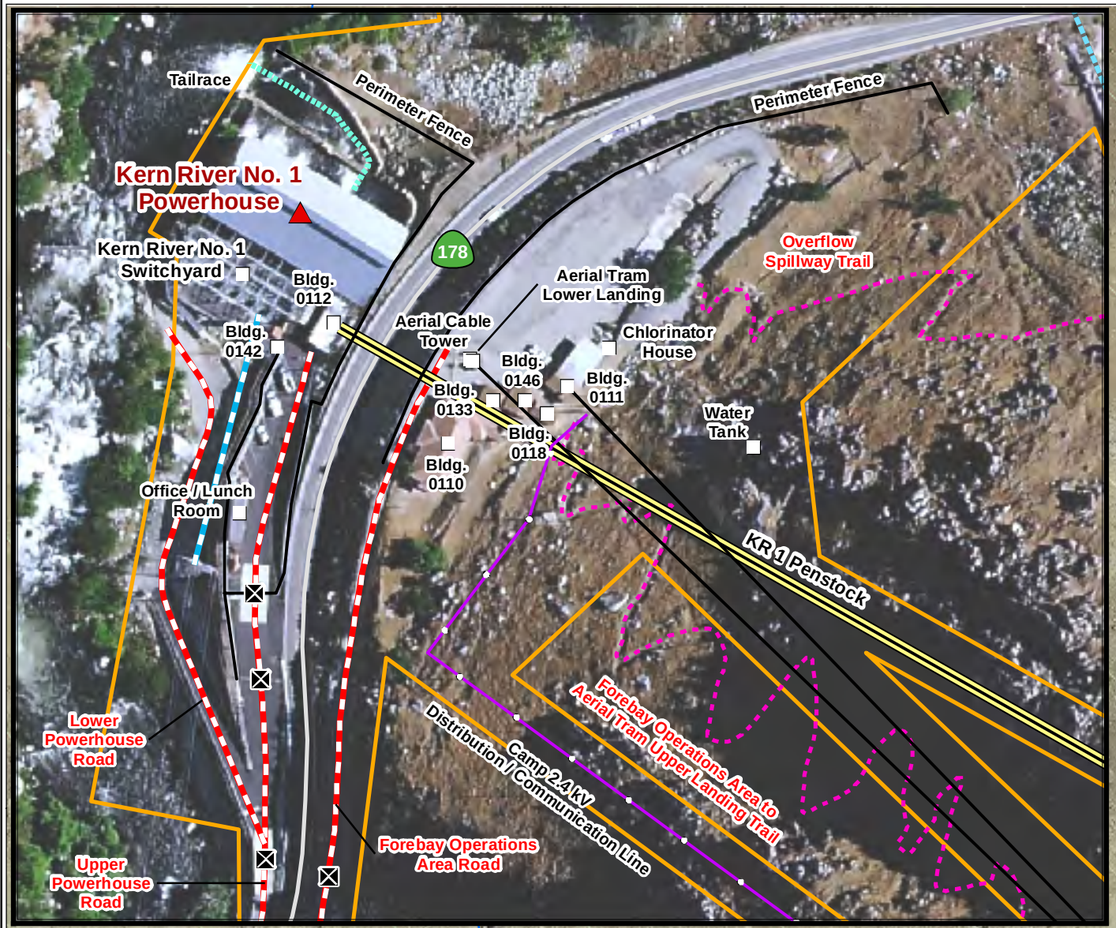
Map A-2f

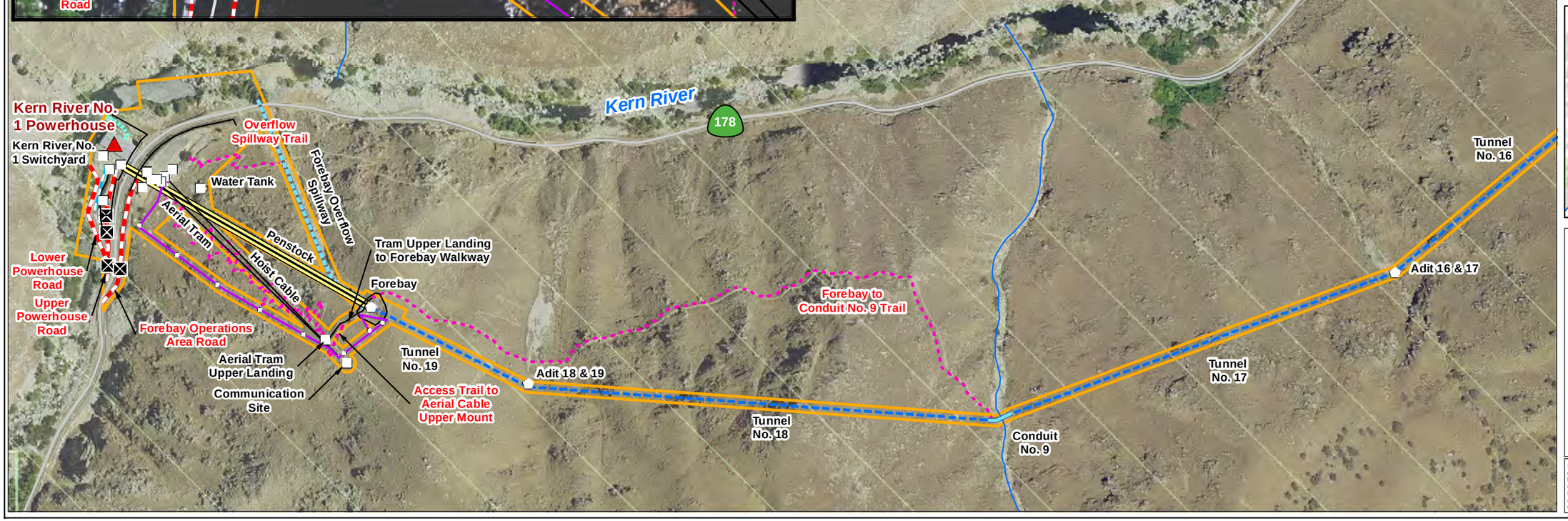
Project Facilities

0 250 500
Feet
Projection: UTM Zone 11
Datum: NAD 83

Date: 10/10/2025

C:\GIS\237800343\map\Kern River 1\FacilitiesMaps\SCE_Kern1_ProjFacilities_17i11i_05.mxd





Facilities

- Dam
- Powerhouse
- Water Conveyence Feature
- Tunnel
- Flume
- Conduit
- Sandbox
- Penstock
- Spillway
- Tailrace
- Gage
- Ancillary Facility
- Ancillary Feature
- Powerline
- Communication / Powerline
- FERC Boundary

Transportation

- Project Road
- Other Road
- Project Trail
- Gate

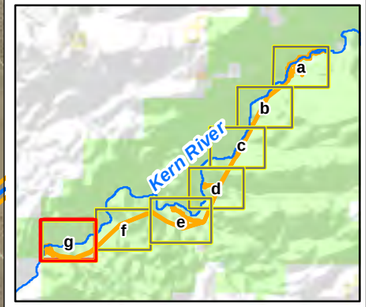
Other Features

- Watercourse

Land Jurisdiction*

- U.S. Forest Service

*SOURCE: BLM 2021



SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead℠

Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

Map A-2g

Project Facilities

0 250 500
Feet
Projection: UTM Zone 11
Datum: NAD 83

Date: 10/10/2025

SOUTHERN CALIFORNIA EDISON

Kern River No. 1 Hydroelectric Project (FERC Project No. 1930)

Draft License Application
EXHIBIT B: Project Operation and Resource Utilization

Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

December 2025

SOUTHERN CALIFORNIA EDISON®
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Exhibit B: Project Operation and Resource Utilization

As required by 18 CFR § 4.51(c) (Contents of Application), Exhibit B is a statement of project operation and resource utilization. If the project includes more than one dam with associated facilities, the information must be provided separately for each such discrete development. The exhibit must contain:

(1) A statement whether operation of the powerplant will be manual or automatic, an estimate of the annual plant factor, and a statement of how the project will be operated during adverse, mean, and high water years;

(2) An estimate of the dependable capacity and average annual energy production in kilowatt-hours (or a mechanical equivalent), supported by the following data:

- (i) The minimum, mean, and maximum recorded flows in cubic feet per second of the stream or other body of water at the powerplant intake or point of diversion, with a specification of any adjustments made for evaporation, leakage, minimum flow releases (including duration of releases), or other reductions in available flow; monthly flow duration curves indicating the period of record and the gauging stations used in deriving the curves; and a specification of the period of critical streamflow used to determine the dependable capacity;
- (ii) An area-capacity curve showing the gross storage capacity and usable storage capacity of the impoundment, with a rule curve showing the proposed operation of the impoundment and how the usable storage capacity is to be utilized;
- (iii) The estimated hydraulic capacity of the powerplant (minimum and maximum flow through the powerplant) in cubic feet per second;
- (iv) A tailwater rating curve; and
- (v) A curve showing powerplant capability versus head and specifying maximum, normal, and minimum heads;

(3) A statement, with load curves and tabular data, if necessary, of the manner in which the power generated at the project is to be utilized, including the amount of power to be used on-site, if any, the amount of power to be sold, and the identity of any proposed purchasers; and

(4) A statement of the applicant's plans, if any, for future development of the project or of any other existing or proposed water power project on the stream or other body of water, indicating the approximate location and estimated installed capacity of the proposed developments.

The Kern River No. 1 Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) Project No. 1930, is located on the lower Kern River on the western slope of the Sierra Nevada, approximately 15 miles east of the City of Bakersfield in Kern County, California. The Project is operated in a run-of-river mode and has no water storage. Water from the Kern River is diverted at Democrat Dam and directed through a concrete sandbox, where sediment settles out of the water before entering the Project's conveyance system, which is comprised of approximately 8.5 miles of tunnels, flumes, and conduits (collectively, the flowline) that run along the eastern side of the Kern River canyon. Water within the conveyance system is directed to a small concrete forebay, through a buried penstock, and into the Project powerhouse. Water exiting the powerhouse enters a short tailrace and is returned to the Kern River, 10.2 miles

downstream of Democrat Dam. The total installed capacity of the powerhouse is 26.3 megawatts (MW). Refer to Exhibit A for additional descriptions of Project features.

(1) Type of Operation

Southern California Edison (SCE) is not proposing any changes to the way the Kern River No. 1 Powerhouse is operated or maintained.

Plant Supervision—Kern River No. 1 Powerhouse is operated in a semi-automatic mode. The powerhouse includes automated systems such as electrically operated alarm circuits, automatic-trip oil circuit breakers, Selsyn water-level load control, and a solid-state electronic controller for forebay level and turbine needle control. These systems are integrated with remote monitoring and control capabilities, transmitting data to Kern River No. 3 Powerhouse and the Bishop Control Center.

Annual Plant Factor—The estimated average annual plant factor for the Project for the past 5 years (2020–2024) is as follows:

- Average annual generation: 151,564 megawatt-hours (MWh)
- Installed capacity: 26.3 MW
- Average annual plant factor: 66 percent

Operation During Low, Mean, and High-Water Years—The Project is operated in a run-of-river mode and generates power (i.e., diverts flows into the flowline) when sufficient water is available at the Project's intake. Inflows can vary seasonally and annually, depending on the winter snowpack and other storm events. The Project has diversion rights and powerhouse capacity of 412 cubic feet per second (cfs). However, the powerhouse conduit capacity is typically limited to 385 cfs to provide sufficient freeboard on the canal section. The Project license requires a minimum instream flow (MIF) of 50 cfs to be released to the bypass reach from June 1 through September 30 and 15 cfs released from October 1 through May 31, or inflow if lower than the seasonal flow requirement. The amount and timing of flow diverted is a function of releases from Lake Isabella[1], flowline and powerhouse capacities, and MIF requirements.

During low and some mean water years (WY), flows are diverted into the Project's intake and flowline for power generation and through one of the slide gates with orifice plates located on the downstream end of the sandbox. This valve is used to provide the MIF release requirements described earlier. However, during lower-flow periods, SCE may operate only some of the generating units and take others off-line

[1] Lake Isabella is located approximately 20 miles upstream of the Project and is owned and operated by the United States Army Corps of Engineers. Water released from Isabella Dam enters the lower Kern River and is undiverted until reaching the Project diversion at Democrat Dam. Project inflow is almost entirely regulated by upstream operations at Isabella Dam, save for accretion flow from a few small tributaries between Isabella and Democrat dams.

to conduct routine maintenance or may remove all four generating units from service and allow all flows to pass through the sandbox valve or over the Democrat Dam spillway, depending on flows in the Kern River. During periods of high flows (seasonal peak run-off or high WYs), flow diversion is less than 400 cfs. Any additional flow is passed over the spillway or through the sandbox valve.

(2) Capacity and Production

The amount and timing of flows diverted for power depends on flows in the Kern River upstream of the Project, FERC license requirements for MIF, flowline capacity, and other operational agreements.

Annual net generation for the Project since issuance of the current license (1999 to 2024) is summarized in Table B-1. The Project has experienced periods (days, weeks, and months) of no or reduced generation, which were the result of: (1) planned routine maintenance and inspections; (2) non-routine infrastructure repairs/upgrades; (3) unscheduled (forced) outages due to equipment malfunction; (4) periods of low inflow where SCE was required to meet MIF requirements in the Kern River downstream of Democrat Dam, and there was insufficient water remaining for generation; and/or (5) pausing generation during increased sediment loads in the Kern River upstream of the Project to reduce undue wear on the water conveyance system and generating units.

The estimated annual dependable generating capacity is 79,277 MWh, which represents a year with the lowest annual inflow (2015) (Table B-1). Natural inflows dictate the Project's dependable capacity. Over the term of the current license (1999 to 2024), annual generation ranged from 44,254 MWh in 2008, when the Project was taken off-line for maintenance to a maximum of 203,243 MWh (2011), a high flow water year. The Project's annual average generation over the term of the current license is 132,068 MWh, with a 5-year average (2020 to 2024) of 151,564 MWh.

(i) Recorded Flows

The Kern River upstream of the Project is regulated by outflows from Isabella Lake, which is owned and operated by the United States Army Corps of Engineers. Inflows to the Project are seasonally influenced by weather patterns (snow and rainfall in the watershed), reservoir operations, and the annual snowpack accumulated in the river's headwaters.

Annual inflow from the Kern River to the Project between WYs 2005 and 2024 ranged from approximately 135,976 acre-feet (AF) (WY 2015) to more than 1,903,626 AF (WY 2023). The median annual inflow was approximately 477,633 AF during this period, with a mean annual inflow of approximately 676,307 AF. Figure B-1 depicts the annual flow upstream of the primary Project intake, which was estimated from the summation of two gaging stations (SCE gage 409, Kern River near Democrat Springs (River Only) [USGS gage 11192500], and SCE gage 410, Kern River No. 1 Conduit near Democrat Springs [USGS gage 11192000]).

The average, maximum, and minimum daily flow at the Project diversion was 934 cfs, 7,571 cfs (May 26, 2023) cfs, and 36 cfs (December 13, 2013), respectively, for WY 2005–2024. Table B-2 shows the monthly average, maximum, and minimum flows for the same period. Time-series plots of flow at the Project diversion are provided in Figure B-2 and Figure B-3. Monthly flow duration curves for WYs 2005 to 2024 are provided in Appendix B-1. As a result of Lake Isabella operations, flows in the Lower Kern River are generally highest in April through August and lower in winter when the dam retains water to refill the reservoir. Refer to Exhibit E, Section 7.2, *Water Use and Hydrology*, for a hydrology analysis depicting both mean and median flow statistics.

(ii) Impoundment Capacity

The Democrat Dam Impoundment covers approximately 27 acres and has a gross storage capacity of 247 acre-feet at an elevation of 1,913 feet. However, there is no usable storage at the diversion dam. Since Democrat Dam is a run-of-river dam and its whole crest is a spillway, the dam regularly spills and the impoundment and tailwater levels are governed by flows in the Kern River, as released from the upstream Isabella Dam. Therefore, an area-capacity curve of the impoundment is not applicable to this Project.

(iii) Hydraulic Capacity

The estimated operating range for the hydraulic capacity of the powerhouse is a minimum of 16 cfs per unit and a maximum of approximately 412 cfs with all four units operating. However, the powerhouse conduit capacity is typically limited to 385 cfs to provide sufficient freeboard on the canal section.

(iv) Tailwater Rating Curves

A tailwater rating curve is not applicable to this Project. The powerhouse contains Pelton-style impulse turbines, which are not sensitive to changes in tailwater elevation.

(v) Powerhouse Capability

Figure B-4 provides a curve of the powerhouse capability versus static head. Static head (rather than variable head) is provided because the forebay elevation does not change during powerhouse operation.

(3) Use of Generated Energy

The powerhouse is operated as a baseload facility.[2] All energy, minus that necessary to operate the plant auxiliaries, is transmitted to the SCE transmission

[2] Baseload facilities are those power plants that generate dependable power consistently to meet demand.

system. The amount of energy necessary to operate the plant auxiliaries is normally 15 to 20 MWh per month.

(4) Plans for Future Development

No future development is proposed for the Project.

TABLES

Table B-1. Summary of Project Generation (1999–2024)

Year	Total Annual Net Generation (MWh)
1999	188,247
2000	144,029
2001	167,333
2002	164,826
2003	130,182
2004	120,834
2005	98,824
2006	100,905
2007	102,739
2008	44,254
2009	54,412
2010	96,846
2011	203,243
2012	161,215
2013	61,306
2014	101,689
2015	79,277
2016	152,368
2017	169,461
2018	160,352
2019	173,613
2020	156,791
2021	122,358
2022	119,548
2023	166,997
2024	192,124
Total Generation	**3,433,775**
Average Annual Generation	**132,068**

Notes: MWh = megawatt hours

Table B-2. Flow Statistics at Kern No. 1 Intake (WY 2005–2024)

Month	Monthly Average Flow at Kern No. 1 Intake (cfs)		
	Mean	Maximum	Minimum
January	407	1,403	159
February	470	2,272	146
March	745	4,412	219
April	1,178	5,411	231
May	1,781	6,867	275
June	2,100	5,965	325
July	1,616	3,893	238
August	1,081	3,099	94
September	680	2,676	68
October	511	2,277	105
November	315	1,419	117
December	296	748	72

Notes: cfs = cubic feet per second

FIGURES

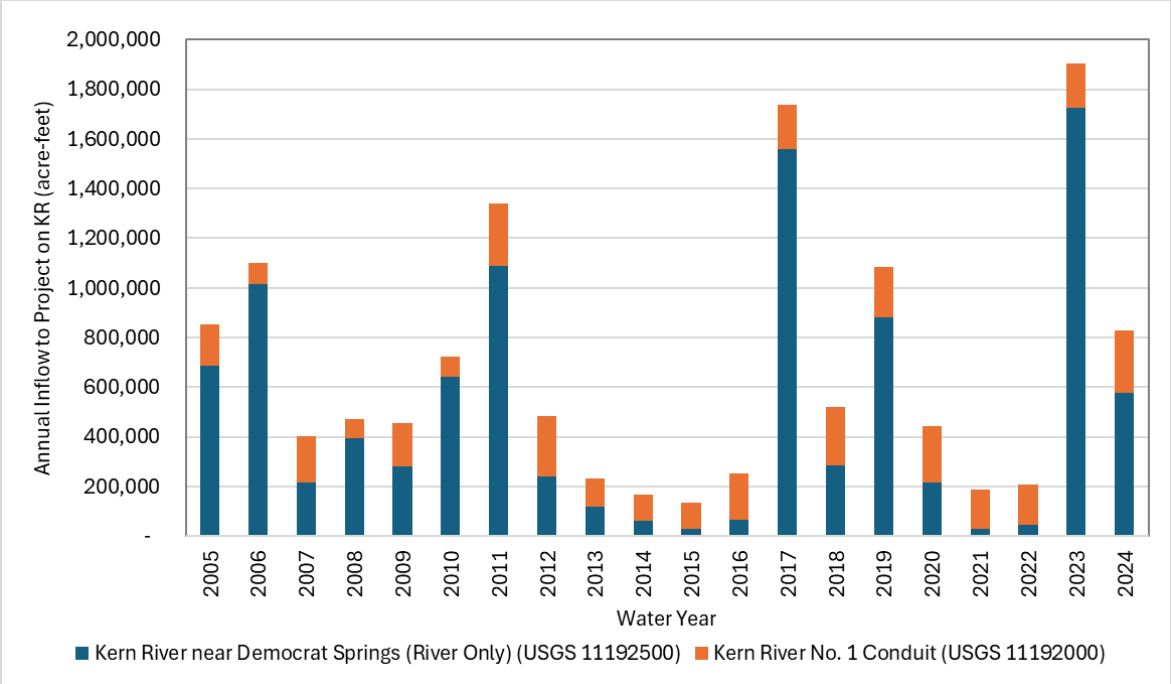


Figure B-1. Annual Kern No. 1 Project Inflow (WY 2005–2024)

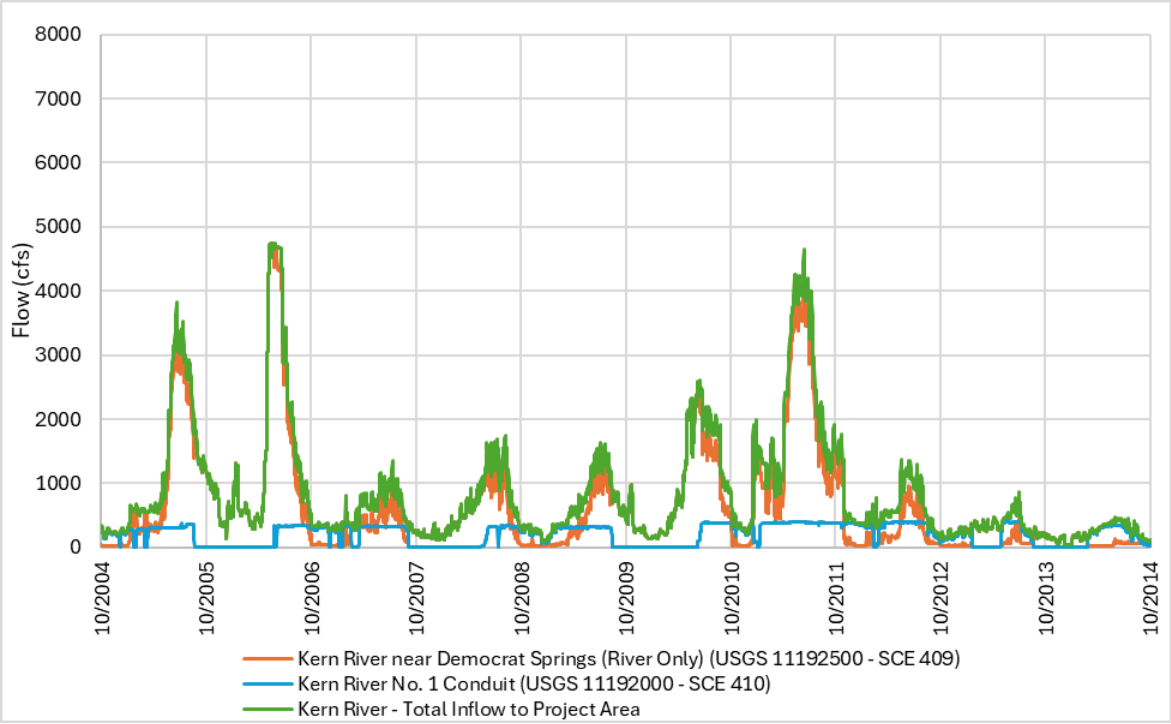


Figure B-2. Kern No. 1 Project Flows (WY 2005–2013)

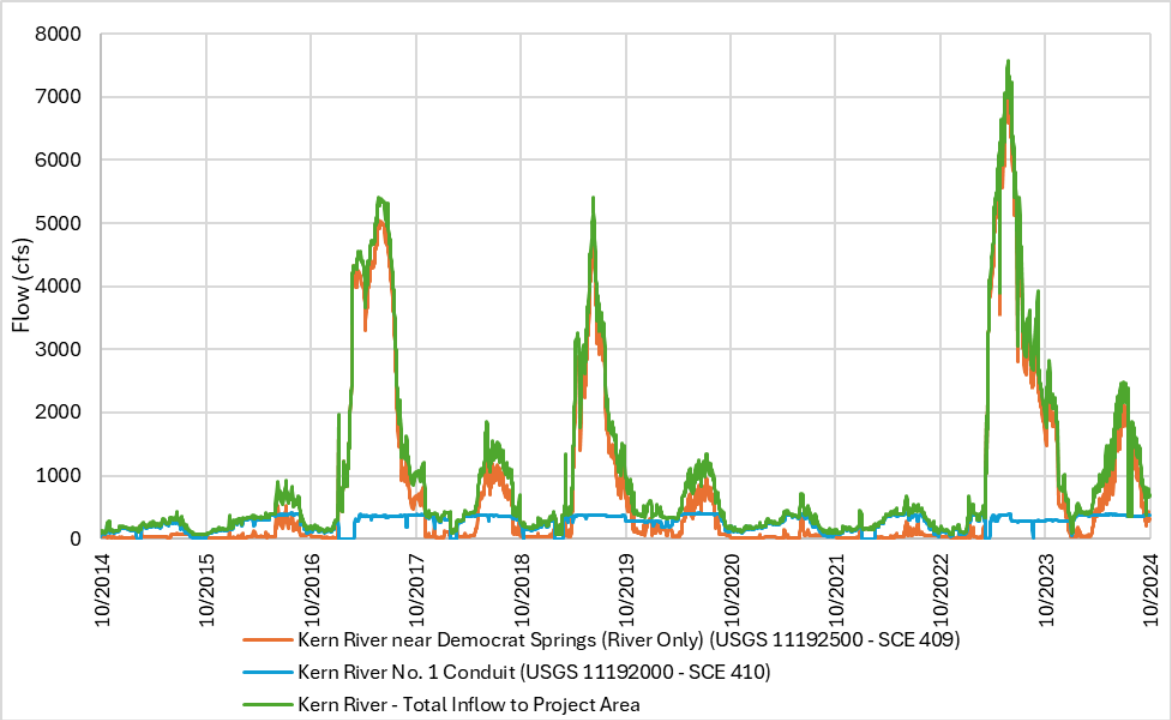


Figure B-3. Kern No. 1 Project Flows (WY 2014–2024)

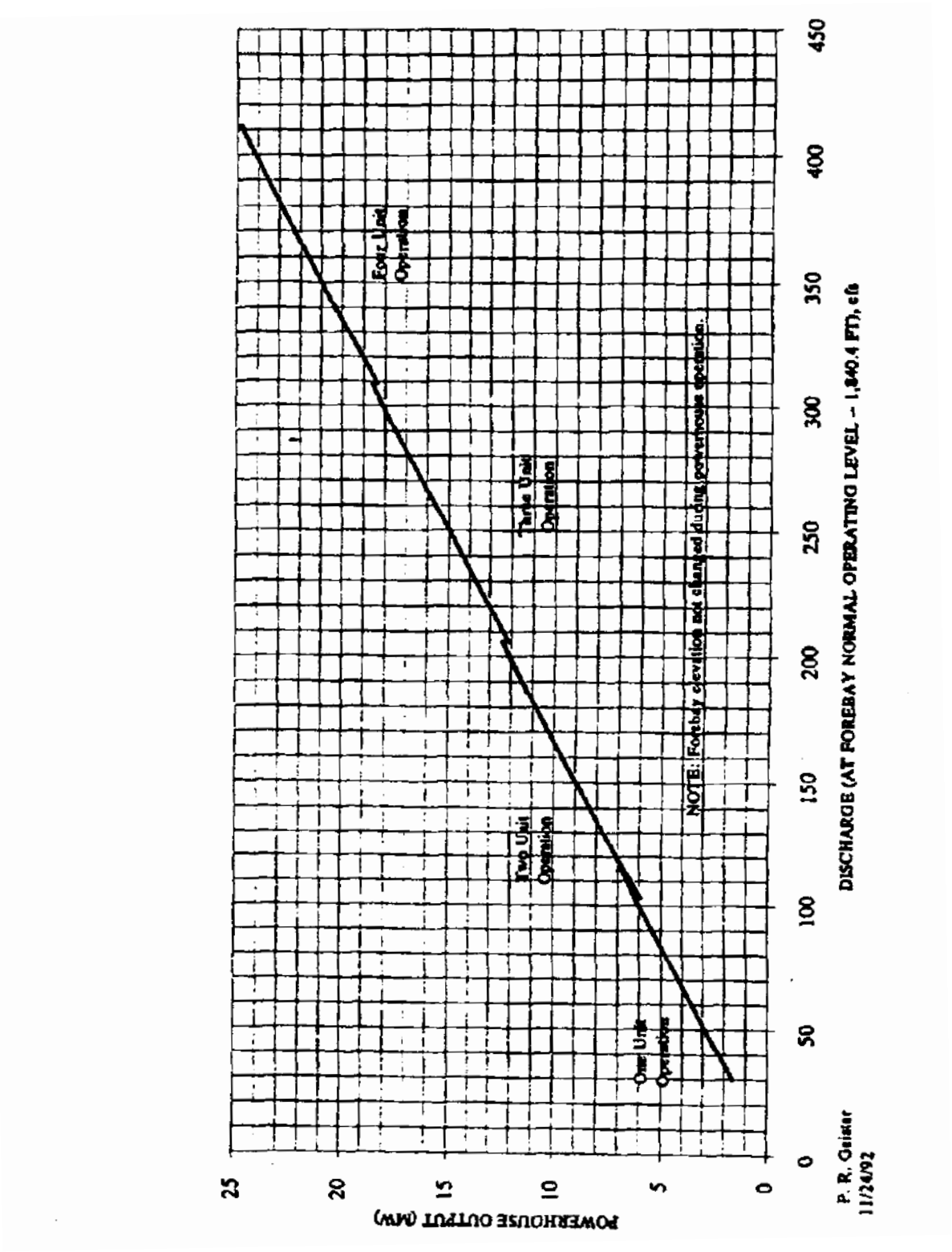
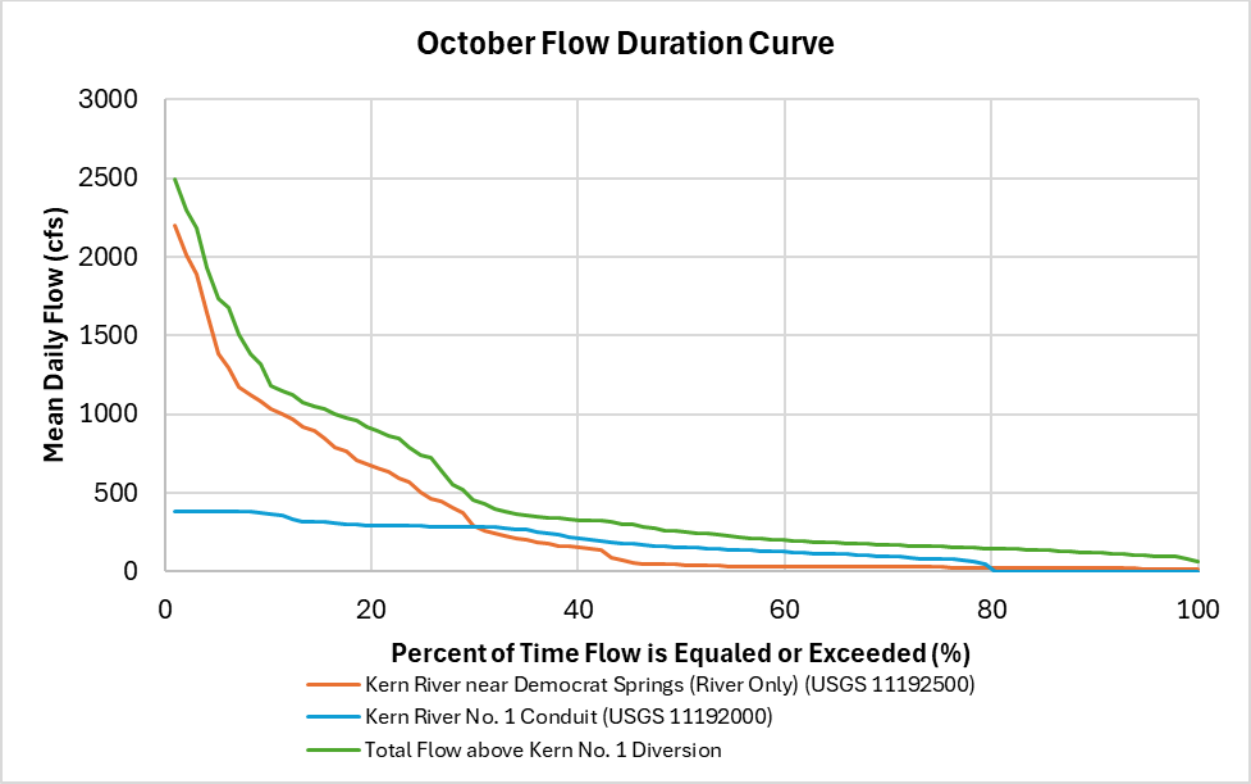
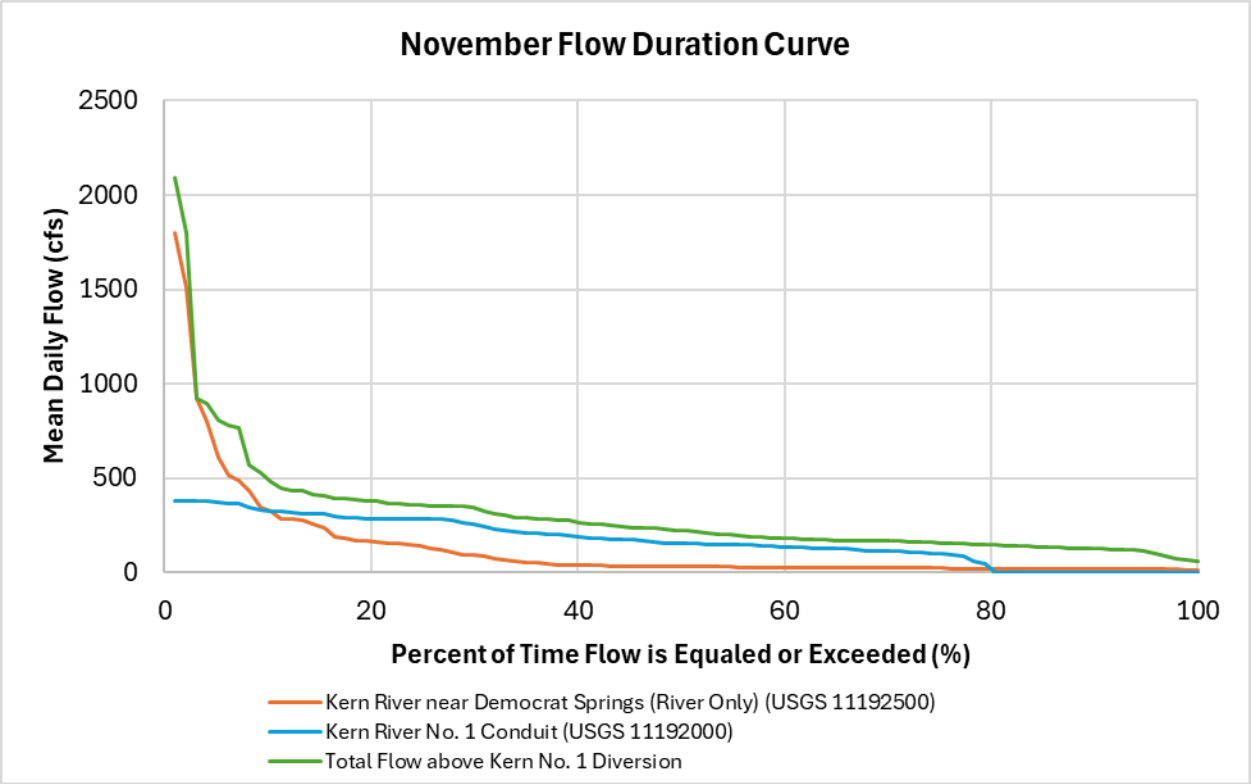


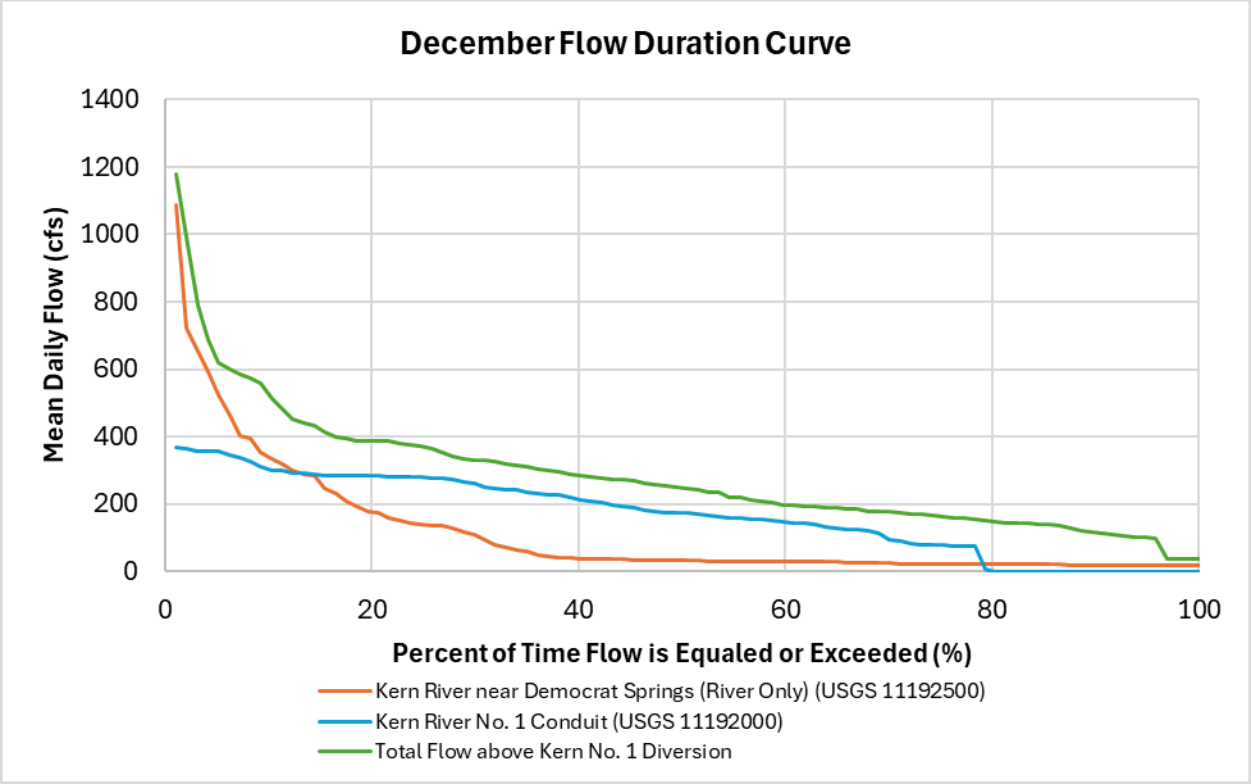
Figure B-4. Kern River No. 1 Powerhouse Capability Curve vs. Static Head (Source: Application for New License for the Kern River No. 1 Hydroelectric Project under P-1930, 1994)

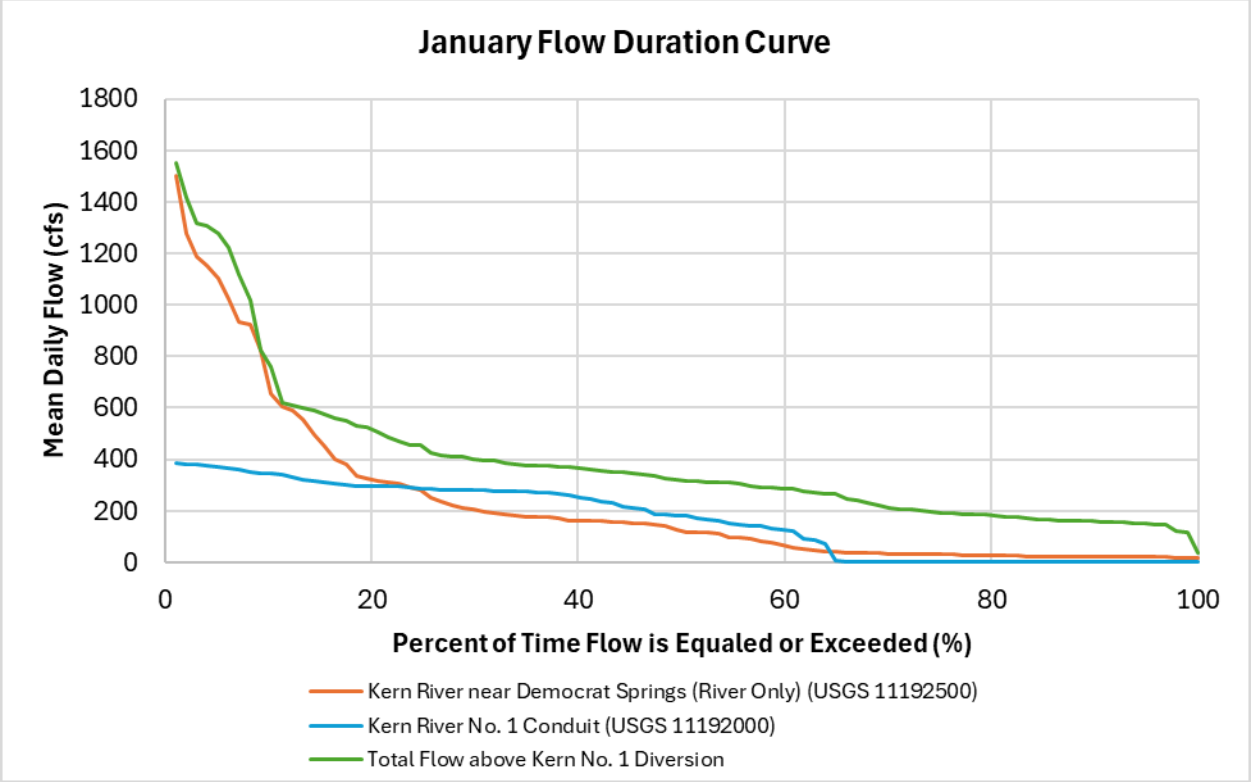
APPENDIX B-1

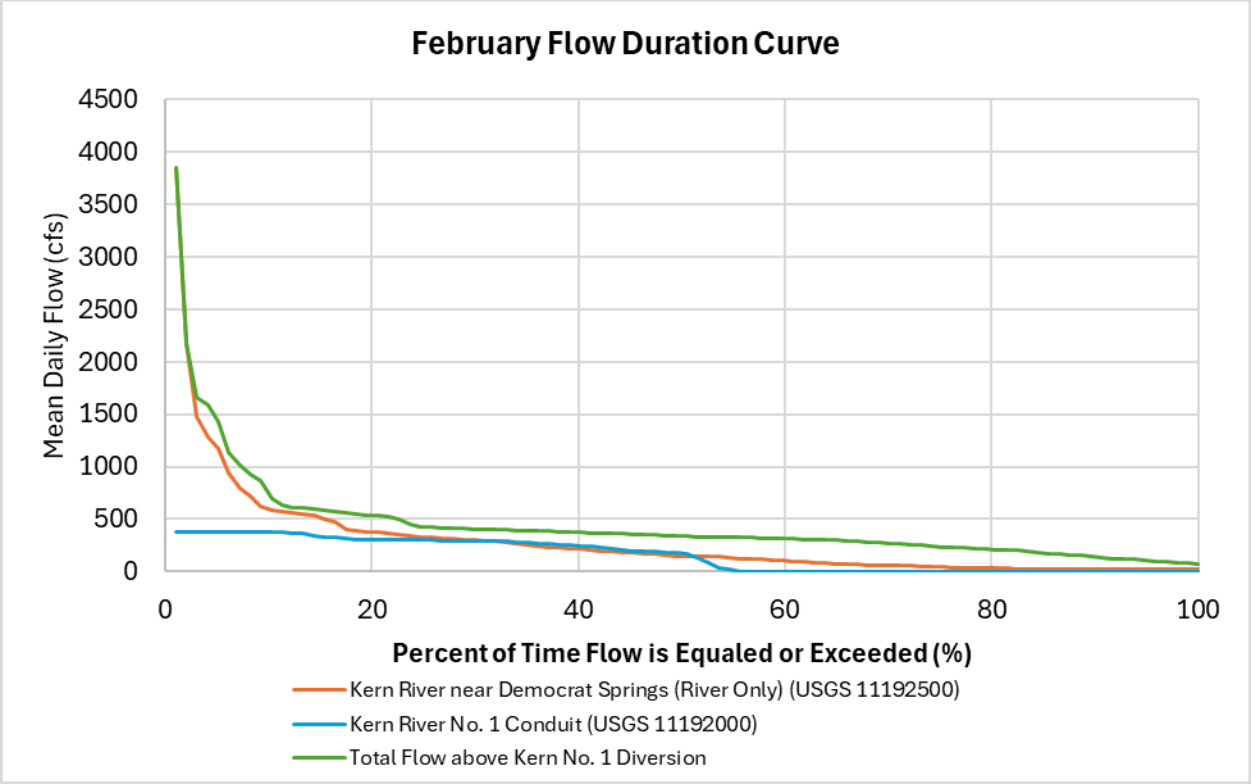
Flow Duration Curves

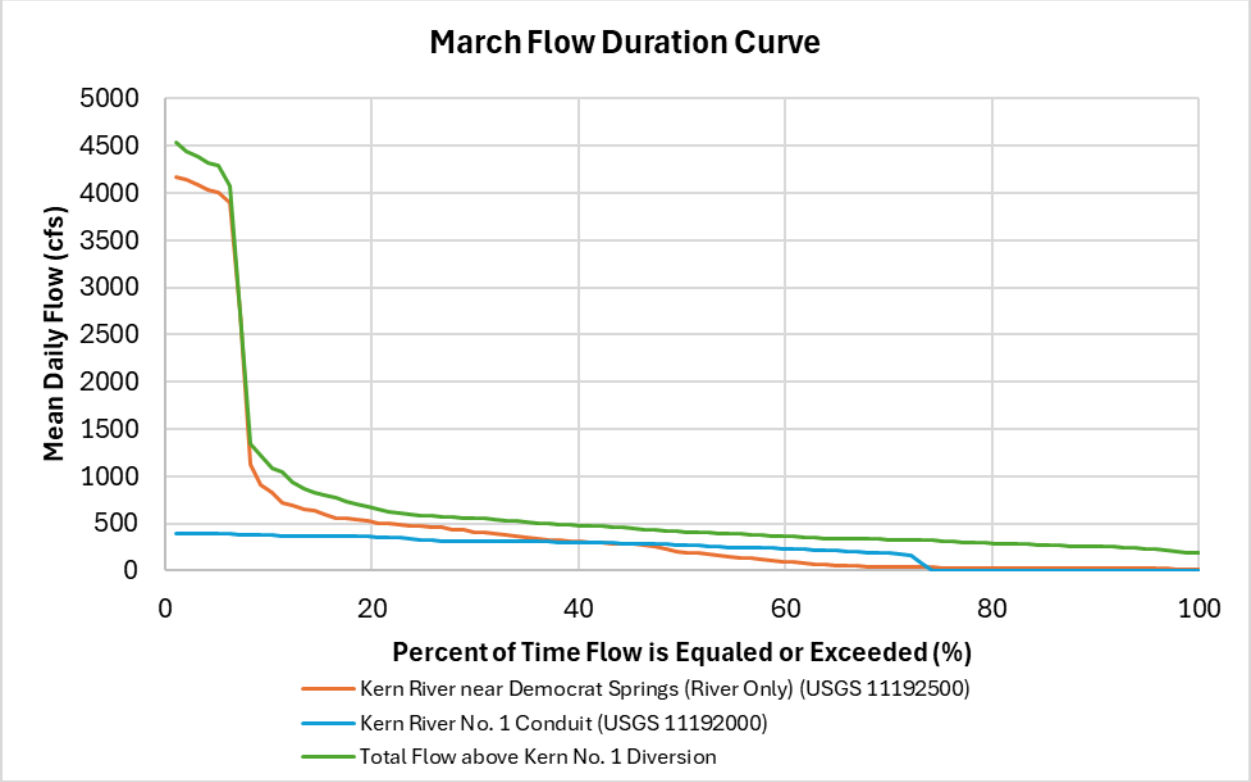

October Flow Duration Curve
Mean Daily Flow (cfs)
3000
2500
2000
1500
1000
500
0
0
20
40
60
80
100
Percent of Time Flow is Equaled or Exceeded (%)
Kern River near Democrat Springs (River Only) (USGS 11192500)
Kern River No. 1 Conduit (USGS 11192000)
Total Flow above Kern No. 1 Diversion

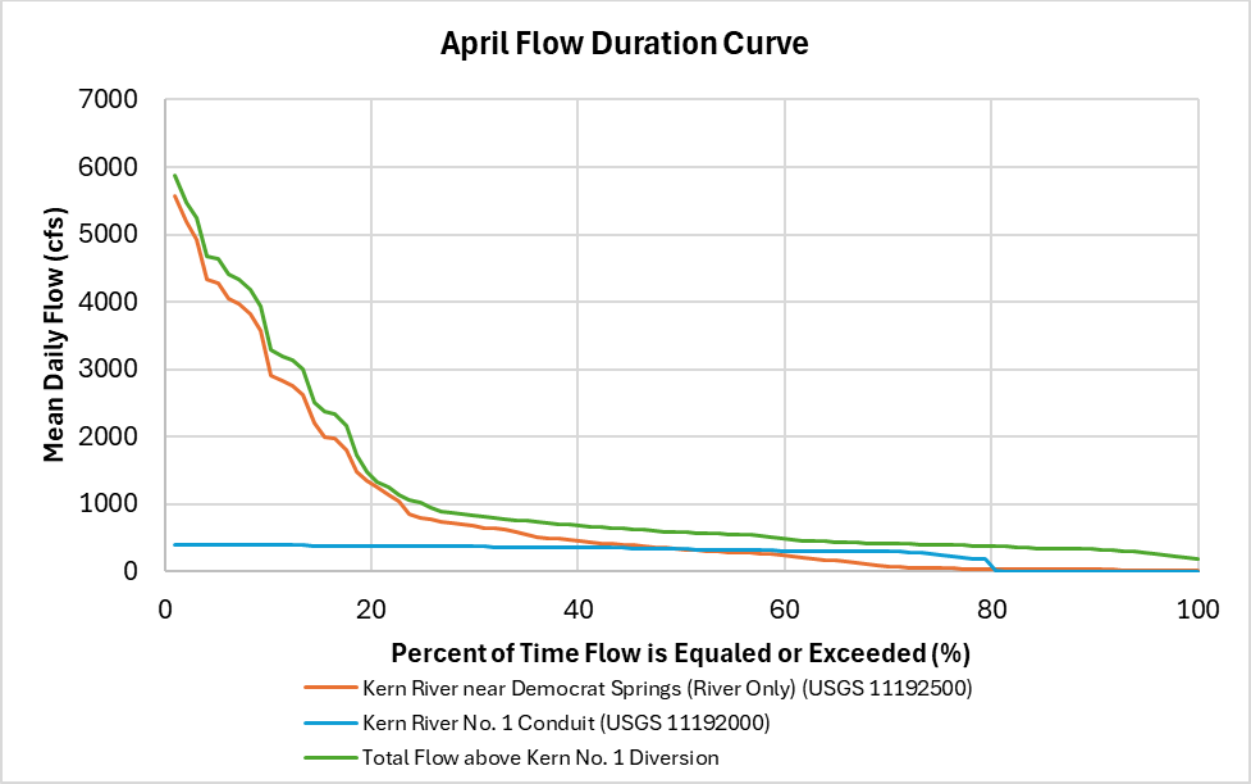

November Flow Duration Curve
Mean Daily Flow (cfs)
2500
2000
1500
1000
500
0
0
20
40
60
80
100
Percent of Time Flow is Equaled or Exceeded (%)
Kern River near Democrat Springs (River Only) (USGS 11192500)
Kern River No. 1 Conduit (USGS 11192000)
Total Flow above Kern No. 1 Diversion

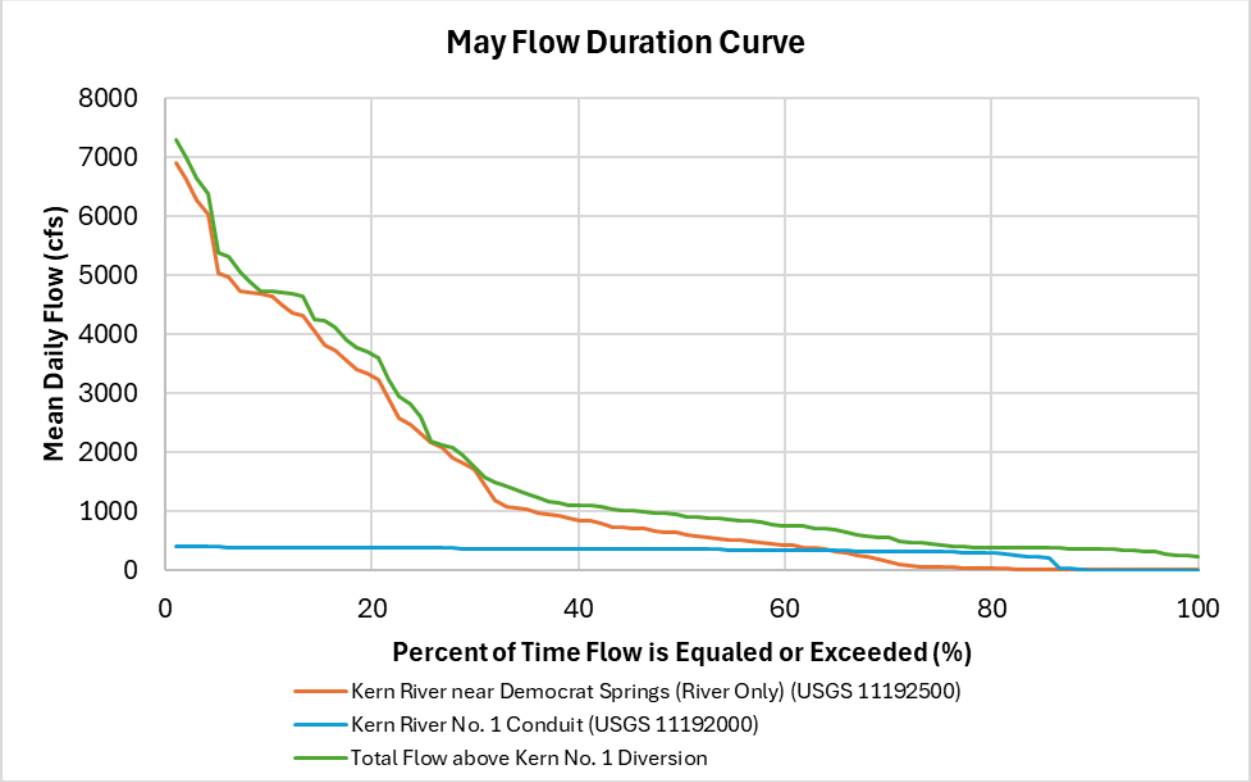

December Flow Duration Curve
Mean Daily Flow (cfs)
1400
1200
1000
800
600
400
200
0
0
20
40
60
80
100
Percent of Time Flow is Equaled or Exceeded (%)
Kern River near Democrat Springs (River Only) (USGS 11192500)
Kern River No. 1 Conduit (USGS 11192000)
Total Flow above Kern No. 1 Diversion

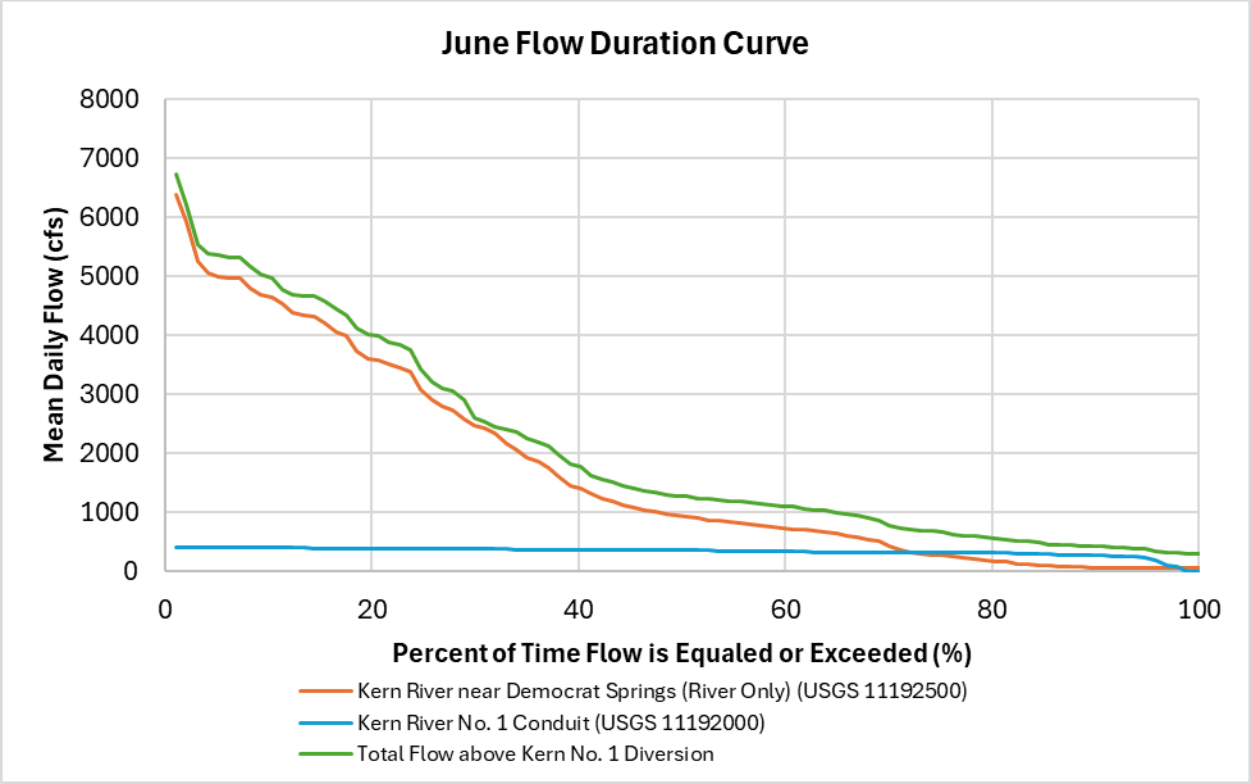

January Flow Duration Curve
Mean Daily Flow (cfs)
1800
1600
1400
1200
1000
800
600
400
200
0
0
20
40
60
80
100
Percent of Time Flow is Equaled or Exceeded (%)
Kern River near Democrat Springs (River Only) (USGS 11192500)
Kern River No. 1 Conduit (USGS 11192000)
Total Flow above Kern No. 1 Diversion

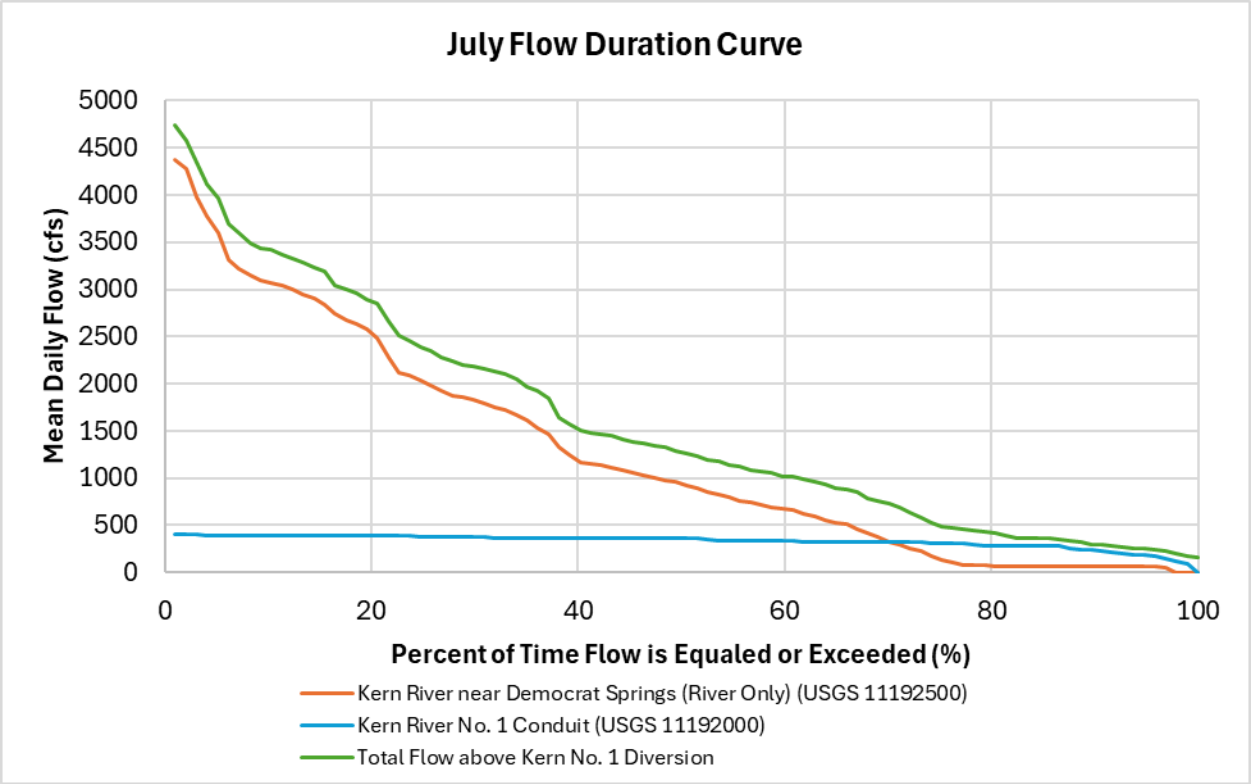

February Flow Duration Curve
Mean Daily Flow (cfs)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0
20
40
60
80
100
Percent of Time Flow is Equaled or Exceeded (%)
Kern River near Democrat Springs (River Only) (USGS 11192500)
Kern River No. 1 Conduit (USGS 11192000)
Total Flow above Kern No. 1 Diversion

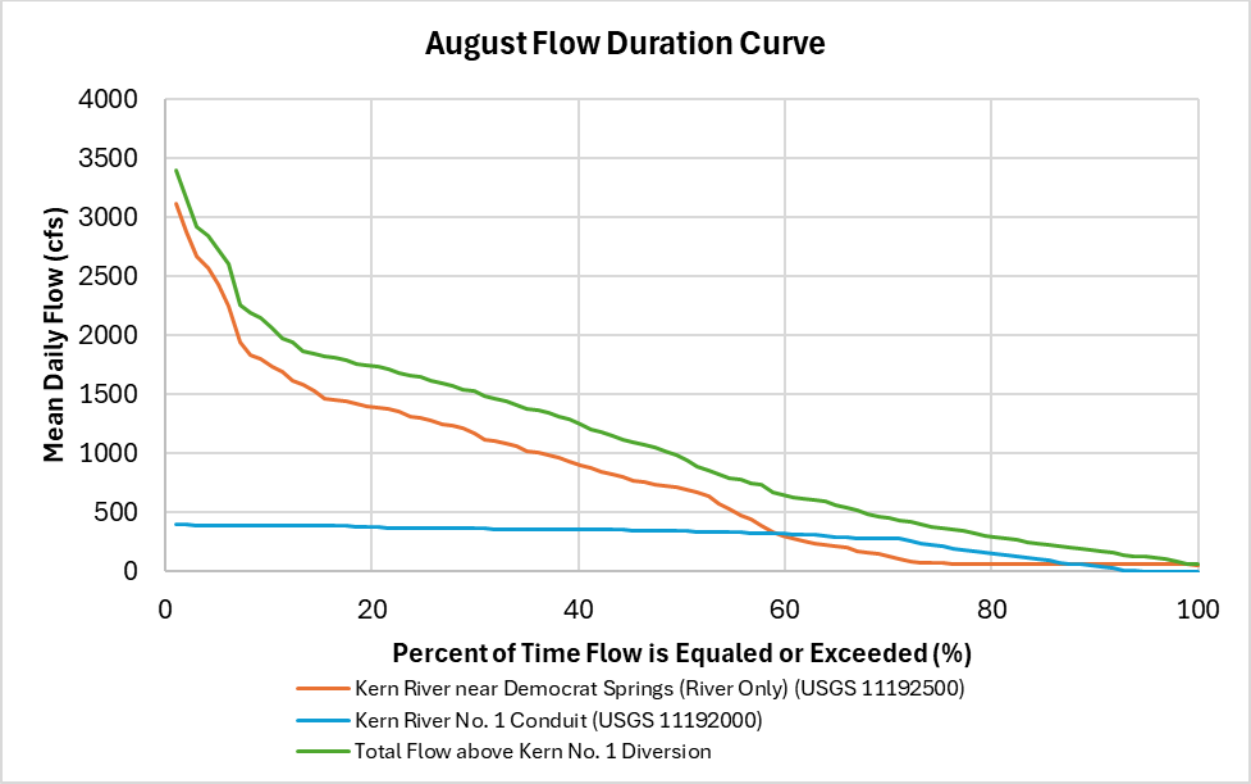

March Flow Duration Curve
Mean Daily Flow (cfs)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0
20
40
60
80
100
Percent of Time Flow is Equaled or Exceeded (%)
Kern River near Democrat Springs (River Only) (USGS 11192500)
Kern River No. 1 Conduit (USGS 11192000)
Total Flow above Kern No. 1 Diversion

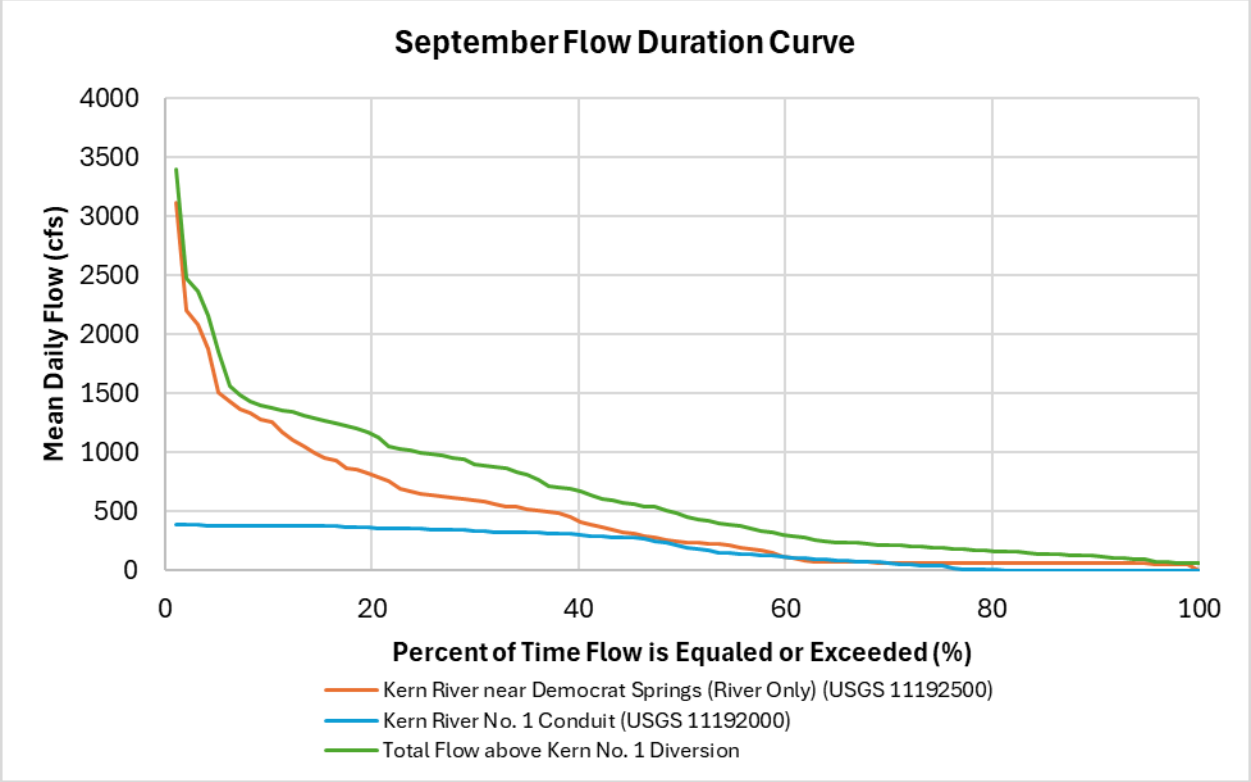





June Flow Duration Curve
Mean Daily Flow (cfs)
8000
7000
6000
5000
4000
3000
2000
1000
0
0
20
40
60
80
100
Percent of Time Flow is Equaled or Exceeded (%)
Kern River near Democrat Springs (River Only) (USGS 11192500)
Kern River No. 1 Conduit (USGS 11192000)
Total Flow above Kern No. 1 Diversion


July Flow Duration Curve
Mean Daily Flow (cfs)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0
20
40
60
80
100
Percent of Time Flow is Equaled or Exceeded (%)
Kern River near Democrat Springs (River Only) (USGS 11192500)
Kern River No. 1 Conduit (USGS 11192000)
Total Flow above Kern No. 1 Diversion





SOUTHERN CALIFORNIA EDISON

Kern River No. 1 Hydroelectric Project
(FERC Project No. 1930)

Draft License Application
EXHIBIT C: Construction History

Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

December 2025

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead℠

Exhibit C: Construction History and Proposed Construction Schedule

As required by 18 CFR § 4.51(d) (Contents of Application), Exhibit C is a construction history and proposed construction schedule for the project. The construction history and schedules must contain:

> (1) If the application is for an initial license, a tabulated chronology of construction for the existing projects structures and facilities described under paragraph (b) of this section (Exhibit A), specifying for each structure or facility, to the extent possible, the actual or approximate dates (approximate dates must be identified as such) of:
>
> (i) Commencement and completion of construction or installation;
>
> (ii) Commencement of commercial operation; and
>
> (iii) Any additions or modifications other than routine maintenance; and
>
> (2) If any new development is proposed, a proposed schedule describing the necessary work and specifying the intervals following issuance of a license when the work would be commenced and completed.

(1) Construction History

This application is not for an initial license. Therefore, a tabulated chronology of construction is not required. Refer to Exhibit H, *Project Need and Key Information*, for a discussion of the history and a record of programs to upgrade the operations and maintenance of the Kern River No. 1 Hydroelectric Project (Project) (18 CFR § 5.18(c)(1)(ii)(D)).

(2) New Development

No new development is proposed for the Project.

SOUTHERN CALIFORNIA EDISON

Kern River No. 1 Hydroelectric Project
(FERC Project No. 1930)

Draft License Application
EXHIBIT D: Project Costs and Financing

Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

December 2025

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead℠

Exhibit D: Project Costs and Financing

As required by 18 CFR § 4.51(e) (Contents of Application), 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 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).

(1) Original Cost

Southern California Edison (SCE) is applying to the Federal Energy Regulatory Commission (FERC) for a new license, not an initial license, for the Kern River No. 1 Hydroelectric Project (Project), FERC Project No. 1930. Therefore, a statement of the original cost of the Project land, water rights, structures, and facilities is not applicable.

(2) Takeover Cost

It is the intent of SCE to continue to operate the Project upon receipt of a new license. However, if the Project were to be taken over by the United States at the expiration of the existing license, pursuant to Section 14 of the Federal Power Act, the amount payable to SCE includes the net investment, not to exceed the fair value.

Pursuant to Section 14 of the Federal Power Act, the takeover value estimates are provided below.

Takeover Value Estimates

Value Type	Value
Fair Value	$20,398,462
Net Investment[1]	$20,398,462
Severance Damages	$20,398,462

[1] SCE considers net investment to equal net book value.

(3) Cost of New Development

SCE's Proposed Action for the Project does not include any new development as part of this application. Therefore, a statement of estimated costs for new development is not applicable.

(4) Average Annual Cost of the Project

The annual costs for the Project include expenses for operation and maintenance, as well as capital improvement work.

(i) The current cost of capital (equity and debt) is provided below.

Cost of Capital (Equity and Debt)

Cost Type	Percent of Cost[1]
Long-Term Debt	1.97%
Preferred Equity	0.32%
Common Equity	5.37%
Total Cost of Capital	**7.66%**

1 Percentages rather than dollar values are provided as capital returns are not measured at a unit level; rather, they are measured on a total company rate base.

(ii) Kern County property taxes associated with the Project for 2024 were $336,997. State and federal income taxes are computed for all SCE Hydro assets combined and, therefore, no amount is specifically identified for this Project.

(iii) Depreciation for the Project for 2024 was $1,531,634.

(iv) The average operation and maintenance expense for the 5-year period (2020–2024) was $2,423,037 and administrative and general expenses totaled were $381,822 in 2024.

(v) The estimated capital cost and estimated annual operation and maintenance expense of each proposed environmental measure will be included in the Final License Application (FLA).

(5) Value of Project Power

The value of Project power is quantified through two market products: energy value and capacity value. Energy produced by the plant is based on California Independent System Operator wholesale market prices. Capacity value is based on expected future capacity prices. These costs would be the annual costs paid to a qualifying facility or independent power producer type resource for replacement capacity, energy, and operation and maintenance. The fuel value represents the largest contribution to the overall costs.

The Project's projected value is determined by first estimating the production of the powerplant, which may be influenced by the annual snowpack and daily weather patterns. The estimated annual amount of energy produced from the Project was derived from the average generation over the term of the current license (1999 to 2024).

The forecasted production (megawatt-hours [MWh]) for the Project was multiplied by the marginal energy cost forecast, and the expected capacity of the Project was multiplied by the marginal capacity cost forecast. The sum of the two products is the total value that SCE would expect from the power provided by this Project.

The averaged 2024 Energy Value ($/MWh) for the Project is $33.04, and the 2024 Capacity Value ($/kilowatt-year) is $369.00 (also refer to Exhibit E, Section 9, *Developmental Analysis*).

(6) Sources of Financing and Revenues

As discussed in Item (3), *Cost of New Development*, there is no new development planned for the Project. Therefore, special financing for any major capital work is not required.

SCE previously filed a General Rate Case (GRC) with the California Public Utilities Commission, which was approved in August 2025. Included in the GRC filing were the generation-related operation and maintenance expenses as well as administrative and general expenses. The GRC filings included the expected costs for the years of 2025 to 2028, which are associated with the operation and maintenance of all the SCE hydropower assets, as well as the costs associated with any anticipated incremental capital additions. The capital and operation and maintenance expenses necessary for continued Project operation would be collected through those approved rates, which would include costs associated with license condition requirements that might be imposed upon the Project in the new license.

The Project is operated as a component of the entire Generation Department, which is part of the Power Supply Operating Unit of SCE. The operation and maintenance expenses for the Project are therefore not wholly estimated at the division or department level, as the departmental costs are usually extrapolated from historical costs. Any financing charges required for individual projects would normally be included in the overall Operating Unit budget and would not be directly attributable to the individual project.

(7) License Application Development Cost

As of the filing of this application, SCE has spent approximately *[$XX*] developing license application materials, conducting studies, and consulting with relicensing participants. It is anticipated that the final cost of developing the application will be *[$X to $X*] following the completion of ongoing studies and additional consultation with relicensing participants.

The estimated license application development costs will be provided as part of the FLA.

(8) Value of On-Peak and Off-Peak Project Power

The Project is operated in a run-of-river mode. Therefore, a statement of the on-peak and off-peak values of Project power is not applicable.

(9) Effects of Change in Project Operations

SCE is not proposing changes to Project operations that would affect energy generation.

SOUTHERN CALIFORNIA EDISON

Kern River No. 1 Hydroelectric Project
(FERC Project No. 1930)

Draft License Application
EXHIBIT G: Project Maps

Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

December 2025

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead℠

Exhibit G: Project Maps

As required by 18 CFR § 4.51(h) and 4.41(h) (Contents of Application), Exhibit G is a map of the project.

Exhibit G is a map of the project that must conform to the specifications of 18 CFR § 4.39. In addition to the other components of Exhibit G, the Applicant must provide the project boundary data in a geo-referenced electronic format—such as ArcView shape files, GeoMedia files, MapInfo files, or any similar format. The electronic boundary data must be positionally accurate to ±40 feet, in order to comply with the National Map Accuracy Standards for maps at a 1:24,000 scale (the scale of United States Geological Survey) quadrangle maps). The electronic exhibit G data must include a text file describing the map projection used (i.e., Universal Transverse Mercator, State Plane, Decimal Degrees, etc.), the map datum (i.e., feet, meters, miles, etc.). Three sets of the maps must be submitted on compact disk or other appropriate electronic media. If more than one sheet is used for the paper maps, the sheets must be numbered consecutively, and each sheet must bear a small insert sketch showing the entire project and indicate that portion of the project depicted on that sheet. Each sheet must contain a minimum of three known reference points. The latitude and longitude coordinates, or state plane coordinates, of each reference point must be shown. If at any time after the application is filed there is any change in the project boundary, the applicant must submit, within 90 days following the completion of project construction, a final Exhibit G showing the extent of such changes. The map must show:

(1) *Location of the project and principal features*. The map must show the location of the project as a whole with reference to the affected stream or other body of water and, if possible, to a nearby town or any other permanent monuments or objects, such as roads, transmission lines or other structures, that can be noted on the map and recognized in the field. The map must also show the relative locations and physical interrelationships of the principal project works and other features described under paragraph (b) of this section (Exhibit A).

(2) *Project boundary*. The map must show a project boundary enclosing all project works and other features described under paragraph (b) of this section (Exhibit A) that are to be licensed. If accurate survey information is not available at the time the application is filed, the applicant must so state, and a tentative boundary may be submitted. The boundary must enclose only those lands necessary for operation and maintenance of the project and for other project purposes, such as recreation, shoreline control, or protection of environmental resources (see paragraph (f) of this section (Exhibit E)). Existing residential, commercial, or other structures may be included within the boundary only to the extent that underlying lands are needed for project purposes (e.g., for flowage, public recreation, shoreline control, or protection of environmental resources). If the boundary is on land covered by a public survey, ties must be shown on the map at sufficient points to permit accurate platting of the position of the boundary relative to the lines of the public land survey. If the lands are not covered by a public land survey, the best available legal description of the position of the boundary must be provided, including distances and directions from fixed monuments or physical features. The boundary must be described as follows:

(i) *Impoundments*.

(A) The boundary around a project impoundment must be described by one of the following:

(1) Contour lines, including the contour elevation (preferred method);

(2) Specified courses and distances (metes and bounds);

(3) If the project lands are covered by a public land survey, lines upon or parallel to the lines of the survey; or

(4) Any combination of the above methods.

(B) The boundary must be located no more than 200 feet (horizontal measurement) from the exterior margin of the reservoir, defined by the normal maximum surface elevation, except where deviations may be necessary in describing the boundary according to the above methods or where additional lands are necessary for project purposes, such as public recreation, shoreline control, or protection of environmental resources.

(ii) *Continuous features*. The boundary around linear (continuous) project features such as access roads, transmission lines, and conduits may be described by specified distances from center lines or offset lines of survey. The width of such corridors must not exceed 200 feet unless good cause is shown for a greater width. Several sections of a continuous feature may be shown on a single sheet with information showing the sequence of contiguous sections.

(iii) *Noncontinuous features*.

(A) The boundary around noncontinuous project works such as dams, spillways, and powerhouses must be described by one of the following:

(1) Contour lines;

(2) Specified courses and distances;

(3) If the project lands are covered by a public land survey, lines upon or parallel to the lines of the survey; or

(4) Any combination of the above methods.

(B) The boundary must enclose only those lands that are necessary for safe and efficient operation and maintenance of the project or for other specified project purposes, such as public recreation or protection of environmental resources.

(3) *Federal lands.* Any public lands and reservations of the United States (Federal lands) [see 16 U.S.C. 796 (1) and (2)] that are within the project boundary, such as lands administered by the U.S. Forest Service, Bureau of Land Management, or National Park Service, or Indian tribal lands, and the boundaries of those Federal lands, must be identified as such on the map by:

(i) Legal subdivisions of a public land survey of the affected area (a protraction of identified township and section lines is sufficient for this purpose); and

(ii) The Federal agency, identified by symbol or legend, that maintains or manages each identified subdivision of the public land survey within the project boundary; or

(iii) In the absence of a public land survey, the location of the Federal lands according to the distances and directions from fixed monuments or physical features. When a Federal survey monument or a Federal bench mark will be destroyed or rendered unusable by the construction of project works, at least two permanent, marked witness monuments or bench marks must be established at accessible points. The maps show the location (and elevation, for bench marks) of the survey monument or bench mark which will be destroyed or rendered unusable, as well as of the witness monuments or bench marks. Connecting courses and distances from the witness monuments or bench marks to the original must also be shown.

(iv) The project location must include the most current information pertaining to affected Federal lands as described under 18 CFR § 4.81(b)(5).

(4) *Non-Federal lands.* For those lands within the project boundary not identified under paragraph (h)(3) of this section, the map must identify by legal subdivision:

(i) Lands owned in fee by the applicant and lands that the applicant plans to acquire in fee; and

(ii) Lands over which the applicant has acquired or plans to acquire rights to occupancy and use other than fee title, including rights acquired or to be acquired by easement or lease.

(1) Location of the Project and Principal Features

The existing Exhibit G maps for the Kern River No. 1 Hydroelectric Project (Project), are on file with the Federal Energy Regulatory Commission (FERC) and are listed in Table G-1.

Table G-1. Existing Exhibit G Drawing Number and Title

Drawing Number	Title
1930-1040	Diversion Dam Reservoir
1930-1041	Diversion Dam Access Road and Water Conduit
1930-1042	Water Conduit
1930-1043	Water Conduit
1930-1044	Water Conduit
1930-1045	Water Conduit
1930-1046	Water Conduit
1930-1052	Powerhouse and Appurtenances

(2) Project Boundary

A review of the existing FERC Project boundary against the latest data sources available for the Project is currently being conducted by Southern California Edison (SCE). Advancements in technology such as Global Positioning Systems, Light Detection and Ranging (LiDAR) imagery, and improved aerial imagery have allowed for greater accuracy in the depiction of Project facilities both on the exhibits and in the electronic Geographic Information System files to be submitted to FERC.

Under SCE's Proposed Action, the existing FERC Project boundary will be modified to (1) include only those lands necessary for operation and maintenance of the Project; (2)

remove lands no longer necessary for operation and maintenance of the Project; and (3) correct known errors in the current Exhibit G for the Project. *These specific boundary modifications or corrections will be included in the revised Exhibit G as part of the Final License Application (FLA).*

(3) Federal Lands

A calculation of the current and proposed FERC Project boundary acreage is summarized in Table G-2. *The FLA will include updated information on proposed acreages*.

Table G-2. Land Ownership and Current and Proposed FERC Project Boundary Acreages

Ownership	Current Acreage	Proposed Acreage
United States Forest Service	116.79	*To be provided in the FLA*
SCE	4.48	*To be provided in the FLA*
Total	**121.27**	***To be provided in the FLA***

Notes: FLA = Final License Application

(4) Non-Federal Lands

All lands within the FERC Project boundary are identified under Item (3).

SOUTHERN CALIFORNIA EDISON

Kern River No. 1 Hydroelectric Project
(FERC Project No. 1930)

Draft License Application
EXHIBIT H: Project Need and Key Information

Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

December 2025

Exhibit H: General Information

As required by 18 CFR § 5.18(c) (Application Content), Exhibit H contains the following information:

(1) *Information to be provided by an applicant for new license: Filing requirements*

(i) *Information to be supplied by all applicants.* All Applicants for a new license under this part must file the following information with the Commission:

(A) A discussion of the plans and ability of the applicant to operate and maintain the project in a manner most likely to provide efficient and reliable electric service, including efforts and plans to:

(1) Increase capacity or generation at the project;

(2) Coordinate the operation of the project with any upstream or downstream water resource projects; and;

(3) Coordinate the operation of the project with the applicant's or other electrical systems to minimize the cost of production.

(B) A discussion of the need of the applicant over the short and long term for the electricity generated by the project, including:

(1) The reasonable costs and reasonable availability of alternative sources of power that would be needed by the applicant or its customers, including wholesale customers, if the applicant is not granted a license for the project;

(2) A discussion of the increase in fuel, capital, and any other costs that would be incurred by the applicant or its customers to purchase or generate power necessary to replace the output of the licensed project, if the applicant is not granted a license for the project;

(3) The effect of each alternative source of power on:

(i) The applicant's customers, including wholesale customers;

(ii) The applicant's operating and load characteristics; and

(iii) The communities served or to be served, including any reallocation of costs associated with the transfer of a license from the existing licensee.

(C) The following data showing need and the reasonable cost and availability of alternative sources of power:

(1) The average annual cost of the power produced by the project, including the basis for that calculation;

(2) The projected resources required by the applicant to meet the applicant's capacity and energy requirements over the short and long term including:

(i) Energy and capacity resources, including the contributions from the applicant's generation, purchases, and load modification measures (such as conservation, if considered as a resource), as separate components of the total resources required;

(ii) A resource analysis, including a statement of system reserve margins to be maintained for energy and capacity; and

(iii) If load management measures are not viewed as resources, the effects of such measures on the projected capacity and energy requirements indicated separately;

(iv) For alternative sources of power, including generation of additional power at existing facilities, restarting deactivated units, the purchase of power off-system, the construction or purchase and operation of a new power

plant, and load management measures such as conservation: The total annual cost of each alternative source of power to replace project power; the basis for the determination of projected annual cost; and a discussion of the relative merits of each alternative, including the issues of the period of availability and dependability of purchased power, average life of alternatives, relative equivalent availability of generating alternatives, and relative impacts on the applicant's power system reliability and other system operating characteristics; and the effect on the direct providers (and their immediate customers) of alternate sources of power.

(D) If an applicant uses power for its own industrial facility and related operations, the effect of obtaining or losing electricity from the project on the operation and efficiency of such facility or related operations, its workers, and the related community.

(E) If an applicant is an Indian tribe applying for a license for a project located on the tribal reservation, a statement of the need of such Indian tribe for electricity generated by the project to foster the purposes of the reservation.

(F) A comparison of the impact on the operations and planning of the applicant's transmission system of receiving or not receiving the project license, including:

(1) An analysis of the effects of any resulting redistribution of power flows on line loading (with respect to applicable thermal, voltage, or stability limits), line losses, and necessary new construction of transmission facilities or upgrading of existing facilities, together with the cost impact of these effects;

(2) An analysis of the advantages that the applicant's transmission system would provide in the distribution of the project's power; and

(3) Detailed single-line diagrams, including existing system facilities identified by name and circuit number, that show system transmission elements in relation to the project and other principal interconnected system elements. Power flow and loss data that represent system operating conditions may be appended if applicants believe such data would be useful to show that the operating impacts described would be beneficial.

(G) If the applicant has plans to modify existing project facilities or operations, a statement of the need for, or usefulness of, the modifications, including at least a reconnaissance-level study of the effect and projected costs of the proposed plans and any alternate plans, which in conjunction with other developments in the area would conform with a comprehensive plan for improving or developing the waterway and for other beneficial public uses as defined in Section 10(a)(1) of the Federal Power Act.

(H) If the applicant has no plans to modify existing project facilities or operations, at least a reconnaissance-level study to show that the project facilities or operations in conjunction with other developments in the area would conform with a comprehensive plan for improving or developing the waterway and for other beneficial public uses as defined in Section 10(a) (1) of the Federal Power Act.

(I) A statement describing the applicant's financial and personnel resources to meet its obligations under a new license, including specific information to demonstrate that the applicant's personnel are adequate in number and training to operate and maintain the project in accordance with the provisions of the license.

(J) If an applicant proposes to expand the project to encompass additional lands, a statement that the applicant has notified, by certified mail, property owners on the additional lands to be encompassed by the project and governmental agencies and subdivisions likely to be interested in or affected by the proposed expansion.

(K) The applicant's electricity consumption efficiency improvement program, as defined under Section 10(a)(2)(C) of the Federal Power Act, including:

(1) A statement of the applicant's record of encouraging or assisting its customers to conserve electricity and a description of its plans and capabilities for promoting electricity conservation by its customers; and

(2) A statement describing the compliance of the applicant's energy conservation programs with any applicable regulatory requirements.

(L) The names and mailing addresses of every Indian tribe with land on which any part of the proposed project would be located or which the applicant reasonably believes would otherwise be affected by the proposed project.

(ii) *Information to be provided by an applicant licensee.* An existing licensee that applies for a new license must provide:

(A) The information specified in paragraph (c)(1) of this section.

(B) A statement of measures taken or planned by the licensee to ensure safe management, operation, and maintenance of the project, including:

(1) A description of existing and planned operation of the project during flood conditions;

(2) A discussion of any warning devices used to ensure downstream public safety;

(3) A discussion of any proposed changes to the operation of the project or downstream development that might affect the existing Emergency Action Plan, as described in subpart C of part 12 of this chapter, on file with the Commission;

(4) A description of existing and planned monitoring devices to detect structural movement or stress, seepage, uplift, equipment failure, or water conduit failure, including a description of the maintenance and monitoring programs used or planned in conjunction with the devices; and

(5) A discussion of the project's employee safety and public safety record, including the number of lost-time accidents involving employees and the record of injury or death to the public within the project boundary.

(C) A description of the current operation of the project, including any constraints that might affect the manner in which the project is operated.

(D) A discussion of the history of the project and record of programs to upgrade the operation and maintenance of the project.

(E) A summary of any generation lost at the project over the last five years because of unscheduled outages, including the cause, duration, and corrective action taken.

(F) A discussion of the licensee's record of compliance with the terms and conditions of the existing license, including a list of all incidents of noncompliance, their disposition, and any documentation relating to each incident.

(G) A discussion of any actions taken by the existing licensee related to the project which affect the public.

(H) A summary of the ownership and operating expenses that would be reduced if the project license were transferred from the existing licensee.

(I) A statement of annual fees paid under part I of the Federal Power Act for the use of any Federal or Indian lands included within the project boundary.

(iii) *Information to be provided by an applicant who is not an existing licensee.* An applicant that is not an existing licensee must provide:

(A) The information specified in paragraph (c)(1) of this section.

(B) A statement of the applicant's plans to manage, operate, and maintain the project safely, including:

(1)	A description of the differences between the operation and maintenance procedures planned by the applicant and the operation and maintenance procedures of the existing licensee;
(2)	A discussion of any measures proposed by the applicant to implement the existing licensee's Emergency Action Plan, as described in subpart C of part 12 of this chapter, and any proposed changes;
(3)	A description of the applicant's plans to continue safety monitoring of existing project instrumentation and any proposed changes; and
(4)	A statement indicating whether or not the applicant is requesting the licensee to provide transmission services under section 15(d) of the Federal Power Act.

(1) Information to be provided by an applicant for new license

(i) *Information to be supplied by all applicants.*

(A) Efficiency and Reliability

Southern California Edison (SCE) has extensive experience operating and maintaining its vast hydroelectric systems efficiently and reliably. SCE is responsible for generating, purchasing, transmitting, and distributing electricity to its customers. The Kern River No. 1 Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) Project No. 1930, is operated in conjunction with SCE's other generating resources to meet the electricity demand of its customers throughout the state.

(1) Increase Capacity or Generation at the Project

SCE currently has no plans to increase capacity or generation at the Project.

(2) Coordinate the Operation of the Project with any Upstream or Downstream Water Resource Projects

The Kern River Watershed consists of two principal forks, the North Fork and South Fork, and a lower portion referred to as the lower Kern River. Both forks flow south and west, respectively, and they converge at Lake Isabella. The Kern River exits Lake Isabella and flows southwest toward the San Joaquin Valley and terminates in Buena Vista Lake about 20 miles southwest of Bakersfield.

There are six FERC-licensed hydroelectric projects located on the Kern River. Above Lake Isabella, SCE owns and operates the 40.2-megawatt (MW) Kern River No. 3 Project (FERC Project No. 2290) located on the North Fork of the Kern River. At or below Lake Isabella, there are five FERC-licensed

hydroelectric projects on the Kern River. Listed from upstream to downstream, those projects are:

- Isabella Partners' 11.95-MW Isabella Hydroelectric Project (FERC No. 8377) is located on the downstream toe of the main United States Army Corps of Engineers (USACE)-owned dam at Lake Isabella and diverts its water at the dam outlet works. The total rate of diversion under existing permits is 1,632 cubic feet per second (cfs).

- SCE's 12.0-MW Borel Hydroelectric Project (FERC No. 382) is in the process of being decommissioned by SCE.[1]

- SCE's 26.3-MW Kern River No. 1 Hydroelectric Project (FERC No. 1930) is operated as a run-of-the-river power generation facility at Democrat Dam. The maximum diversion capacity for power generation is 412 cfs.

- Kern and Tule Hydro LLC's 11.475-MW Kern Canyon Hydroelectric Project (FERC No. 178) was recently purchased from Pacific Gas and Electric Company.

- Olcese Water District's 14.0-MW Rio Bravo Hydroelectric Project (FERC No. 4129) includes 5,100 acres of land and supplies irrigation water to agricultural lands and a golf course.

All of the hydroelectric projects are non-consumptive users of water. SCE coordinates operation of the Kern River No. 1 Project with the Isabella Project, Kern Canyon Project, Rio Bravo Project, and the City of Bakersfield.

(3) Coordinate the Operation of the Project with Other Electrical Systems to Minimize the Cost of Production

This Project operates in a run-of-river mode and is dependent on the amount of available water, which is subject to annual and seasonal variabilities and regulatory requirements. SCE optimizes the use of the Project to provide maximum generation during run-off and peak demand periods while

[1] SCE filed a Surrender Application with FERC on May 1, 2023 for the Borel Project; FERC's approval of license surrender and decommissioning is pending.

balancing environmental commitments through compliance with license requirements.

(B) Need for Electricity Generated by the Project

The Project's annual average generation (which varies depending on wet, dry, or average water years) over the term of the current license (1999 to 2024) is 132,068 megawatt-hours (MWh).

The Project's annual average generation from 2020 to 2024 is 151,564 MWh, with an average annual plant factor of 66 percent.

The Project has been and continues to be included in SCE's resource plans, and accounts for 26.3 MW of the total installed SCE hydroelectric resources of 1,165 MW.

(1) Costs and Availability of Alternative Sources of Power

California has very aggressive decarbonization goals (90 percent carbon-free power by 2035 and 100 percent carbon-free power by 2045) and is adding a variety of zero-carbon resources to both meet clean energy goals and increase reliability as electricity consumption has increased.

This Project provides reliable capacity and zero-carbon electricity. While the Project's production varies by season and water year type, the daily production profile is consistent and does not depend on momentary weather patterns, as with wind and solar resources.

Without this Project, equivalent new generation facilities would need to be built to meet reliability and clean energy goals. The closest substitute for the Project would be another hydroelectric facility or new geothermal facility. The latest California Independent System Operator (CAISO) 20-Year Transmission Outlook includes the need for 5,000 MW of new, incremental clean firm[2], resources and the loss of facilities like the Kern River No. 1 would add to this need.[3] A good reference for such costs is California's annual *Padilla Report* on costs of the Renewables Portfolio Standard Program.[4] Figure 5 of the 2024 report shows new geothermal and hydro at around $95 per MWh.

[2] Firm sources of power can generate 24 hours per day, 7 days per week, when needed.
[3] Presentation-20YearTransmissionOutlook-Apr18-2024 (2).pdf at Page 11
[4] California Public Utilities Commission. 2024. *2024 Padilla Report: Costs and Cost Savings for the RPS Program*. Accessed: May 2024. Available at: 2024-padilla-reportvfinal.pdf (ca.gov).

(2) Increase in Fuel, Capital, and Other Costs

Since the Project would need to be replaced with a clean energy resource that meets California's carbon-neutrality goals and is Renewables Portfolio Standard eligible, there would likely not be an increase in fuel consumption. Another entity in California would need to build a new substitute facility at the costs referenced above in Item (i)(B)(1). Also, costs would be incurred to decommission the Project and reconfigure the transmission lines located in the Kern River No. 1 Substation. There would also be costs to extend transmission lines to a nearby substation, which would also have to undergo a major upgrade to accommodate the additional lines and load. These would be substantial costs and a very lengthy process.

(3) Effect of Alternative Sources of Power

As covered in Item (i)(B)(1), the Project would need to be replaced by an equivalent zero-carbon resource and as such would incur the cost of that new facility and the likely consumption of greenfield for the new facility.

i. Customers, including wholesale customers

Alternative sources or power would have incremental costs to customers for the replacement of firm zero-emitting resources. As stated in Item (i)(B)(1) above, the *Padilla Report* puts these costs at around $95 per MWh.

ii. Operating and load characteristics

Alternative clean, firm sources of power would have a negligible impact on operation and load characteristics. However, the Kern River No. 1 Substation provides the primary interconnection and isolation point for two transmission lines in the area, which helps to balance load and provide improved reliability. The impact of replacing these functions is described further below in Item (i)(F)(1).

iii. Communities served or to be served

Alternative sources of clean, firm power would come at additional cost and such new facilities may have local environmental impacts in other communities.

(C) Need, Reasonable Cost, and Availability of Alternative Sources of Power

(1) Average Annual Cost of Power Produced by the Project

The Project's estimated annual operating expenses and capital costs are discussed in Exhibit D.

(2) The Projected Resources Required by SCE to Meet Capacity and Energy Requirements

i. Energy & Capacity Resources as Separate Components of Total Resources Required

In 2024, the SCE system had a peak 16.4-gigawatt (GW) monthly capacity procurement requirement and a 53.0 terawatt-hour energy procurement requirement. Of the peak month 16.4 GW capacity procurement requirement, 2.4 GW was due to the required 17% planning reserve margin. The Project provided an average of 14.99 MW "net qualifying capacity" during each month in the third quarter of 2024. The actual capacity and energy requirement were met by a variety of resources.

ii. Resources Analysis and System Reserve Margins

California maintains a minimum 15 to 17 percent capacity planning reserve margin. SCE meets its capacity and energy requirements through a relatively small "Utility Owned" portfolio, and the rest of the need is filled through various procurement processes including demand response and energy efficiency procurement. Of the power delivered to customers in 2023, 37.6 percent was from eligible renewables, 4.5 percent large hydro, 20.0 percent natural gas, 9.1 percent nuclear, and 28.9 percent from unspecified market transactions. Over the term of the new license, some of these sources of power will be phased out to meet California's carbon-neutrality goals by 2045.

iii. Effects of Efficiency and Load Management Measures

SCE has robust demand response, energy efficiency, and customer self-generation programs. Some of these programs are "load modifiers" and others are supply resources.

iv. Cost and Merits of Project Alternatives

Energy generated by the Project displaces energy that would otherwise be generated by gas-fired units in the short term and reduces the need for new clean, firm resources in the longer term. Currently, aside from power generated by its own sources, SCE purchases the power needed to serve its customers from qualifying facilities, independent power producers, CAISO, the California Department of Water Resources (under contracts with other third parties), and other utilities. If the Project were to cease operations, new, incremental clean, firm resources would need to be built to replace the characteristics of the Project. In addition, SCE would have to reconfigure transmission lines (further detailed below in Item (i)(F)(1)), in conjunction with the substantial costs and efforts of decommissioning of the Project. Item (i)(B)(1) above has additional information on this topic.

(D) Effect on Industrial Facilities

SCE does not use the power associated with the Project for its own industrial facility or related operations, except for local operational support (e.g., station light and power).

(E) Tribal Need for the Project on a Reservation

This information is not applicable, as SCE is not a Tribe.

(F) Effect on Transmission System

(1) Redistribution of Power Flows and Cost Impacts

There are no transmission lines included in the Project license. However, electricity produced by the Project powerhouse enters SCE's bulk electric grid on the 66-kV bus at the substation located outside the powerhouse. This includes the Gorman and Banducci 66-kV transmission lines (both are non-Project facilities).

The Project powerhouse is an important main interconnection and isolation point for the two lines listed above. The powerhouse provides great flexibility on bringing power in and out of the area. Losing the powerhouse would drastically reduce reliability in the area and would require several system upgrades and reconfigurations to ensure reliable power. The two 66-kilovolt transmission lines would need to be redirected

to the Banducci Substation (requiring SCE to construct new transmission line corridors on new rights-of-ways) and the Camp-Mebane 2.4-kV line would have to be upgraded to provide the functions and capabilities that already exist in the Project powerhouse.

The local load SCE serves includes the community of Mebane via the 2.4-kV circuit that gets steeped up to 12-kV. Any excess generation is transmitted to the Banducci or Gorman Substations. When the Project is not generating more than local load/demand (i.e., during low water years), the difference is served by the Banducci or Gorman Substation.

(2) Advantages of Transmission System

There are no transmission lines included in the Project license. However, SCE's interconnection with the broader transmission system is adjacent to the Project powerhouse and provides for distribution of power to local communities.

(3) Single-Line Diagrams

A single-line design drawing of the Project showing system transmission (not regulated under the Project) is considered Critical Energy Infrastructure Information (CEII) under FERC's CEII regulations at 18 CFR § 388.113. SCE filed a single-line design diagram of the Project as CEII. SCE requests that FERC maintain it in a non-public file and withhold it from public disclosure per applicable regulations.

(G) Statement of the Need for Modifications

SCE has no plans to modify existing Project facilities or operations to increase generation capacity.

(H) Statement of Conformance if no Modifications are Proposed

The Project facilities and operations, as proposed in this Application for New License including mitigation measures proposed in Exhibit E, are best adapted to a comprehensive plan for the Kern River based on a balance between environmental protection, water supply, recreation, and the commerce and utilization of a low-cost, non-polluting source of energy. The Project considers all existing and potential uses of the Kern River, including recreation, economically viable hydroelectric generation, energy conservation in the context of the national interests in non-polluting and non-fossil fuel alternatives, public safety, and various aspects of environmental

protection, including the prevention of significant detrimental impacts to fish and wildlife resources.

Relicensing the Project will not conflict with the goals or objectives of the potentially relevant comprehensive plans. Accordingly, the Project adopts measures to ensure public safety, protect the environment, maintain recreation opportunities, and operate for maximum efficiency and reliability, and thus would conform with a comprehensive plan for improving or developing the waterway and for other beneficial public uses as defined in Federal Power Act section 10(a)(1).

(l) Financial and Personnel Resources

SCE's source and extent of financing and annual revenues are sufficient to meet the continuing operation and maintenance needs of the Project. For specific financial information, refer to FERC Form No. 1, which is provided to FERC annually.

SCE's personnel resources are sufficient to meet the license obligations for the Project. SCE trains personnel through a variety of training resources, including classroom training, workshops, textbooks, on-the-job training, web-based training, and safety training. Safety training is conducted through a combination of regularly scheduled monthly meetings, crew meetings, on-the-job training, and special programs, as needed. The training covers SCE's Occupational Safety, Health, and Fire Prevention rules and hazardous materials handling, as well as programs mandated by governmental agencies such as the California Occupational Safety and Health Division, FERC standards of conduct, as well as training related to compliance with FERC license articles, and environmental and cultural protection programs. Many of these compliance training courses are provided annually.

Job knowledge and skills training programs are available for management, supervisor/administrative, clerical, and craft employees with apprenticeship training programs established for selected job classifications. Individual training needs are evaluated continually, and employees are subsequently scheduled into existing programs offered within SCE or into appropriate outside training programs.

Employees are also encouraged to further their education through the educational assistance program, which provides financial assistance for eligible employees to participate in job-related courses, correspondence programs, and degree and/or certificate programs sponsored by accredited institutions.

(J) Notification of Proposed Expansion of Project Lands

SCE is evaluating the current FERC Project boundary around existing Project facilities to include only those lands necessary for operation and maintenance purposes. Changes to the FERC Project boundary will be included in the Final License Application.

(K) Electricity Consumption Efficiency Improvement Program

(1) Energy and Electrical Conservation

SCE is actively engaged in energy efficiency, conservation, and environmentally beneficial programs. Successful program offerings include customer incentives, online tools, information and education, and cooperative effort with third-party contractors and other utilities.

The California Public Utilities Commission (CPUC) ordered the California Investor-Owned Utilities to procure energy efficiency programs that are designed and implemented by third parties. As a result, each Investor-Owned Utility entered contracts with certain vendors through competitive solicitation processes. Customers can now receive energy efficiency services, products, compensation, and/or installation directly or indirectly from these third parties. Example programs include Instant Rebates, Comfortably California, Illuminate California, Statewide Midstream Water Heating Program, and Willdan Energy Efficiency Programs targeting commercial, industrial, and multi-family customers.

SCE's website describes a variety of products to help customers manage energy use via the web, mobile app, and/or sensors. A suite of online tools gives customers the ability to track energy costs and analyze usage. SCE also provides energy classes and workshops at its Energy Education Centers in Irwindale and Tulare, California. Detailed information regarding energy efficiency and conservation programs is provided on SCE's website at www.sce.com.

(2) Compliance of Energy Conservation Programs

Regulatory compliance and reporting of SCE's energy efficiency programs is tracked through collection, reporting, and verification of information on the programs' performance. The results of the performance of the programs are filed annually with the CPUC.

(L) List of Indian Tribes and Addresses

The following Native American tribes are believed by SCE to potentially have an interest in the Project; although, no Project facilities are located on any tribal lands:

Big Pine Paiute Tribe of Owens Valley
P.O. Box 700
Big Pine, CA 93514

Chumash Indian Council of Bakersfield
729 Texas Street
Bakersfield, CA 93307

Fort Independence Community of Paiute Indians/Fort Independence Reservation
P.O. Box 67
Independence, CA 93526

Kawaiisu Nation
P.O. Box 1547
Kernville, CA 93238

Kern Valley Indian Community
P.O. Box 1010
Lake Isabella, CA 93241

Kitanemuk and Yowlumne Tejon Indians
115 Radio Street
Bakersfield, CA 93305

Lone Pine Paiute-Shoshone Tribe
P.O. Box 40
Lone Pine, CA 93545

Santa Rosa Indian Community of the Santa Rosa Rancheria of Tachi-Yokut Tribe
P.O. Box 8
Lemoore, CA 93245

Tejon Indian Tribe
4941 David Road
Bakersfield, CA 93307

Tubatulabal Tribe of Kern Valley
P.O. Box 833
Weldon, CA 93283

Tule River Indian Tribe
P.O. Box 589
Porterville, CA 93258

Wuksache Indian Tribe/Eshom Valley Band
1179 Rock Haven Court
Salinas, CA 93906

(ii) *Information to be provided by an applicant licensee.*

(A) Information specified in 18 CFR § 5.18(c)(1).

As required by 18 CFR § 5.18(c)(1)(ii)(A) (Information to be Provided by an Applicant Licensee), this Exhibit H provides the information specified in 18 CFR § 5.18(c)(1). This information appears in Item (1)(i) of this Exhibit H, above.

(B) Safe Management, Operation, and Maintenance

(1) Operation during Flood Conditions

To ensure safe management, operation, and maintenance of the Project during flood and high-flow events, Station Order Binders are maintained for the Project powerhouse and Democrat Dam. These documents include individual site-specific plans (Station Orders) outlining actions and considerations for high water flow events, including contingency planning and response to both planned and unplanned Project high water flow events.

During periods of high flow, various measures are implemented to prevent water damage to infrastructure and equipment, including:

- If intake grid rakes cannot be operated remotely, SCE personnel are dispatched to the Democrat Dam intake area to keep the grid sections clean of debris. During flood conditions, the intake would likely be manned by several employees, if conditions were deemed safe.
- Democrat Dam intake and flume gates leading into the sandbox and flowline are turned out (closed).
- The powerhouse is taken offline and the flowline is dewatered.
- Areas at SCE facilities prone to flooding are sand bagged/stop logged.

- Sump pumps at SCE facilities are checked/installed.

(2) Warning Devices for Downstream Public Safety

SCE maintains the following features aimed at protecting public health and safety:

- Signage: SCE uses signage to warn the public of hazardous areas and potentially dangerous conditions and are located near facilities that may pose a danger to the public:
  - Signage is posted near above-ground, uncovered sections of the flowline; around Democrat Dam; near the powerhouse, and forebay operations area.
  - Signage is also posted along the river upstream of the Democrat Dam warning boaters about Democrat Dam and to exit the river upstream of the dam.
- Physical restraining devices: SCE uses various devices to restrict public access around hazardous areas:
  - Fences around above-ground, uncovered sections of the flowline and around Democrat Dam and intake structures.
  - Gates and fences limiting access to Project facilities.
- River safety measures: A horizontal safety cable (buoy line) is strung across Democrat Impoundment (Kern River), just upstream of the Democrat Dam. This cable is intended to deter boaters from going over the dam.

These public safety features are graphically depicted in the Public Safety Plan for the Project, which is on file with FERC (dated 12/18/2024, FERC Accession No. 20241218-5248).

(3) Changes Affecting the Emergency Action Plan

The Project forebay is classified by FERC as having "significant" hazard potential due to the possibility for disruption of an important transportation artery (State Route 178) in the event of an uncontrolled release of water. Pursuant to 18 CFR § 12.20(a), SCE maintains an Emergency Action

Plan (EAP) for the Kern River No. 1 Forebay, Adit 17/18, and Stark Flume. Democrat Dam is classified by FERC as having a "low" hazard potential. As such, SCE is exempt from filing an EAP for Democrat Dam.

There are no proposed changes to Project operation or downstream development that would affect the existing EAP.

(4) Monitoring Devices

The Project includes the following monitoring devices to detect equipment failure and water conduit failure. These monitoring devices can be read locally at the Project powerhouse, remotely from the Kern River No. 3 Project powerhouse, and are monitored from the Bishop Control Center and after hours from Big Creek Dispatch.

- Water levels are continuously monitored at the “sandbox” via a telemetric level gage. This gage is used to calculate inflow into the flowline.
- Elevation levels at Democrat Impoundment are monitored at the intake (inside and outside the impoundment).
- Water levels are continuously monitored at the Cow Creek Flume via a telemetric level gage. This gage is used to calculate flow through the flowline.
- Water levels are continuously monitored at the forebay via two telemetric level gages. These gages are used to calculate inflow into the penstock and to detect level differentials, which may indicate blockage at the trash rack.
- Seismic monitoring is achieved through email notifications from the United States Geological Survey ShakeCast system.

Operators are dispatched to investigate and respond to alarms, as needed. SCE inspects all monitoring devices as part of routine operation and maintenance activities. If issues are identified, they are corrected as soon as discovered to ensure safe and reliable operation.

(5) Employee and Public Safety

There were two lost-time accidents involving employees recorded at the Project within the last 10 years.

- July 20, 2022 – Heat illness
- December 6, 2022 – Strain/sprain, back

There are no known records of injury or death to the public within the Project boundary within the last 10 years.

(C) Current Operations and Constraints

The Project is operated in a run-of-river mode. Water captured at the Democrat Dam diversion structure is transported through a connecting flowline and penstock to the powerhouse and then returned to the river through the powerhouse tailrace 10.2 miles downstream.

The Project license requires a minimum instream flow of 50 cfs to be released to the bypass reach[5] from June 1 through September 30 and 15 cfs released from October 1 through May 31, or inflow if lower than the seasonal flow requirement.

Lake Isabella, which is owned and operated by the USACE is located approximately 20 miles upstream of the Project. Water released from Isabella Dam enters the lower Kern River and is undiverted until reaching the Project diversion at Democrat Dam. Project inflow is almost entirely regulated by upstream operations at Isabella Dam, save for accretion flow from a few small tributaries between Isabella and Democrat dams.

Operational constraints on the Project include the amount and timing of releases from Lake Isabella, flowline and powerhouse capacities, and minimum instream flow requirements. Refer to Exhibit B for a complete description of current Project operations.

(D) Project History and Upgrades

Construction of the Project was completed in 1906 and operation commenced in 1907. Although the Project has remained virtually the same since being placed in service, there have been Project upgrades to improve system operations and reliability. A summary of

[5] A bypass reach is a segment of a river downstream of a diversion facility where Project operations divert of a portion of the water from the river. For this Project, the bypass reach is a 10.2-mile reach of the lower Kern River from Democrat Dam downstream to the Kern River No. 1 Powerhouse Tailrace.

Project infrastructure upgrades that occurred since the start of operations is provided below.

Summary of Project Infrastructure Upgrades

Date	Description
1910	Building No. 0118 (Ice House) and Building No. 0111 (Aerial Tram Hoist House) constructed
1917	Wood framing added to Flume Nos. 2 and 4
1923	Forebay and Forebay Operations Area Road reconstructed; aerial tram reconstructed
1926	Building No. 0112 (Machine Shop) constructed
1927	Replacement of Flume No. 1, originally a timber flume, with a steel flume
1940	Steel sheeting placed over the timbers of Flume Nos. 2 and 4
1943–1951	Iron sheeting placed over the timbers of Flume No. 3
1945	Intake platform constructed
1950	Construction of USGS Gage No. 11192500/SCE Gage No. 409; USGS Gage No. 11192000/SCE Gage No. 410; Communication site at Forebay; Building No. 0133 constructed; Chlorinator House constructed; Willow Spring Creek Road reconstructed
1951	Building No. 0142 (Restroom) constructed
1952	Building No. 0146 (Garage) constructed
1953	Lower Powerhouse Road constructed
1958	Willow Spring Creek Road paved
1963–1975	Stark Creek Road widened
1985–1995	Installation of buoy line at Democrat Dam Impoundment
1990	Aerial tram wooden cart replaced with steel cart
1992	Tailrace openings modified, buttresses added to support a modified wall between the tailbays, new walkway constructed, and weir removed at secondary tailbay
1994–2002	Dougherty Creek Road widened and paved
1994–2010	Expansion of upriver tunnel for the Democrat Dam drainage tunnel to include crane expansion deck
2000	Replacement of wooden Democrat Dam access walkway over Flume No. 1 with steel; repairs to sandbox
2002–2004	Stark Creek Road paved

2004	Replacement of missing or damaged materials to adit access points during routine tunnel inspections/repairs
2004–2008	Construction of Flume No. 6 access platform
2005–2007	Interior stilling well walls removed and replaced in-kind at the Forebay
2007–2009	Tunnel rebuild for a portion of the flowline and new forebay, tunnel cracks patched, tunnel lining removed and replaced, and tunnel floor regraded
2010	Intake platform rehabilitated and trash rack screens replaced and gatehouse replaced; guardrails installed at Forebay; installation of new water wheels, automation program, and sulfur hexafluoride circuit breakers
2011	Office added outside Powerhouse
2012	Lower Powerhouse Road reconstructed; Upper Powerhouse Road widened and reconstructed
2014	Repairs to spillway/Forebay after erosion from mudslide
2016	Upper landing constructed for aerial tram
2020	Installation of new excitation system on all four units

(E) Unscheduled Outages

A list of the unscheduled (forced) outages that occurred in 2020 to 2024 is provided below. Unplanned (forced) outages were caused by: (1) equipment malfunction; (2) periods of low inflow where SCE is required to meet minimum instream flow requirements in the Democrat Dam bypass reach and there was insufficient water remaining to operate the powerhouse; or (3) when SCE elected to pause generation at the powerhouse due to increased sediment loads in the Kern River upstream of the Project to reduce undue wear on the water conveyance system and units.

Unscheduled (Forced) Outages (2020–2024)

Outage Start Date/Time	Outage End Date/Time	Outage Reason/Type	Corrective Action
2020			
4/25/2020 9:04	4/25/2020 11:14	Emergency generator trip devices (Unit 2)	Repair equipment
4/27/2020 10:10	4/27/2020 10:23	Exciter commutator and brushes (Unit 4)	Repair equipment
2021			

Outage Start Date/Time	Outage End Date/Time	Outage Reason/Type	Corrective Action
01/01/2021 00:00	05/12/2021 09:43	Lack of water	Returned to service once sufficient water was available
01/06/2021 08:00	02/02/2021 08:00	Lack of water	Returned to service once sufficient water was available
03/10/2021 11:30	03/18/2021 13:20	Lack of water	Returned to service once sufficient water was available
03/19/2021 22:41	03/20/2021 01:42	Transmission system problems	NA; returned to service
04/27/2021 18:31	04/27/2021 21:58	Transmission system problems	NA; returned to service
2022			
04/12/2022 09:49	04/12/2022 10:59	Transmission system problems	NA; returned to service
05/17/2022 07:01	05/17/2022 15:08	Transmission line	NA; returned to service
06/09/2022 19:48	06/09/2022 21:52	Transmission system problems	NA; returned to service
06/14/2022 09:30	06/16/2022 19:00	Other miscellaneous generator problems	Repair equipment
06/22/2022 09:40	06/22/2022 21:00	Transmission system problems	NA; returned to service
07/14/2022 20:30	07/19/2022 13:30	Generator bearings	Repair equipment
09/20/2022 15:11	09/20/2022 16:47	Transmission system problems	NA; returned to service
12/05/2022 07:30	12/05/2022 18:00	Transmission line	NA; returned to service
12/05/2022 17:45	12/08/2022 16:40	Other DCS problems	NA; returned to service
2023			
1/4/2023 18:08	1/4/2023 20:50	Transmission system problems	NA; returned to service
1/9/2023 18:42	1/9/2023 19:43	Transmission system problems	NA; returned to service
1/21/2023 12:00	1/21/2023 12:50	Transmission system problems	NA; returned to service
2/24/2023 11:22	2/24/2023 12:00	Transmission system problems	NA; returned to service
3/1/2023 16:23	3/1/2023 18:21	Transmission system problems	NA; returned to service

Outage Start Date/Time	Outage End Date/Time	Outage Reason/Type	Corrective Action
4/8/2023 17:38	4/8/2023 23:00	Transmission system problems	NA; returned to service
6/30/2023 11:38	6/30/2023 14:40	Transmission system problems	NA; returned to service
7/20/2023 15:31	7/20/2023 16:48	Transmission system problems	NA; Returned to service
8/13/2023 17:49	8/13/2023 19:54	Transmission system problems	NA; Returned to service
8/20/2023 07:00	8/22/2023 15:00	Storms (ice, snow, etc.)	NA; Returned to service
2024			
1/22/2024 22:20	1/23/2024 24:01	Transmission system problems	NA; units returned to service
2/4/2024 12:15	2/4/2024 14:02	Transmission system problems	NA; units returned to service
2/21/2024 06:48	2/21/2024 08:34	Transmission system problems	NA; units returned to service
4/25/2024 03:45	4/25/2024 05:40	Transmission system problems	NA; units returned to service
4/30/2024 24:40	4/30/2024 02:35	Transmission system problems	NA; units returned to service
6/19/2024 10:02	6/19/2024 10:56	Other miscellaneous balance of plant problems	Replaced needle control valves string pot indication and placed back online
6/19/2024 11:30	6/19/2024 12:13	Other miscellaneous balance of plant problems	Replaced needle control valves string pot indication and placed back online
7/3/2024 14:28	7/3/2024 16:17	Transmission system problems	NA; units returned to service
8/17/2024 02:35	8/17/2024 04:10	Transmission system problems	NA; units returned to service
10/15/2024 11:54	10/15/2024 13:50	Transmission system problems	NA; units returned to service

(F) Record of Compliance with Terms and Conditions of Existing License

FERC issued a new license to SCE for the Project on June 16, 1998. Project-specific license articles mandated by FERC and conditions submitted by the United States Forest Service (Forest Service) under Section 4(e) of the Federal Power Act are included in the License Order. SCE is responsible for complying with requirements of the FERC license, subsequent orders and amendments issued to-date, findings of FERC inspections, findings of other inspections under 18 CFR § 12, as well as other FERC directives, information requests, or inquiries. SCE has not been cited for a license violation during the current license term and has never received a Notice of Violation from FERC related to the Project. The complete compliance record for the Project for the current license term can be found on FERC's eLibrary.

(G) Actions Related to the Project that may Affect the Public

SCE has various public safety programs and measures, including signage, physical restraining devices, flowline safety measures, and river safety measures, as described in Item (ii)(B)(2) above, Warning Devices for Downstream Public Safety.

(H) Summary of Ownership and Operating Expenses

If the Project license were transferred, annual ownership and operating costs that would be reduced include those listed below.

Estimated Reduction for Annual Ownership and Operating Costs Associated with Project Transfer

Cost Component	**Annual Amount**
Operation and Maintenance Costs (based on 5-year average, 2020–2024)	$2,423,037
Depreciation (2024)	$1,531,634
Property Taxes (2024)	$336,997
Administrative and General Expenses (Calculated from 2024 Net Book Value)	$381,822
Total	**$4,673,490**

(I) Annual Fees for Federal or Native American Lands

The annual fees for FERC Bill Year 2024, paid under Part I of the Federal Power Act were $5,855.

No Native American lands are included within the FERC Project boundary.

(iii) *Information to be provided by an applicant who is not an existing licensee.*

SCE is an existing licensee; therefore, this section is not applicable.